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The National Mapping Programme

South Dorset Ridgeway Mapping Project

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Results of NMP Mapping

Historic Environment (Projects)

South Dorset Ridgeway Mapping Project

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Carolyn Royall

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Checked by	**Andrew Young**
Approved by	**Peter Rose**

Historic Environment
Cornwall Council
Kennall Building, Old County Hall, Station Road, Truro, Cornwall, TR1 3AY
tel (01872) 323603 fax (01872) 323811 E-mail hes@cornwall.gov.uk
www.cornwall.gov.uk

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The project was carried out using aerial photographs loaned by English Heritage National Monuments Record, and by Cambridge University's Unit for Landscape Modelling. In addition digital photography was provided by Dorset County Council.

The views and recommendations expressed in this report are those of Historic Environment Projects and are presented in good faith on the basis of professional judgement and on information currently available.

Freedom of Information Act

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.

Cover illustration

Ridge Hill Barrow Group, Bincombe. Photograph: NMR 15835/01 SY 6686/16 29th October 1997 2002 © English Heritage. NMR

South Dorset Ridgeway Mapping Project
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Abbreviations

ADS	Archaeology Data Service
AONB	Area of Outstanding Natural Beauty
CC	Cornwall Council
CUCAP	Cambridge University Committee for Aerial Photography
DCC	Dorset County Council
EA	Environment Agency
EH	English Heritage
GIS	Geographical Information System
HBSMR	Historic Buildings and Site and Monuments Record
HEEP	Historic Environment Enabling Programme
HER	Historic Environment Record
HLC	Historic Landscape Character
LIDAR	Light Detection and Ranging
MOD	Ministry of Defence
NMP	National Mapping Programme
NMR	National Monument Record
NMRC	National Monument Record Centre
PDF	Portable Document Format
OS	Ordnance Survey
RCHME	Royal Commission on the Historical Monuments of England
SDRHP	South Dorset Ridgeway Heritage Project
UID	Unique Project Identifier

1 Summary

This report outlines the results of an archaeological survey involving the systematic interpretation, mapping and recording of archaeological sites from aerial photographs and Environment Agency lidar data across 310 square kilometres of the South Dorset Ridgeway. The analytical aerial survey was carried out using English Heritage's National Mapping Programme methodology. Historic Environment, Cornwall Council carried out the project between September 2008 and September 2010. The project was funded by English Heritage through the Historic Environment Enabling Programme.

The primary aims of the project were to define, characterise and analyse the historic environment of the South Dorset Ridgeway and thereby provide the appropriate tools to facilitate strategic planning decisions and the management and preservation of archaeological sites and historic landscapes within the project area. The data resulting from the project fed into the South Dorset Ridgeway Heritage Project being carried out concurrently by the Dorset AONB. It will also assist the future implementation of the Dorset AONB Management Plan and increase public awareness of the rich archaeological resource and historic landscapes.

The project achieved these aims by providing significant enhancement to existing baseline data through the mapping, interpretation and recording of 3,453 archaeological sites of which 2,500 were new sites, previously unrecorded.

New sites provisionally allocated a Neolithic date included two potential long barrows as well as two oval barrows, seven hengiform monuments and a possible henge monument at Forty Acre Plantation.

During the mapping 325 new Bronze Age barrow sites were identified confirming that these funerary monuments extended right across the Ridgeway and on the higher ground to the north of the River Frome. Whilst few settlement sites and field systems were interpreted as Bronze Age, a number of enclosures and round houses were mapped which might be evidence of Bronze Age settlement.

The numbers of later prehistoric sites recorded are extremely significant with 72% of sites assigned an Iron Age, prehistoric, Iron Age/Roman or Roman date being new to the record. Types of new sites attributed to these periods included enclosures, settlements and field systems as well as two possible Roman camps.

The early medieval period is still poorly understood with no sites identified during the mapping; however the later medieval period is richly represented with 229 new sites recorded including 11 new settlement sites. Extensive areas of medieval strip fields, strip lynchets and ridge and furrow cultivation were also plotted during the project.

The greatest numbers of sites recorded were dated to the post medieval period, a period that has traditionally been ignored by archaeological survey and field investigation. Sites dating to this period were systematically recorded during the project and of particular note are the water meadow systems along the River Frome.

The recording of 20th century military sites, particularly using the RAF vertical photographs taken during and soon after the Second World War, has proved highly informative with many significant sites being recorded for the first time. Given its position on the south coast with the important Naval installations at Weymouth and Portland harbour, this stretch of the Dorset coast was heavily protected from invasion and the remains of military installations have been recorded right along the coastline.

This report describes the extent of the project area, the methodology used and gives an illustrative overview of the results of the aerial survey on a period by period basis.

2 Background to the project

2.1 Circumstances of and reasons for the project

Dorset has been described as 'The Best of Both Worlds' (Pinder pers. comm.); behind its varied coastline, which is a designated World Heritage Site, lies a county with a rich landscape of unspoilt rural villages and countryside and a wealth of archaeological remains.

The Dorset Historic Environment Record (HER) does not currently fulfil the criteria of an HER as defined by Baker (Baker 1999). The present lack of high quality, up to date information in the HER is an obstacle to achieving the aims of the Dorset AONB Management Plan and to the provision of advice on planning, agri-environment and other matters and to the provision of historic environment information to a wider audience (Pinder pers. comm.). The AONB Management Plan highlights a number of specific threats to the historic environment of the project area:

- Significant loss of chalk downland due to scrub encroachment and conversion to arable farming
- Damage to archaeological features through intensive ploughing, particularly on the chalk, but also including the continuing loss of water meadows in the valleys
- Loss of hedgerows due to increase in intensive arable farming
- Increased urbanisation and intrusive development, particularly in coastal areas
- Tourist development, particularly caravan sites and car parks

By systematically recording components of the historic environment from aerial photographs, the project will provide the essential data previously lacking for the South Dorset Ridgeway. The results from the project will facilitate a full assessment of the archaeological resource, informing strategic planning and future research frameworks for the area.

The NMP project coincided with and fed into the ongoing South Dorset Ridgeway Heritage Project (SDRHP) which was initiated by the Dorset AONB Partnership with Heritage Lottery Funding. The SDRHP is an integrated project involving archaeological, heritage and biodiversity management. It aims to promote local understanding and ownership of the archaeology of the area and raise the awareness of the Ridgeway and its assets to a wide audience. A summary of the results of the NMP survey form a chapter in a forthcoming AONB publication on the wider SDRHP.

Mapping from aerial photographs was carried out between September 2008 and September 2010 as part of the National Mapping Programme (NMP). The NMP was initiated by the Royal Commission on the Historical Monuments of England (RCHME) in 1992. Since the merger of RCHME and English Heritage (EH) in 1999, the NMP has been run and funded by EH through the Heritage Environment Enabling Programme (HEEP).

The aim of the NMP is ‘to enhance our understanding about past human settlement, by providing information and syntheses for all archaeological sites and landscapes (visible on aerial photographs) from the Neolithic period to the twentieth century’ (Bewley 2001, 78). To achieve this aim a methodology was developed from previous selective approaches to mapping from aerial photographs (e.g. Benson and Miles 1974). The guiding principle of the methodology is ‘to map, describe and classify all archaeological sites recorded by aerial photography in England to a consistent standard’ (English Heritage 2010).

2.2 Overview of NMP methodology

The NMP applies a systematic methodology to the interpretation and mapping of archaeological features visible on aerial photographs (English Heritage 2010). This includes not only recording sites visible as cropmarks and earthworks but also structures, such as those relating to twentieth century military activities. This comprehensive synthesis of the archaeological information available on aerial photographs is intended to assist research, planning and protection of the historic environment.

The South Dorset Ridgeway Mapping Project followed standard NMP methodology and involved the systematic examination of all easily accessible aerial photographs from the National Monuments Record (NMR), the Unit for Landscape Modelling (ULM) at Cambridge University (formerly the Cambridge University Committee for Aerial Photography (CUCAP)), and Dorset County Council (DCC). Archaeological features were digitally transcribed using the AERIAL (Version 5.29) rectification programme and AutoCAD Version Map3D 2010. Each archaeological site was recorded in the Dorset County Council's Historic Buildings, Sites and Monuments Record (HBSMR) database.

Full details of the project methodology are contained in Appendix 1.

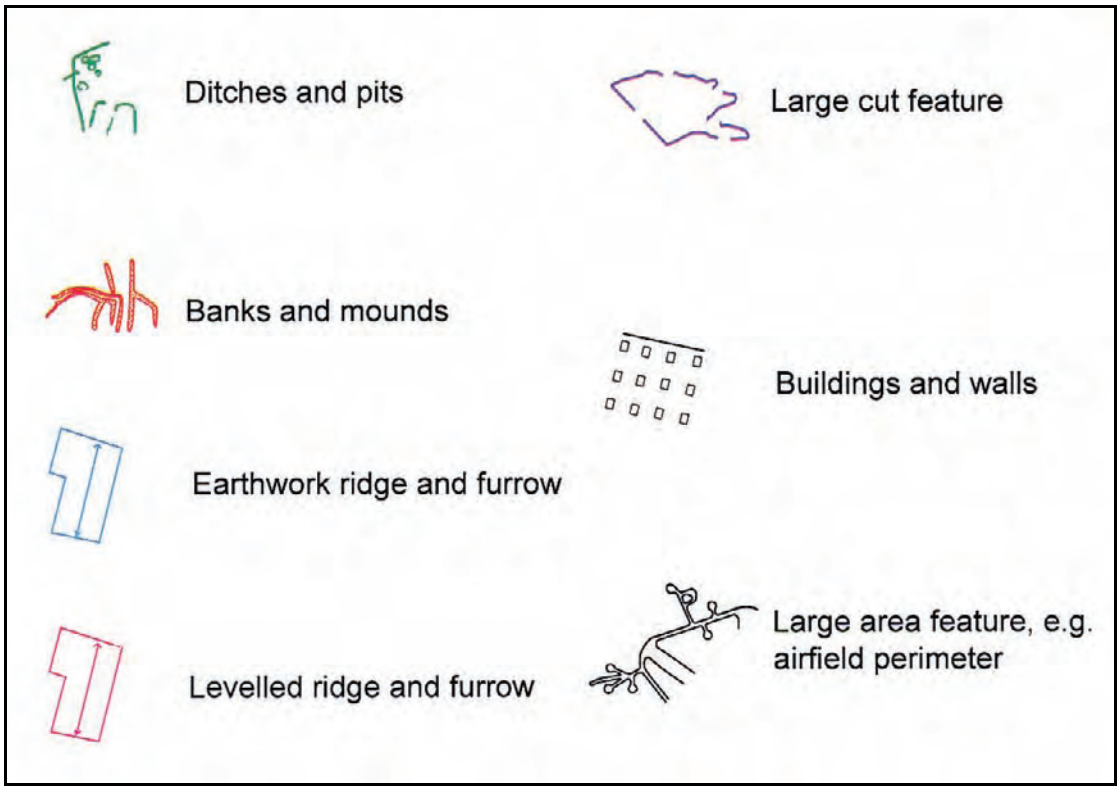


Figure 1. Conventions used on Dorset NMP maps.

3 Aims and objectives

The main aim of the South Dorset Ridgeway Mapping Project was to improve knowledge of the archaeological resource of the project area.

The overarching aim of the National Mapping Programme is

'*to enhance our understanding about past human settlement, by providing information and syntheses for all archaeological sites and landscapes (visible on aerial photographs) from the Neolithic period to the twentieth century*' (Bewley, 2001, 78).

3.1 Aims

Further aims and objectives specific to this project are set out below:

1. To define, characterise and analyse the historic environment of the South Dorset Ridgeway
2. To improve understanding and inform decisions regarding strategic planning, management and preservation of the historic environment of the South Dorset Ridgeway
3. To assist the implementation of the Dorset AONB Management Plan in the South Dorset Ridgeway
4. To assist in the formulation of research objectives and strategies for the South Dorset Ridgeway
5. To inform the presentation of and increase public awareness of the historic environment of the South Dorset Ridgeway

3.2 Objectives

These project aims were achieved through three primary objectives:

1. To produce a series of AutoCAD drawings depicting the archaeological landscape of the South Dorset Ridgeway visible on aerial photographs using the conventions and standards of NMP (English Heritage 2010).
2. To create interpretive records for all sites mapped in the Dorset County Council's HBSMR database.
3. To disseminate the project outcomes through the production of a summary report.

4 The project area

The South Dorset Ridgeway is a landscape of recognised natural beauty, a large part of which lies within the Dorset AONB which was designated in 1959. The historic environment is a key contributor to the value of this landscape; there is a huge variety of remains ranging from Neolithic long barrows, causewayed enclosures and cursus monuments to Bronze Age barrows, Iron Age hillforts, Roman towns and medieval castles. The variety and extent of its archaeological resource make the South Dorset Ridgeway one of the richest and most important cultural landscapes in England. As a nationally important historic landscape, it has been likened to the Avebury and Stonehenge World Heritage Sites (Pinder and Munro 2008).

The project area covers 310 kilometre squares of South Dorset; an area roughly equivalent to twelve and a half OS 1:10,000 quarter map sheets. For the purposes of NMP mapping, the project area was sub divided into two roughly equal parts, or working Blocks. Dorchester, the only large urban centre in the project area, straddles both Blocks.

Block 1; Broadmayne, Charminster and Uploders. Block 1 covers the northern strip of the project area and comprises six OS 1:10,000 full quarter sheets covering 150 kilometre squares. These are SY59SW, SY59SE, SY69SW, SY69 SE, SY79SW and SY78NW.

Block 2; Osmington, Chickerell and Abbotsbury. Block 2 covers the southern part of the project area and consists of 160 kilometre squares across eight OS 1:10,000 quarter sheets (some of these are coastal and part of their area is taken up by the sea). These are SY58SE, SY58NW, SY58NE, SY68SW, SY68SE, SY68NW, SY68NE and SY78SW.

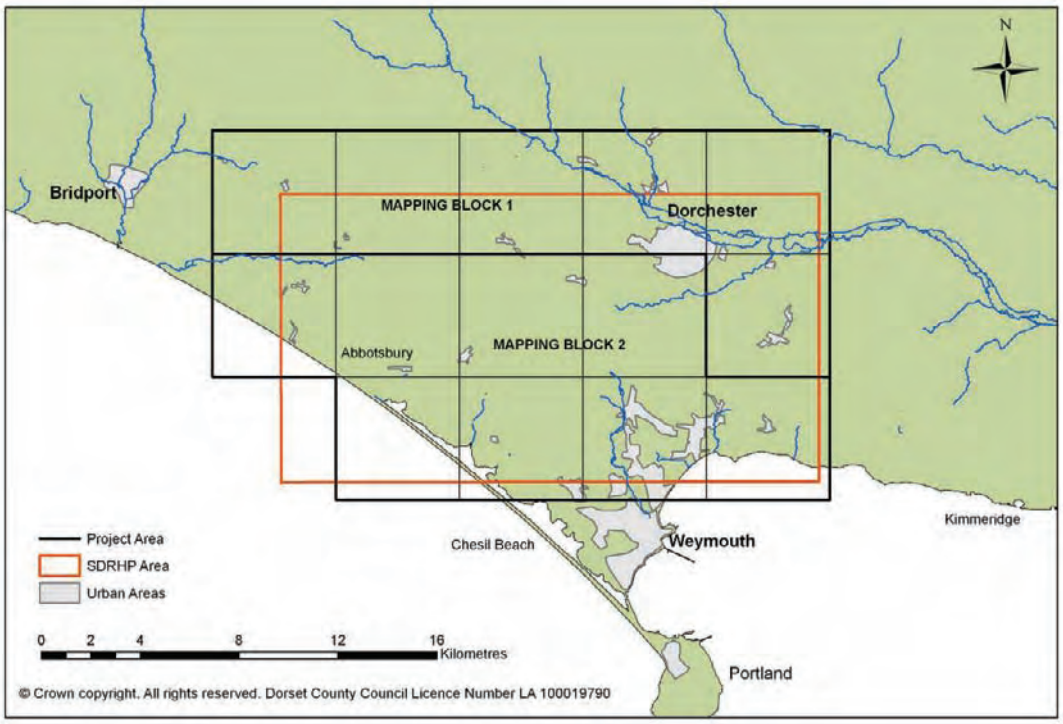


Figure 2. The NMP project area and extent of the SDRHP area.

4.1 Geology of the project area

The underlying geology of Dorset is very varied, giving the county its interesting landscapes. Much of the county is made up of relatively recent sedimentary deposits with Cretaceous Upper Greensand and Gault Clays in the west around Charmouth and mixed sands and mudstones of the Eocene to the southeast. Throughout Dorset run a number of limestone ridges, the most notable of which is a wide band of Cretaceous chalk which runs from the southwest to the northeast of the county underlying the Dorset Downs and forming part of the Southern England Chalk.

The project area itself is dominated by the Cretaceous chalk which forms the back bone of the South Dorset Ridgeway. To the south in the coastal lowlands around Weymouth lie roughly parallel east-west beds of Oolitic limestones, clays and cornbrash. To the west lie outcrops of Greensand and Gault Clay. Prehistoric landslides of these soft geological rocks have given rise to a variety of geomorphological features to the west of Abbotsbury (see Figure 38).

The Dorset coastline was designated a World Heritage Site in 2001 and is one of the most visited and studied coastlines in the world. It comprises rocks from the Triassic, Jurassic and Cretaceous periods, documenting the entire Mesozoic era with well preserved fossils and includes Chesil Beach, one of three major shingle structures in Britain. The great pebble barrier bank is 18 miles (29km) long and stretches from Abbotsbury to Portland in a straight line along the coast, enclosing the Fleet, a shallow tidal lagoon.

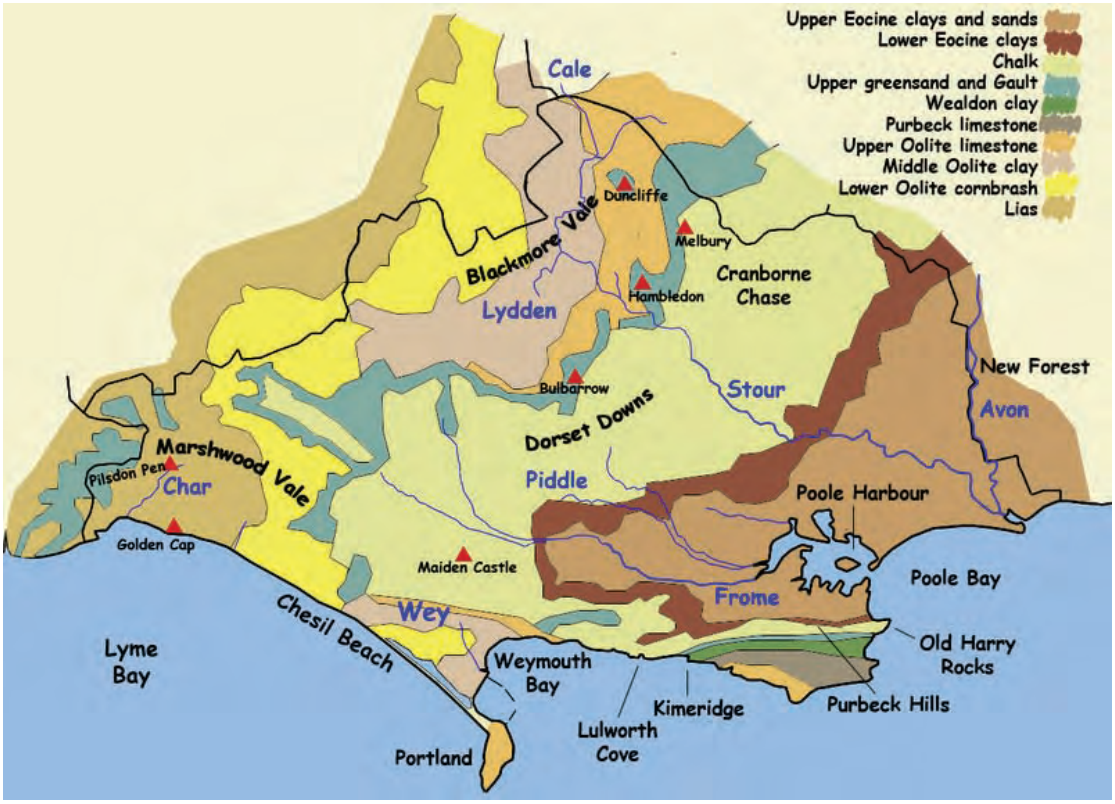


Figure 3. Map showing the simplified geology of Dorset.

(Map produced by Steinsky 2007 with information based on Woodward 1904)

4.2 Area of Outstanding Natural Beauty

The Dorset AONB was designated in 1959 and is the fifth largest in the country covering approximately 42% of the county. It stretches from Lyme Regis in the west along the coast to Poole Harbour in the east and north to Hambledon Hill near Blandford Forum. The AONB includes a variety of landscapes, from the high chalk downs to lower arable areas and also includes the Jurassic Coast World Heritage Site. Much of the current project area lies within the southern part of the AONB (Figure 4).

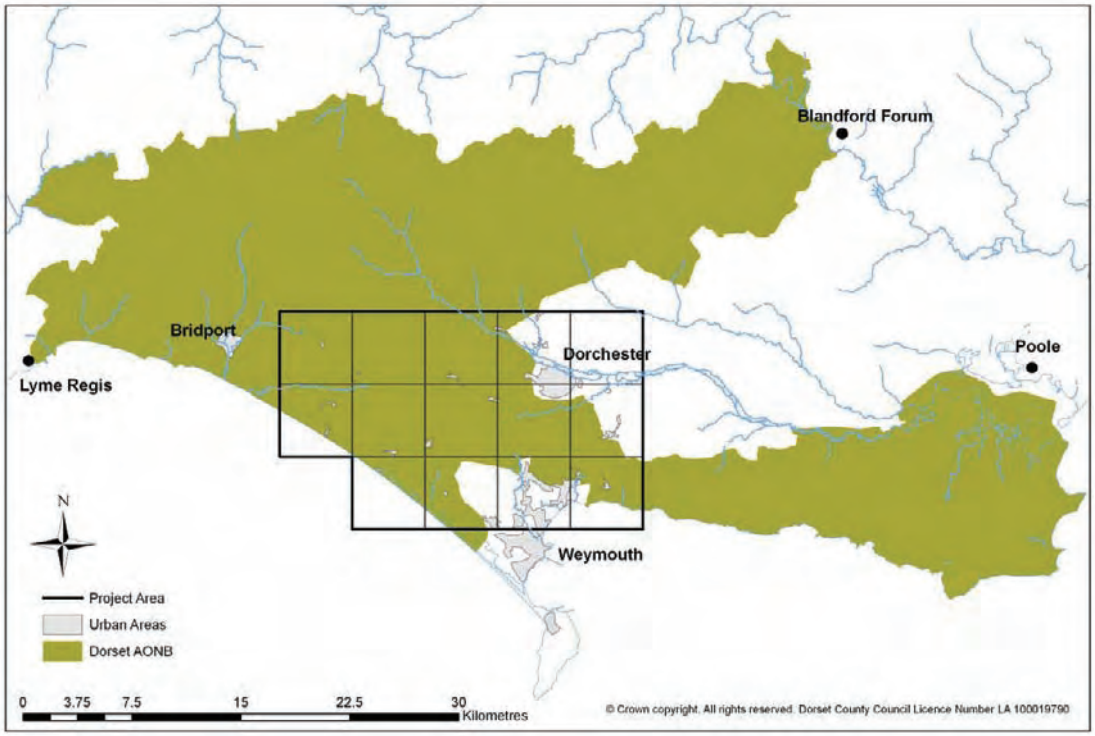


Figure 4. Dorset AONB and NMP Project Area.

4.3 South Dorset Ridgeway Landscape Character

A landscape character assessment was recently carried out of the entire county, undertaken by Dorset County Council in partnership with the AONB. Within the county, 21 broad landscape character types have been identified based on broadly similar combinations of geology, topography, vegetation, land use and settlement pattern, (Figure 5). The following descriptions are based on data from Dorset County Council, 2010.

4.3.1 Character Types

Although a number of Landscape Character Types are contained within the project area, the most dominant types include:

Open Chalk Downland. This lies in the north of the project area around Dorchester and in a wide swathe running northwest-southeast across the centre of the area. Along with 'Chalk Escarpment Ridge' it forms the main spine of the South Dorset Ridgeway. It is characterised by elevated areas of open upland with broad rolling hills and a patchwork of large arable fields. Typically sparsely populated with few settlements and isolated farms, this character type is rich in important prehistoric burial sites such as Neolithic long mounds and Bronze Age barrows as well as later Iron Age hill forts such as Maiden Castle. It merges seamlessly with the Chalk Valley Downland landscape which is more dominant to the north of the project area.

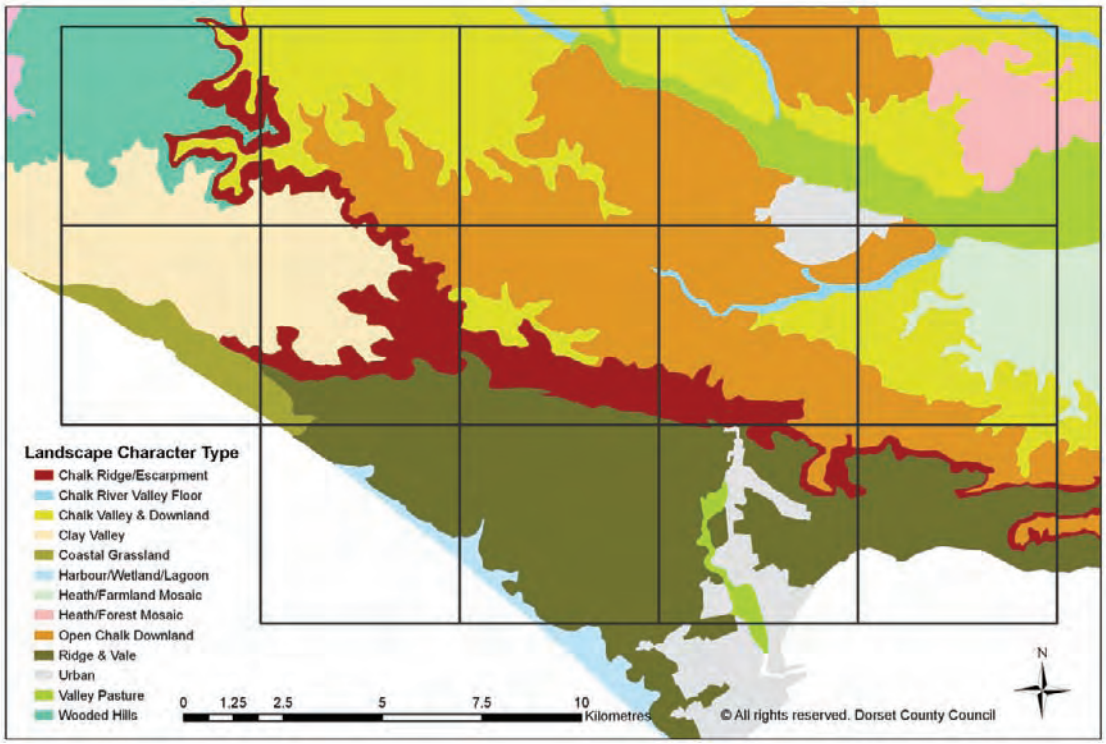


Figure 5. Draft Dorset Landscape Character Types. (DCC 2009)

Chalk Escarpment Ridge. This runs in a relatively narrow band to the south of the 'Open Chalk Downland' and defines the southern margin of the chalk landscape. There is often a marked variation in the character of these distinctive steep ridges and scarp slopes due to the geology and patterns of erosion. Often open and undeveloped in character, they support patches of chalk grassland and hanging woodland. Modern settlements are located at the bottom of the scarp slopes along the stream line whilst ancient hillforts form key landmarks on the higher group such as at Eggardon.

Chalk Valley and Downland. This landscape type forms a broad belt running across the county and forms part of the wider chalk landscape of Wessex. Its key characteristic is large open arable downland fields with a smaller scale pattern of fields in winding ribbons of trees along the valley floors. The landscape is elevated and undulating with wide open views. Each valley has its own unique character with settlements along the valley floors and roads on old Roman alignments following valley floors or elevated ridges.

Ridge & Vale. This landscape character type dominates the southern portion of the project area comprising much of the land between Weymouth and Abbotsbury inland from the coastal strip. It is characterised by broad low lying hog-backed ridges separated by clay vales following an east-west alignment and enclosed by the chalk escarpment to the north. This is an area of mixed farming with a patchwork of medium sized fields and larger fields in the flatter valleys and open ridge tops.

Coastal Lowlands. An exposed, largely treeless landscape is found in the narrow coastal strip at Abbotsbury running westward. This gently undulating windswept landscape is characterised by rough grassland and scrub with a patchwork of regular fields. Generally unsettled with occasional farmsteads, this area is dominated by grazed pasture and marsh.

Valley Pasture. The flat open valley floor of the River Frome to the north of the project area is typically a grazed pastoral landscape on deep alluvial soils. Old water meadows and drainage systems are common alongside the meandering river

channel which often floods. The valley floors are the focus for settlements, transport corridors and historic river crossings. The historic county town of Dorchester lies on the slightly elevated terrace to the side of the valley

Heath Forest Mosaic. To the northeast of Dorchester lies the country park of Puddletown Forest. This forms the western end of an extensive area of heath, forest and scrub on impoverished sandy soils. The forest is one of many conifer plantations on former heath land sites. This landscape type is generally found on elevated areas popular for recreational activates.

Clay Valley. East of Burton Bradstock in the Bride valley is an area of Clay Valley with its varied landscape of broad open valleys and more secluded areas enclosed and defined by the dramatic chalk escarpments and ridges. Its patchwork of small scale rolling pasture fields, scattered woodland and scrub on steeper slopes has been shaped by centuries of agricultural improvement. Small farmsteads and villages are often hidden and scattered throughout the landscape.

4.3.2 Character Zones

Whilst the project area includes a number of character types it can be divided into two main zones: The Dorset Downs and the Weymouth Lowlands (Dorset AONB 2008).

4.3.2.1 Dorset Downs

These open rolling hills are covered with a patchwork of small fields and woodlands. The wooded slopes with their dense hedgerows surround settled valleys with linear, picturesque villages. The chalk ridge offers fantastic views over the countryside and provides the locations for many important ancient monuments such as barrow cemeteries and hill forts.

The characteristic features of this landscape are:

- A rolling, chalk landscape with dramatic scarps and steep sided, sheltered valleys.
- Scarp slopes with species-rich grassland, complex coombes and valleys, spectacular views, prominent hillforts and other prehistoric features.
- Open, mainly arable, downland on the dip-slope with isolated farmsteads and few trees.
- Varied valleys with woodlands, hedged fields, flood meadows and villages in flint and thatch.
- Distinctive woodlands and historic parkland.

4.3.2.2 Weymouth Lowlands

The Weymouth Lowlands form a significant coastal landscape. The area is dominated by the pebble barrier of Chesil Beach which is separated from the mainland of open lowlands by an area of saline water called the Fleet Lagoon. Inland, small ridges and broad vales provide a gradual transition to the Dorset Downs. The characteristic features of this landscape are:

- Varied area united by underlying broad ridge and valley pattern and spectacular coastline.

- Open, largely treeless, ridge tops with large, commonly arable fields.
- Valleys with villages, mixed farming and valley side woodlands.
- Exposed, windswept coastal grassland.
- Distinctive coastline of Chesil Beach enclosing the brackish lagoons of The Fleet.
- Extensive urban and urban fringe land use around Weymouth.

5 Overview of the aerial photographs

Over seventy years of vertical and oblique photography have ensured that there is extensive aerial photographic cover of the South Dorset Ridgway. Available aerial photographs comprise specialist oblique photography, extensive programmes of vertical photography carried out from the 1940s onwards, and oblique photographs taken by the Ministry of Defence in the years during and after the Second World War. Details of available photographs are contained in Appendix 1.

5.1 Specialist oblique photography

The earliest oblique aerial photographs consulted during the project were from the Crawford collection. Whilst exact dates are not available for many of these prints, O.G.S Crawford undertook many flights in Southern England in the 1920s and 1930s and several of the prints may originate from those early flights.

The earliest flight from the Cambridge University Committee for Air Photography (CUCAP) collection was undertaken in August 1947 and included targets such as Poundbury and Maiden Castle. Flights were undertaken by CUCAP from the late 1940s onwards and where possible these were consulted during the project although loans from the collection were only provided to the project team for Block 1 and part of Block 2.

A systematic programme of reconnaissance has been carried out by the NMR since the 1970s and photographs from this collection provided the bulk of the oblique coverage; the majority of sites mapped from obliques were transcribed from these NMR photographs. Oblique photographs taken in slanting sunlight (either during the winter months or in the early morning or late evenings of summer) are an ideal medium for defining earthwork monuments. The low earthworks of the medieval field system at Poxwell (Figure 6) provide a good example.

Figure 6. Low earthwork banks of a medieval strip field system at Poxwell. The site which is clearly picked out in low sunlight was recorded as part of ongoing aerial reconnaissance by the English Heritage Aerial Survey team. (MDO2155). Photograph: NMR 24521/19 SY 7484/11, 23 January 2002. © English Heritage. NMR.

Many sites recorded on oblique aerial photographs are plough levelled features visible as cropmarks. Whilst cropmark sites have been photographed in the project

area since the 1940s, substantial numbers of previously unrecorded sites were mapped from aerial photographs taken over the last two decades. This is particularly true in the north of the project area, particularly on the Open Chalk Downland where a significant amount of ploughing has taken place during and after the Second World War. This demonstrates that there is considerable potential for further discovery of sub-surface remains through continuing programmes of reconnaissance in the summer months.

Figure 7. Possible Romano-British settlement enclosures at Giles Cross. The linear series of rectilinear enclosures lie just off the floodplain of the River Frome at Giles Cross. (MDO20928). Previously unrecorded, this site is clearly visible as cropmarks on this photograph which was taken in August 1995. Photograph: NMR 15344/43 SY 6692/20, 04 August 1995 .© English Heritage. NMR.

5.2 Vertical Photographs

Vertical photographs provide coverage of all parts of the project area and have been taken at regular intervals from the early 1940s onwards. As part of the routine NMP process all readily available vertical aerial photographs, with the exception of the Dorset County Council digital cover, were examined with a hand-held stereoscope. Viewing prints with a stereoscope provides a three dimensional view of the landscape, including any extant archaeological features. The advantage of vertical photography is that large areas are usually surveyed; a potential disadvantage is that they are not always taken at the most favourable times of day or year to maximise the visibility of archaeological features. Nonetheless the value of vertical photography to the project cannot be overstated; the majority of all sites recorded in the project database were identified and transcribed from vertical photographs.

A good range of sources of vertical photography were available to the project, and as a result a wide variety of archaeological site types were recorded. RAF vertical photographs from the 1940s to the early 1960s were an important source of information, particularly for sites relating to twentieth century military features.

Sea Barn Farm, site of the First World War Portland Anti-Aircraft Battery, Fleet, (MWX4686).

Photograph: RAF AC36V Frame 51, taken, 22nd April 1942. English Heritage (NMR) RAF Photography.

Figure 8. Sea Barn Farm, First World War Portland Anti Aircraft Battery in 1942.

Photographs of the same site taken in 1946 showing gun emplacements and Nissen huts associated with the Second World War Heavy Anti-Aircraft Battery.

Photograph: RAF CPEUK1821 Frame 4467, 4th November 1946. English Heritage (NMR) RAF Photography.

Figure 9: Second World War Heavy Anti-Aircraft Battery at Sea Barn Farm in 1946.

A large number of earthwork features were identified and transcribed from vertical photographs taken during the winter months, particularly in the years 1946 and 1968. The provision of a wide variety of sorties in addition to the RAF coverage (the Dorset CC digital aerial photo tiles from 1972, 1997 and 2002, the Ordnance Survey and the Meridian Airmaps collections), ensured that coverage from vertical photography was extremely good.

By using the historical RAF verticals in combination with modern images, a direct comparison of the state of preservation of archaeological sites over time can be made. Whilst many of the monuments on the South Dorset Ridgeway are still extant features in the landscape, unfortunately many sites which were visible as earthworks in the 1940s have been completely levelled and are now visible only as crop or soil marks.

Whilst suffering from the plough in places, the Celtic field system at Great Hogleaze, Frampton was still in relatively good condition at the time these RAF photographs were taken in 1946 (MDO1168).

Photograph: RAF CPEUK1821 Frame 4467, 4th November 1946. English Heritage (NMR) RAF Photography.

Figure 10. Celtic field system at Great Hogleaze taken in 1946.

Throughout the latter half of the 20th century the lynchets of the Great Hogleaze Celtic field system suffered severe attrition from the plough. By 1997, when this photograph was taken, the field system had been almost completely levelled and was only visible as soilmarks and cropmarks.

Photograph: 31 97 Frame 507. © Dorset CC.

Figure 11. Celtic field system at Great Hogleaze taken in 1997.

5.3 Military Oblique Photographs

A small number of military oblique photographs were available of the study area. These were from sorties taken by the RAF between 1941 and 1959. Along with the RAF vertical photographs, these were particularly useful sources of information concerning twentieth century military features.

Figure 12. Second World War bombardons wrecked on the shore at Osmington Bay. These bombardons (floating breakwaters) formed an integral part of the Mulberry Harbour which helped the successful invasion of the Normandy beaches in June 1944. (MDO24452). Photograph: NMR SY7281/1 (RAF 541/454 Frame 0079), 7th March 1950. English Heritage (NMR) RAF Photography.

5.4 Lidar

Light Detection and Ranging (lidar) is an airborne mapping technique which uses a laser to measure the distance between the aircraft and the ground. The technique allows the identification and recording of upstanding features on the ground to sub-metre accuracy. The benefits of using lidar for archaeological recording have been recognized and have been tested by the EH Aerial Survey Team (Bewley *et al* 2005 and Devereux *et al* 2005). Data from this project have proved the value of lidar as an archaeological survey tool.

The Environment Agency have undertaken widespread lidar surveys of the country as the technique results in the production of a cost effective terrain map suitable for assessing flood risk, measuring land topography and assessing coastal erosion and geomorphology. This data was supplied to the project team via EH as static .jpeg images derived from the full data and was used in exactly the same way as conventional aerial photographs.

The lidar images proved to be very useful, particularly in picking up the faint traces of medieval strip field systems almost completely levelled by ploughing, (see Figure 13).

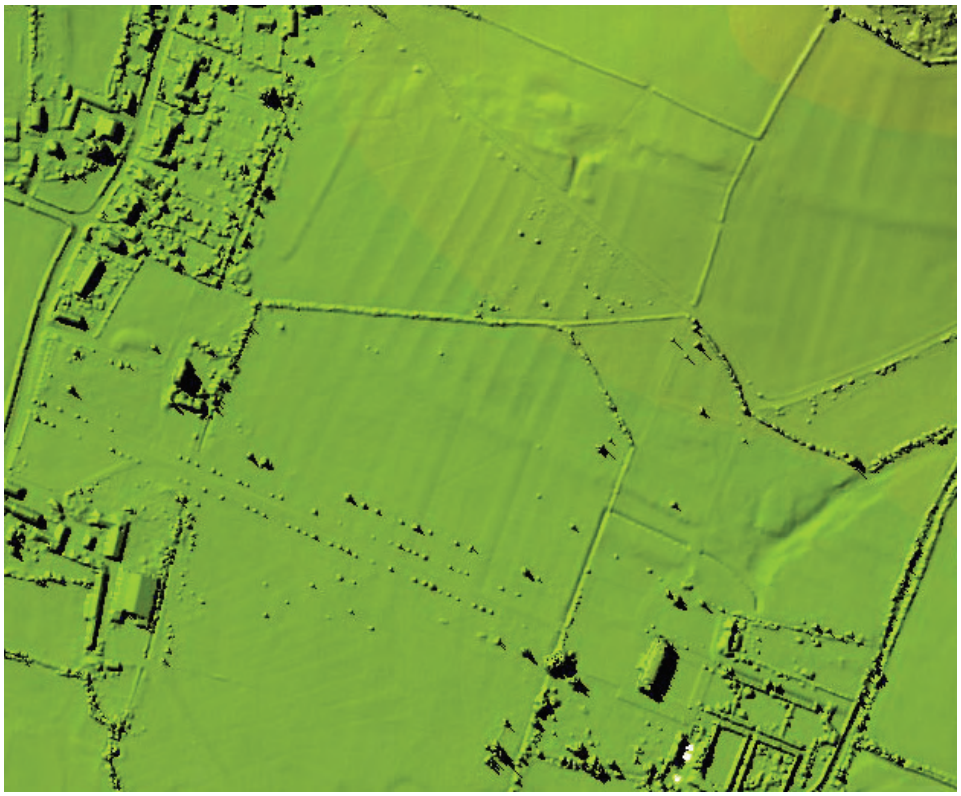


Figure 13. Traces of a medieval strip field system at Long Bredy clearly visible as very low earthworks on lidar imagery. (MDO24069). Environment Agency D0060481 21st April 2006.

6 Results of NMP mapping

6.1 Overview of results

In general terms the nature of archaeological evidence available from aerial photographs determines the types of site recorded as part of NMP. Usually these are relatively substantial ditched or banked features either visible above ground as earthworks, or as cropmarks of sub-surface features. Historic photography also provides details of earthworks and structures which have been denuded or levelled by ploughing, or otherwise destroyed or removed in the last 70 years.

6.1.1 Numbers of sites in the project area

Prior to the mapping, the Dorset HBSMR contained 3867 records for archaeological sites within the project area. Many of these were for find spots, place names and extant buildings (site types which are outside of the NMP remit).

Of the 3867 sites listed, 2945 were for features recorded as Record Type monument. These are sites potentially visible on aerial photographs such as cropmarks and earthworks as well as structures and subsurface features (including excavated features) and within the NMP Remit. Figure 14 shows the distribution of those Dorset HBSMR Monument records existing prior to the NMP project.

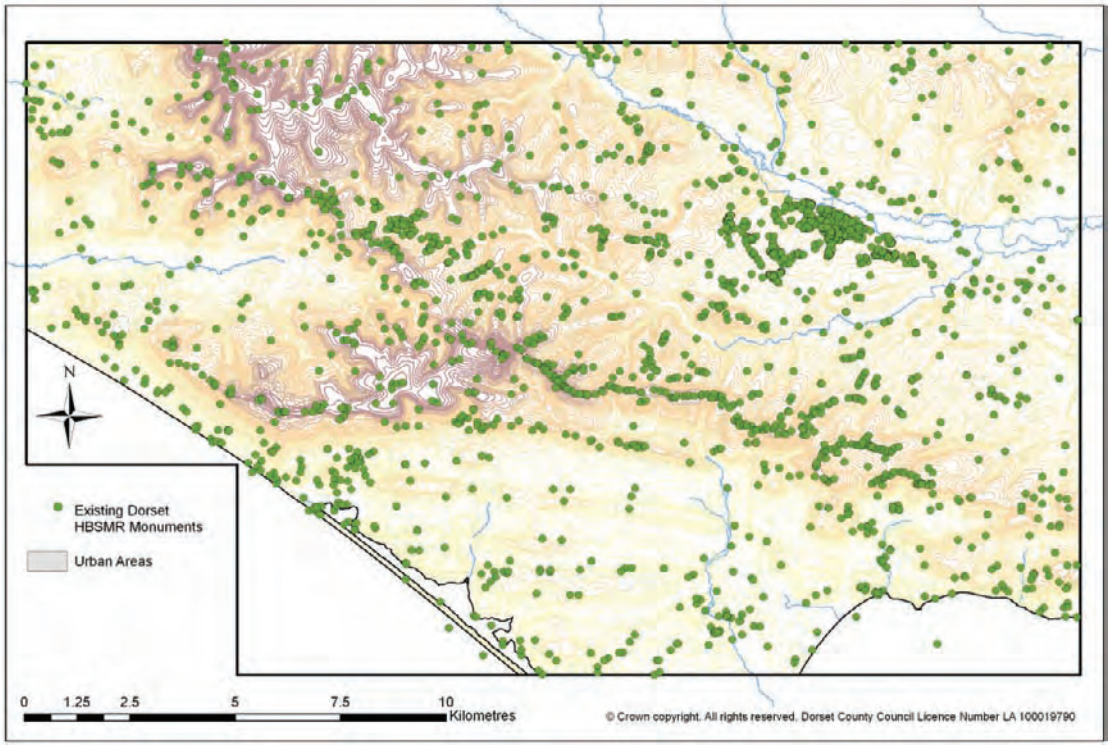


Figure 14. Distribution of all monuments recorded in the Dorset HER prior to the NMP project.

During the project 3452 monument records were created in the project data base for cropmarks and extant features, of which 2500 were for sites previously unrecorded. The mapping project has therefore resulted in an 85% increase in the archaeological record for these types of site from 2945 to 5445. The numbers of sites recorded by period are listed in Table 1 below.

Period	Existing Sites	New Sites	Total
Neolithic	26	8	34
Neolithic/Bronze Age	8	7	15
Bronze Age	575	325	900
Iron Age	29	10	39
Roman	7	13	20
Prehistoric/Roman	14	101	115
Prehistoric	20	60	80
Medieval	133	229	362
Post Medieval	73	844	917
Post Medieval/Modern	7	23	30
Modern (C20th)	36	99	135
Historic	3	471	474
Uncertain	21	309	330
Totals	952	2500	3452

Table 1: *Numbers of sites recorded in the project database.*

The impact of the project on the known archaeological record must be seen not just in terms of the sheer numbers of new sites, but also in terms of their distribution. Prior to the project the majority of Monuments recorded in the HBSMR were Bronze Age barrows and prehistoric monuments along the line of the main South Dorset Ridgeway plus a large cluster of sites associated with archaeological excavations and evaluations prior to developments within Dorchester.

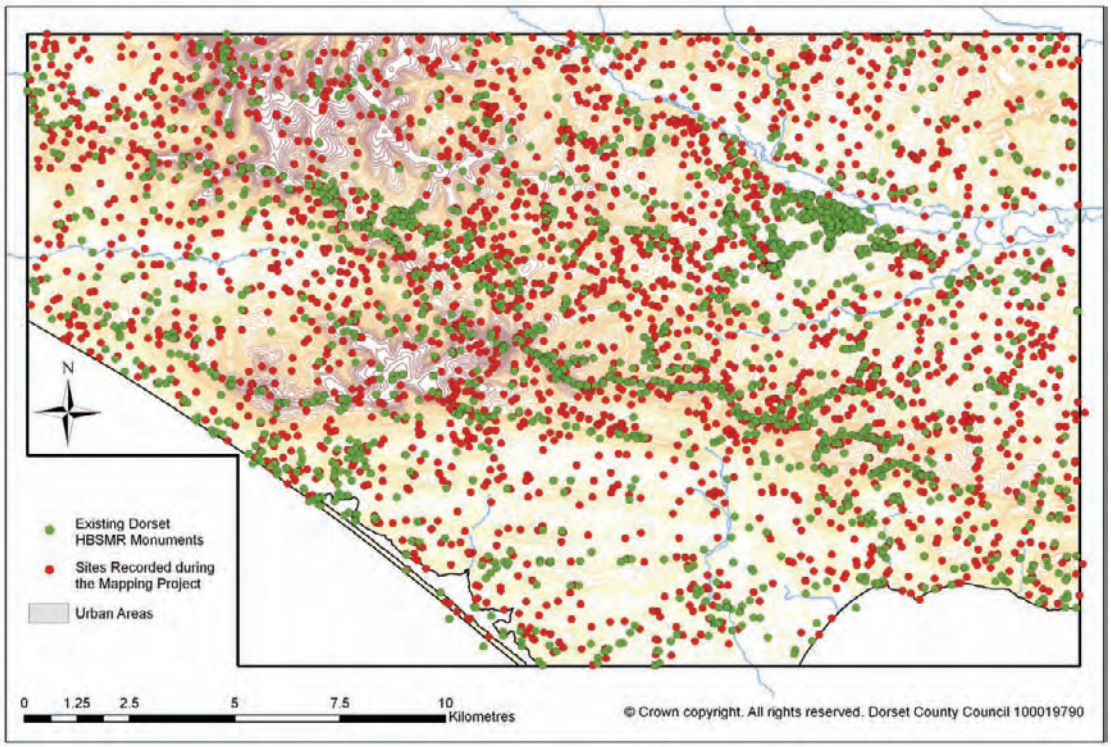


Figure 15. Distribution of all monuments recorded during the NMP project.

As would be expected, few sites were identified during the project within the main conurbations of Dorchester and Weymouth. However outside these urban areas, and discounting the concentration of sites associated with the Bronze Age barrow cemetery along the Ridgeway itself, the distribution of sites was fairly even across the project area.

6.1.2 Form and survival of sites

Of the 3453 sites recorded during the mapping project, 1022 (30%) were plough levelled and were visible only as cropmarks and a further 336 (10%) were partially showing a cropmarks as well as earthworks (often on earlier images). These sites are shown in green and orange on the map below, Figure 16).

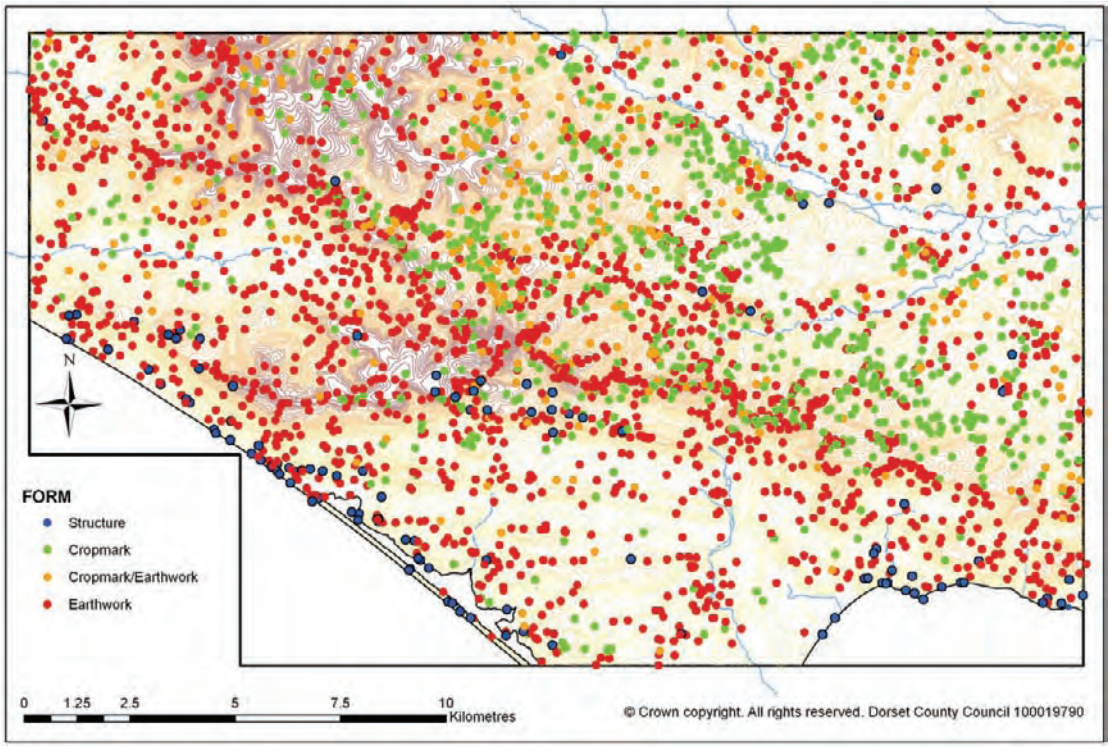


Figure 16. Distribution of sites recorded as earthworks and cropmarks within the NMP study area.

The map clearly shows that these plough damaged sites in the main are in the north and east of the project area on the open rolling arable landscape surrounding Dorchester and particularly on Landscape types Open Chalk Downland and Chalk Valley and Downland.

Whilst the earthwork sites are scattered across the entire study area, they are almost exclusively on Landscape types Coastal Grassland, Ridge and Vale and Wooded Hills. The large number of extant Bronze Age barrows scattered along the elevated ridge of high ground forming the spine of the South Dorset Ridgeway can clearly be identified from the illustrations above (Figures 14, 15 and 16).

6.2 NMP results: Neolithic sites (4,000BC - 2,351BC)

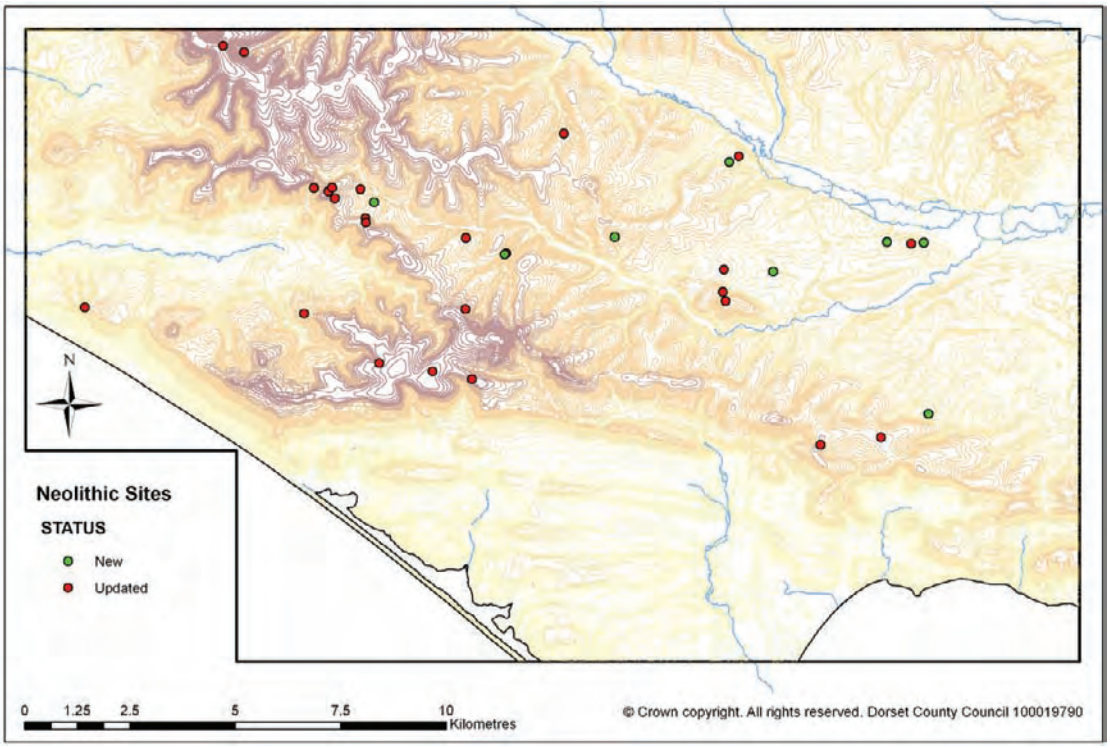


Figure 17. Distribution of Neolithic Sites.

Thirty four sites of Neolithic or potentially Neolithic origin were identified during the mapping project. These included 18 long barrows, two oval barrows, five bank barrows, two cursus monuments, three henge monuments and the causewayed enclosure at Flagstones near Dorchester. Eight of the monuments were new to the record.

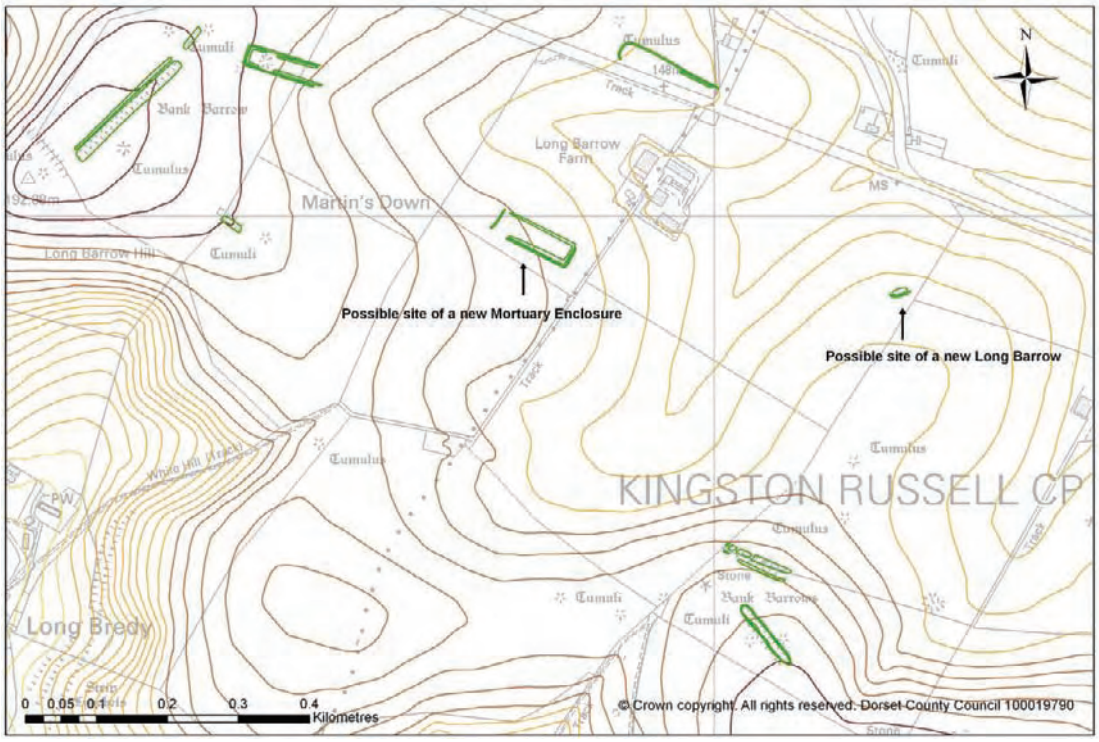
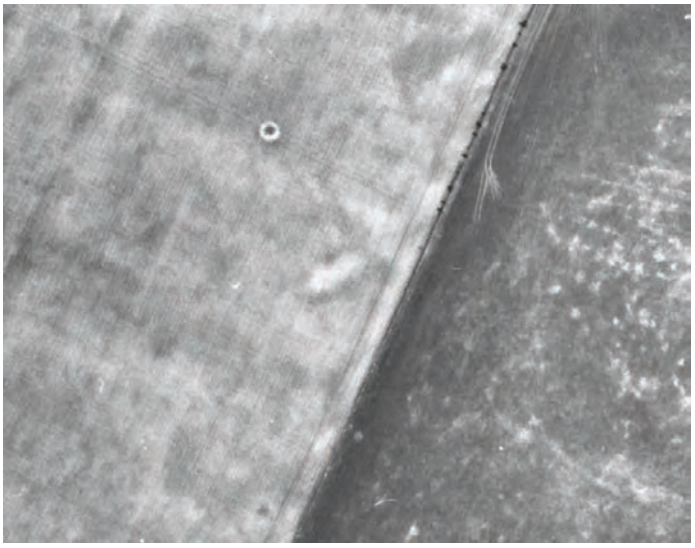


Figure 18. Neolithic Monuments on Martin's Down.

Martin's Down. One of the most important concentrations of Neolithic monuments lies between Long Barrow Hill and Black Down, straddling the parishes of Kingston Russell and Long Bredy. Prior to NMP, the complex was known to comprise a bank barrow and two long barrows on Long Barrow Hill, with two probable cursus monuments immediately to the east and two bank barrows to the southeast on Black Down.

As a result of the mapping project, two previously unknown monuments of potential Neolithic date have been recorded. The first is the site of a potential oval or long barrow on Black Down (Figure 19). The mound is 20m long with fragments of an external ditch visible along its southern side.

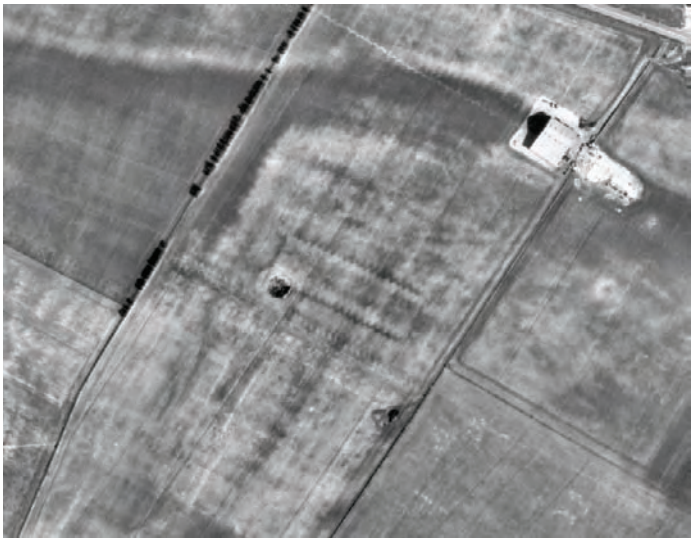


This small oval mound on Black Down, Kingston Russell, may be the site of a Neolithic oval or long barrow. (MDO 21445).

Photograph: OS/69053 Frame 015, 2nd April 1969. © Crown Copyright. Ordnance Survey.

Figure 19. Potential Neolithic oval or long barrow on Black Down, Kingston Russell.

In addition, a rectilinear enclosure, 115m by 40m in size and defined by an outer ditch and inner bank, lies to the south of Long Barrow Farm on Martin's Down. Orientated roughly northwest-southeast and therefore on the same alignment as the two previously identified cursus monuments, this may be the site of a short cursus or large Neolithic mortuary enclosure. (Figure 20).



The large rectilinear enclosure on Martin's Down, Long Bredy is potentially the site of a Neolithic cursus monument or mortuary enclosure. (MDO21427)

Photograph: OS/69053 Frame 013, 2nd April 1969. © Crown Copyright. Ordnance Survey.

Figure 20. Possible Neolithic cursus or mortuary enclosure on Martin's Down.

If these new sites are indeed of Neolithic date, the mapping project will have provided significant new information to this important Neolithic monument complex.

Mount Pleasant/Flagstones. Two of Dorset's most important Neolithic monuments lie adjacent to each other just off the flood plain of the River Frome at Dorchester. The causewayed enclosure at Flagstones (MDO18013) was excavated during the construction of the Dorchester by-pass in 1987-1988 and was dated to the late fourth Millennium BC (Smith et al 1997). Less than 400m to the east of Flagstones is the later Neolithic henge monument of Mount Pleasant (MDO2890), excavated by Geoffrey Wainwright in 1970-71 (Wainwright 1979).

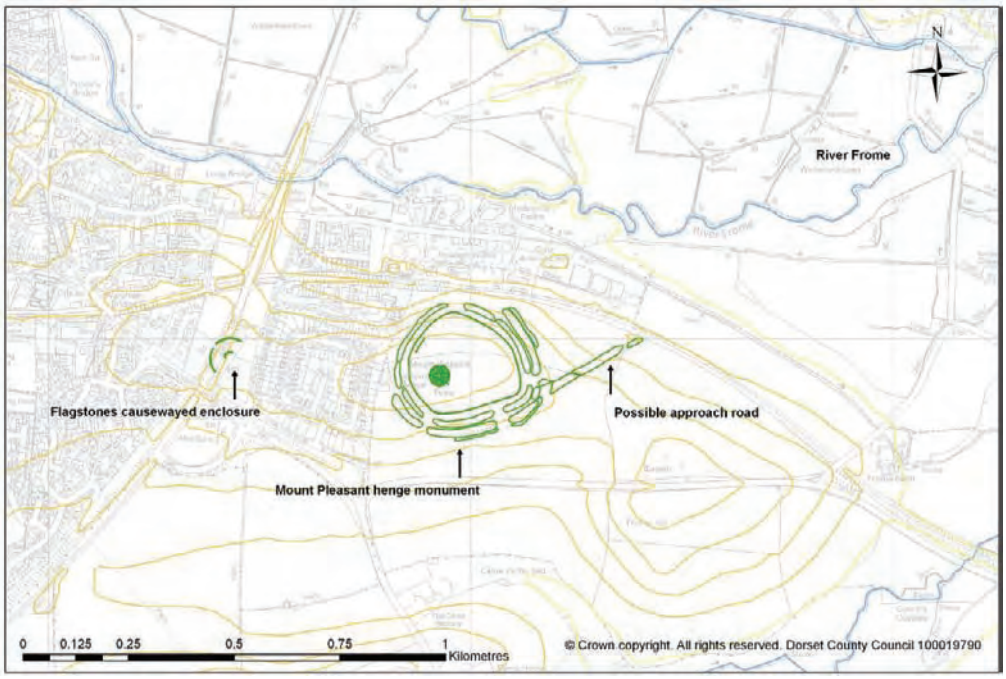
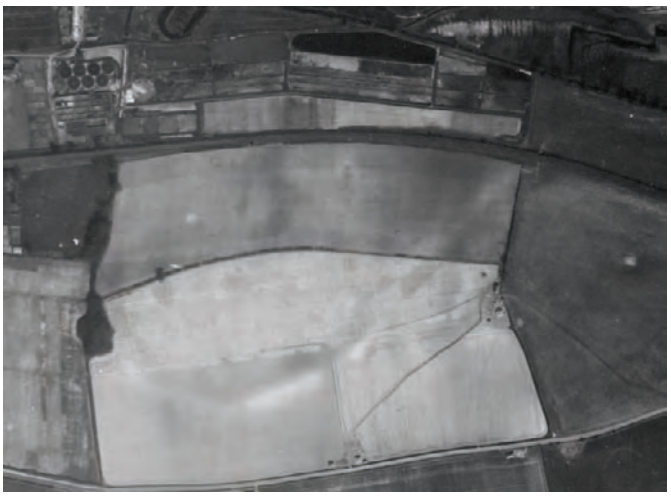


Figure 21. Neolithic Monuments east of Dorchester.

Both of these monuments were plotted from the available aerial photographs during the project and as both had previously been excavated, little additional information was recorded. However, on several vertical photographs dating back as early as 1947, a wide linear feature was noted running from the eastern end of Mount Pleasant in a northeasterly direction towards the flood plain of the River Frome. It was suggested that this feature might be an approach road or processional way between the Neolithic henge monument and the river – possibly to a river crossing or other Neolithic ceremonial sites no longer visible. This possible approach has previously been noted by Barber in 2004, (Barber 2004).



This photograph, taken in 1946, appears to show the line of an approach road to the east of the Neolithic Henge Monument of Mount Pleasant. (MDO2890 and MDO20952).

Photograph: RAF CPEUK2018 Frame 4013, 17th April 1947. English Heritage (NMR) RAF Photography.

Figure 22. Mount Pleasant Neolithic Henge Monument.

In addition to the great Neolithic henge at Mount Pleasant, two other potential henge monuments lie within the study. The first, at Eggardon Hill (MDO2118), is a sub circular ditch and banked enclosure 65m across with two entrances to the NNW and SSE. A small barrow mound lies in the centre of the site which has previously been recorded as a Neolithic henge monument or disc barrow and is currently protected by scheduling.

At Forty Acre Plantation overlooking the flood plain of the River Frome is a possible class II Neolithic henge (MDO20918). The enclosure is roughly circular in shape with two opposing entrances to the WNW and ESE. Henge monuments enclose areas over 20m in diameter (EH, 2010a) and at 22m across, the site is on the smaller end of this scale. This important Neolithic monument was identified for the first time during the mapping project along with a small hengiform monument of probable late Neolithic or early Bronze Age date which lies immediately to the northeast (see Figure 25).

6.3 NMP results: later Neolithic to Bronze Age sites (3,000BC – 701BC)

In addition to the Neolithic sites described in section 5.6 above, 15 other sites were allocated a late Neolithic to Bronze Age date. These comprised two stone circles and 13 hengiform monuments. The two stone circles were both previously known and lie within 2.3km of each other on promontories of higher ground overlooking the coastal lowlands. Of the hengiform monuments, seven were newly identified during the project.

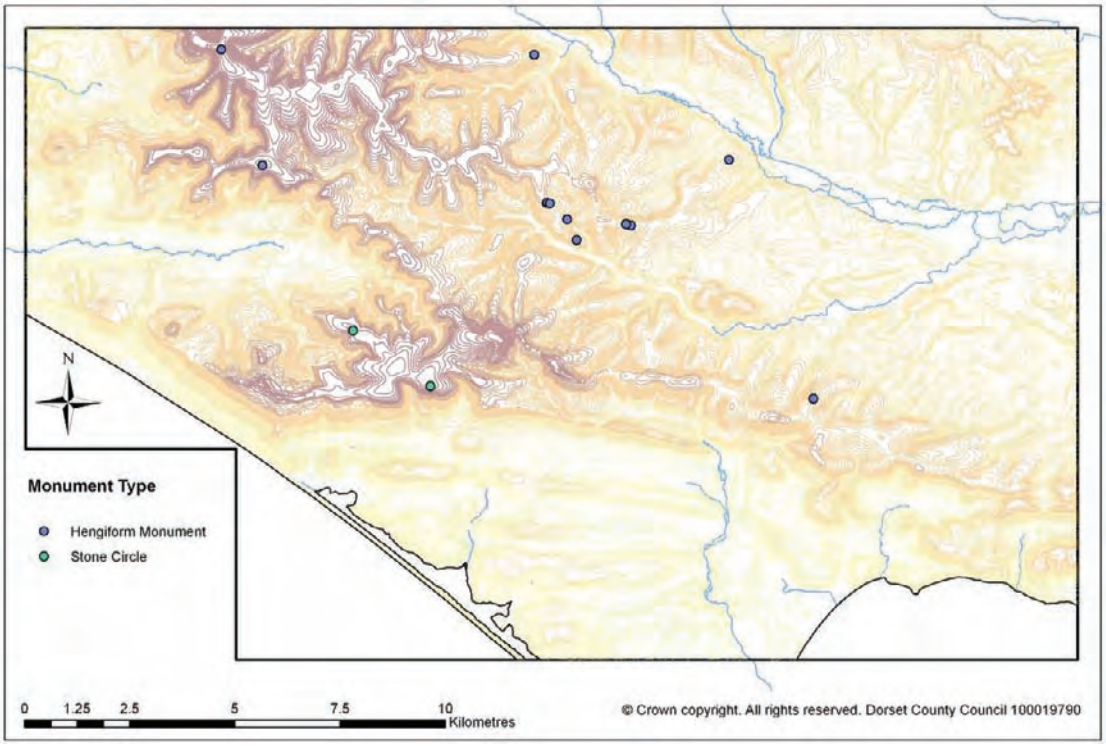
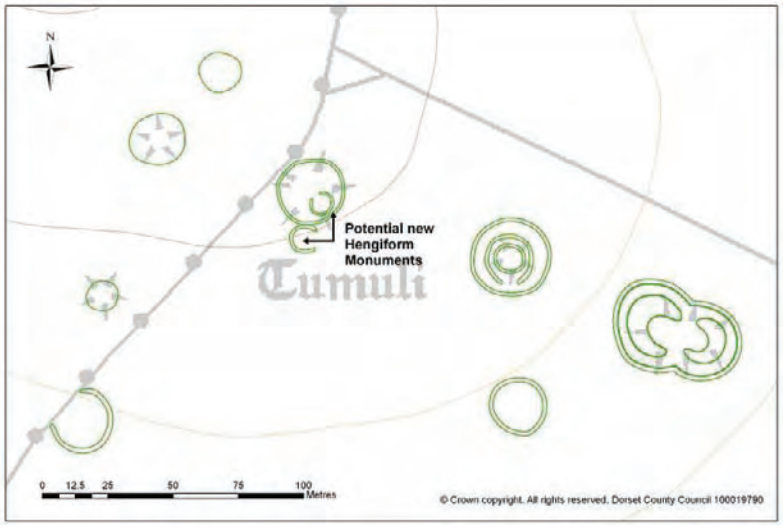


Figure 23. Distribution of Late Neolithic-Bronze Age Sites.

Two of the potential new hengiform sites lie within the Bronze Age barrow cemetery on Pound Hill; they are 9-10m across with single entrances and are sited adjacent to each other. They are associated with a large ring ditch; one lying immediately to the south and the other within the ring ditch and offset to its southeast side. The ring ditch is considered to be a large Bronze Age bowl barrow and its collocation with the potentially earlier hengiform monuments may indicate the reuse or adoption of a Late Neolithic sacred site in the Bronze Age.



Two potentially Late Neolithic hengiform monuments lie within the Bronze Age barrow cemetery at Pound Hill, Winterbourne Steepleton. (MDO21286 and MDO21291)

Figure 24. Late Neolithic hengiform monuments at Winterbourne Steepleton.

This phenomenon of multi-period use of a site is not unusual. The excavation of a large barrow at Earl's Farm (Amesbury 71) provided evidence for four phases of construction (Christie 1967). In the earliest phase an inhumation was placed within a roughly C-shaped setting of stakes set within a slight ring ditch. In phase II, this earlier setting and inhumation was covered by a barrow mound with surrounding ring ditch. Whilst the hengiform monuments at Pound Hill are defined by C-shaped ditched enclosures rather than stakes and pits, the similarities of size and shape (plus the later addition of a large barrow and ring ditch) are notable.

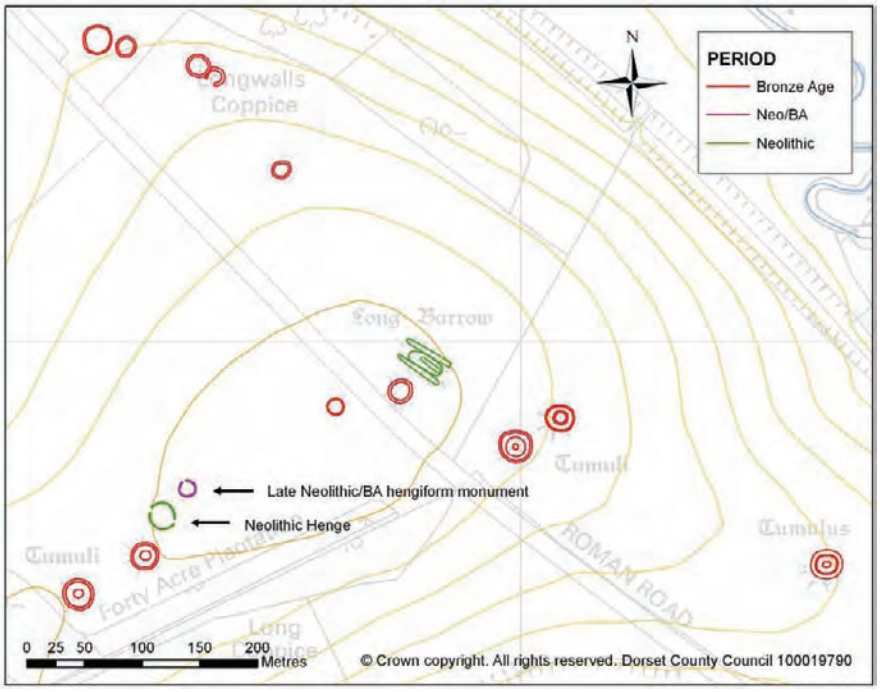


Figure 25. Neolithic and Bronze Age sites at Forty Acre Plantation, Bradford Peverell.

This long term use of a sacred ceremonial site from the Neolithic through to the Bronze Age can also be seen a Forty Acre Plantation, Bradford Peverell, Figure 25. Here a Neolithic long barrow (MDO409) is situated in a prominent location at the end of a pronounced ridge overlooking the flood plain of the River Frome. The possible site of a small class II Neolithic henge lies 26m to the southwest along the crest of the ridge (MDO20918). This important Neolithic monument was identified for the first

time during the project along with a small hengiform monument of probable late Neolithic or early Bronze Age date which lies immediately to its northeast. This ridge was later the focus a Bronze Age barrow cemetery indicating a continuation of use of the site for over a millennium.

6.4 NMP results: Bronze Age sites (2,350BC - 701BC)

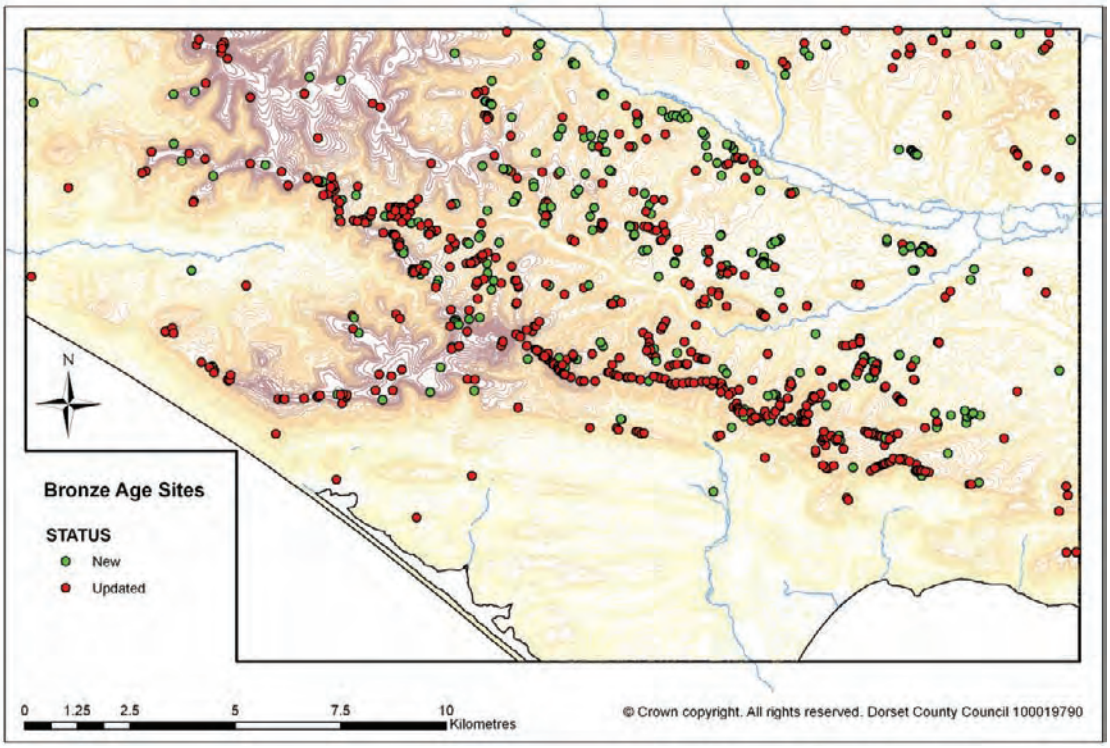


Figure 26. Distribution of Bronze Age Sites.

During the mapping project, 900 Bronze Age monuments were recorded. The majority of these sites were barrows although a small number of settlement related features were also plotted. Of these Bronze Age sites, 325 (41%) were new to the Dorset HBSMR.

6.4.1 Bronze Age barrows

Barrows were by far the most common type of prehistoric monument identified during the project, in all 883 being recorded. Fifty four percent of these important ceremonial monuments survive as extant earthworks and as Figure 27 shows, there is a tendency for these extant sites to be sited on the higher ground, particularly the steep chalk ridge tops. These are currently areas of chalk grassland on the edge of the arable areas, the steep slopes being left to a pastoral farming regime and thus protecting the barrows from modern plough damage.

Conversely, the cropmark sites (and those partially showing as cropmarks) are in the north and east of the project area on the less steep rolling landscape of chalk valleys and downland which has been given over to a largely arable farming regime.

The majority of the earthwork barrow sites lie within the main South Dorset Ridgeway barrow cemetery. The tendency for barrows, over time, to be built together in large cemeteries has previously been noted (Cunliffe, 1993, 115) and the South Dorset Ridgeway is one of the most impressive, stretching for over 21km from White Horse Hill, Osmington in the east to Chilcombe Hill in the west. The consideration of this barrow concentration as a single entity lying along the Ridgeway with outlying groups

(RCHME 1970) has been questioned and perhaps it is better considered as a number of smaller cemetery clusters (Woodward 1991).

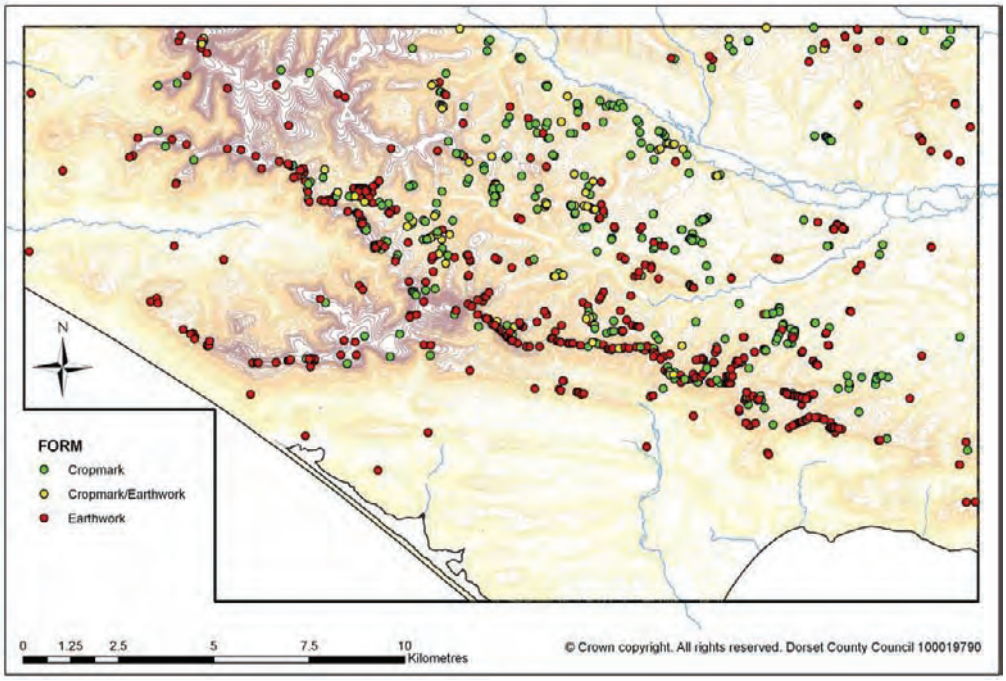


Figure 27. Distribution of Bronze Age Barrow Sites.

Of those barrows visible only as plough levelled cropmark sites, 78% had not previously been identified prior to the project and are new to the Dorset HBSMR. As might be expected, the distribution of cropmark barrow sites is almost exclusive to the rich open arable land on landscape types Chalk Downland and Chalk Valley and Downland, see Figure 28.

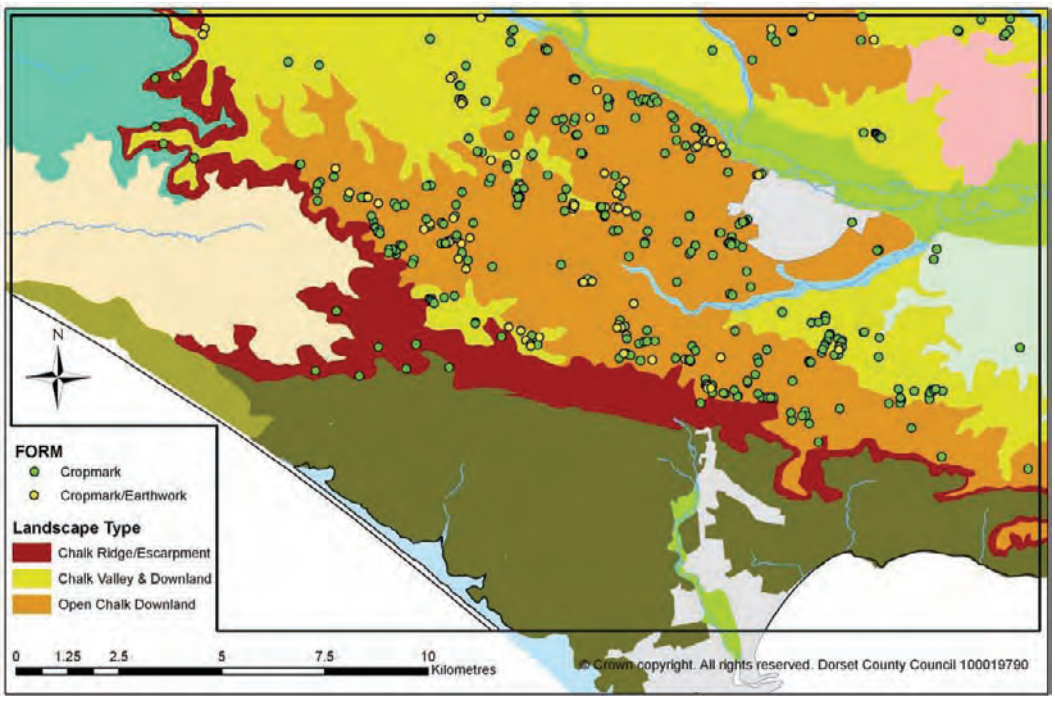


Figure 28. Distribution of cropmark Bronze Age Barrow Sites.

Over 350 new barrows or potential barrow sites were identified during the project, ranging from isolated barrow mounds and ring ditches, additional barrows within already known barrow cemeteries, to completely new groups of barrows.

Higher Came Farm. The Bronze Age barrow cemetery at Higher Came Farm, Winterborne Came had previously been recorded with three 'tumuli' being marked on the OS 1st Edition map and two others appearing on the later Edition 1:10,000 scale map. Prior to the mapping a total of eight barrows had been recorded in the Dorset HBSMR.

The NMP mapping project more than doubled the number of known barrows within this cemetery with an additional 12 potential barrow sites being identified from the aerial photographs (Figure 29).

The Higher Came Farm barrow group lies towards the eastern end of the main South Dorset Ridgeway barrow cemetery. It has previously been noted (Fleming 1971) that 'fancy' barrow types congregate towards the western and eastern ends of the Ridgeway and this group of barrows is consistent with this suggestion; the cluster includes three disc barrows and a pond barrow.

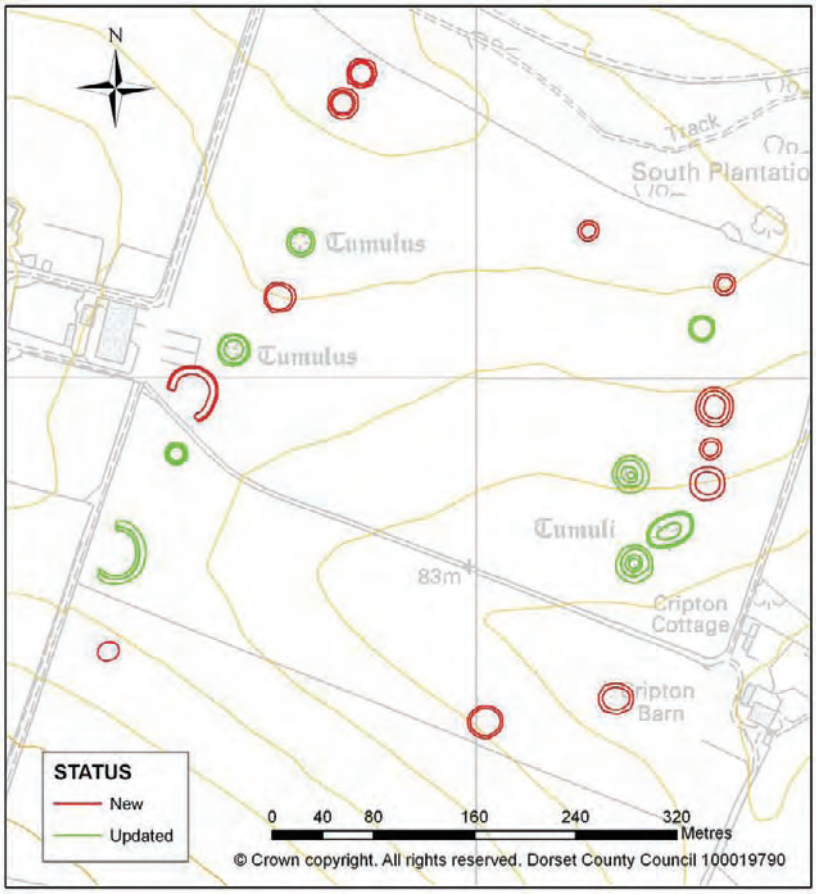


Figure 29. Higher Came Farm Barrow Cemetery.

Stinsford. The majority of the Bronze Age barrows within the project area lie on the higher chalk downland ridges between the River Frome and the coast. However a small number are in less typical locations. To the north of the Frome, on the lower south facing slopes above the flood plain, a small barrow cemetery is situated within the parish of Stinsford (Figure 30). Perhaps an atypical location for its siting, the linear cluster of ring ditches had been photographed by the RCHME in 1989 although the site was not listed in the Dorset HBSMR. It comprises six round barrows, all plough levelled with an outlier to the group 300m to the west.

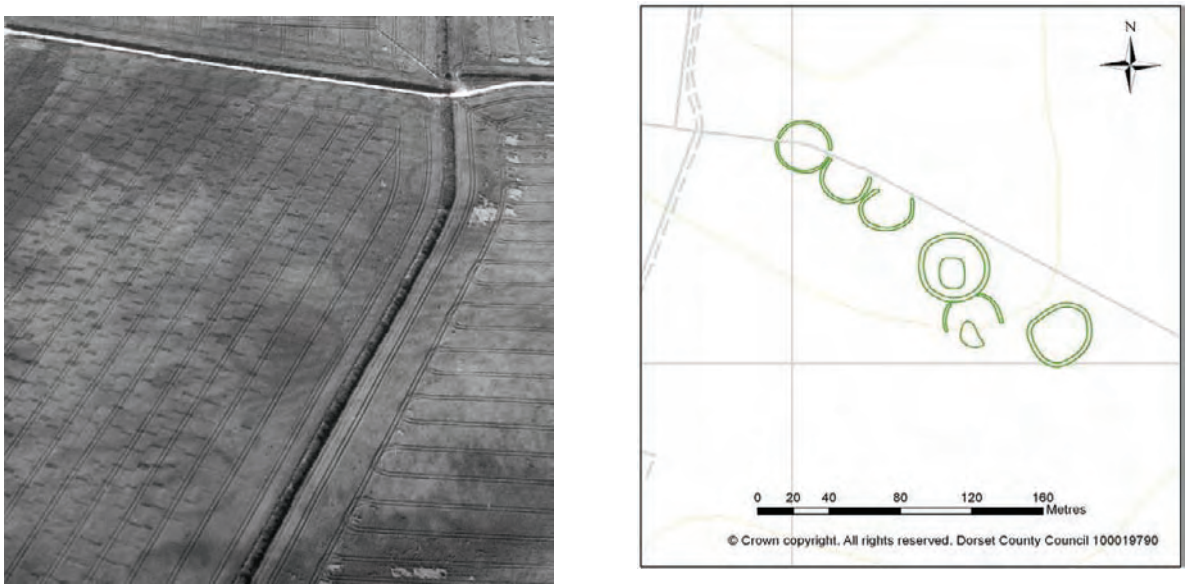


Figure 30. Linear Bronze Age barrow cemetery at Stinsford. Photograph: NMR 4527/44 SY 7191/5, 11th July 1989. © English Heritage. NMR.

Mount Pleasant. Three Bronze Age barrows are marked on OS maps in the vicinity of the great Neolithic henge at Mount Pleasant and these had been previously recorded in the Dorset HBSMR. An additional 11 potential new barrows were identified in this vicinity from aerial photographs during the project (Figure 31).

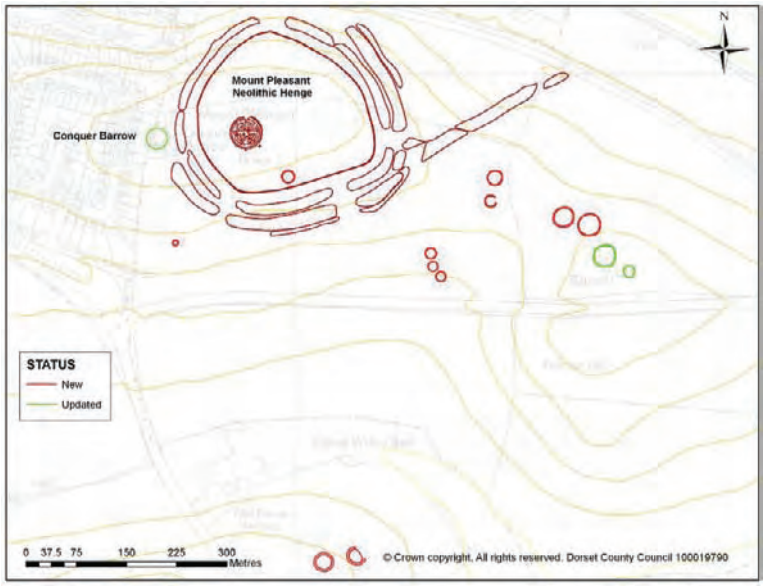


Figure 31. Bronze Age barrows in the vicinity of Mount Pleasant Neolithic Henge.

6.4.2 Bronze Age settlements

Despite the large numbers of Bronze Age barrows recorded during the project, very little evidence for settlement during this period was identified from the mapping. The settlement at Rowden (MDO3411) had previously been recorded as had the enclosure and associated hut circle at Tenants Hill (Figure 32).

The South Dorset Ridgeway is considered to have been extensively cleared of woodland by the later Bronze Age period and the landscape was dominated by open downland (Woodward 1991). It is therefore very likely that many of the extensive field systems mapped in this area which have been allocated a general Prehistoric date were first laid out in the middle or later Bronze Age (section 5.10.1).

A Bronze Age enclosure dominates the summit of Tennants Hill. Traces of a field system which is likely to be contemporary are visible on the photograph taken in 2004.

Photograph: NMR 23707/11 SY 5788/7, 1st September 2004. © English Heritage. NMR.

Figure 32. Bronze Age enclosure on the summit of Tennants Hill.

On Eggerton Ridge, Long Bredy, an important prehistoric complex was identified which included the probable site of an early Iron Age univallate hillfort (see Figure 35). In addition a small sub circular ridge top enclosure lies 200m to the north east of the hillfort and whilst indexed in the database as prehistoric, being less than a hectare in size, this enclosure may be a Bronze Age hill top enclosure.

To the west of this enclosure a small farmstead is set within a field system (Figure 33). The farmstead comprises a small rectilinear enclosure containing a possible round house 15m across. To the south is a second slightly larger oval enclosure and to the east a larger irregular enclosure, possibly a stock enclosure associated with a double ditched trackway. Limited excavation of the outer bank of the rectilinear enclosure was undertaken by the Dorset Institute of Higher Excavation in 1983 (Hunt, 1983). Flint tools dating to the Bronze Age were recovered from the enclosure making a Bronze Age origin for the settlement and adjacent field system seem likely.

The field system and farmstead visible on this photograph taken in 1948, are of possible Bronze Age origin. Eggerton Ridge, Long Bredy.

Photograph: RAF CPEUK2431 Frame 4149, 22nd January 1948. English Heritage (NMR) RAF Photography.

Figure 33. Prehistoric field system and farmstead of possible Bronze Age origin.

6.5 NMP results: Iron Age sites (700BC – 42AD)

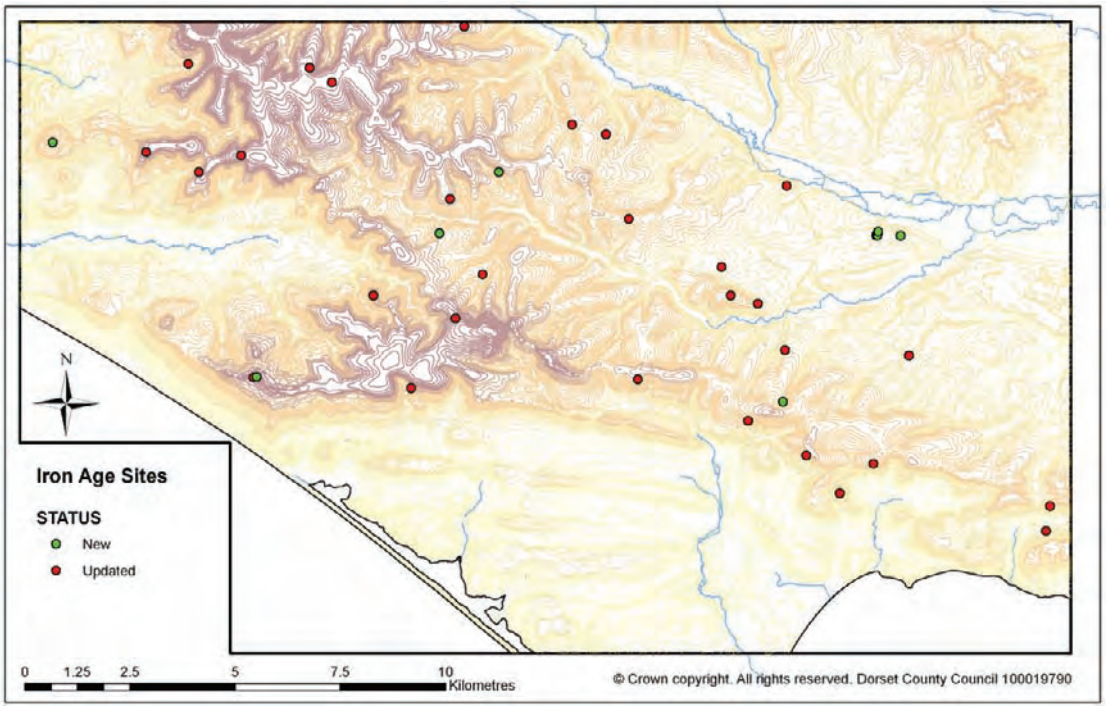


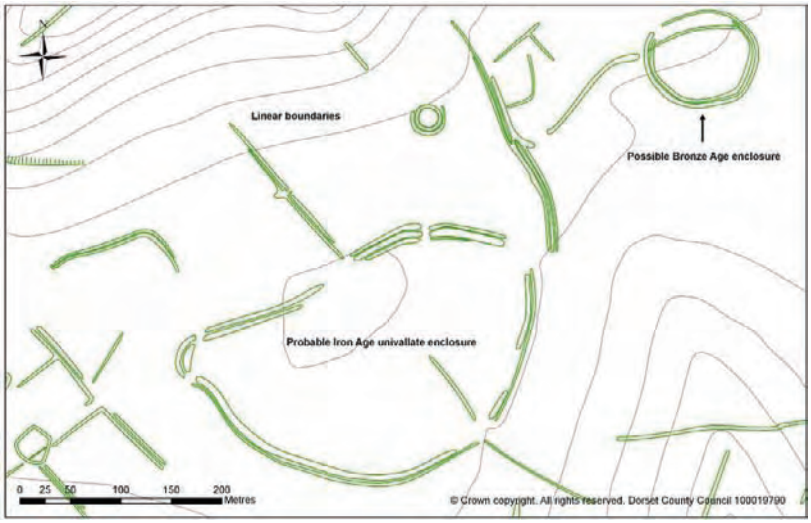
Figure 34. Distribution of Iron Age Sites.

Thirty nine sites of a specifically Iron Age date were mapped during the project, of which ten (26%) were new to the record. These sites are evenly spread across the project area to the south of the River Frome and include hill forts, field systems, hut circles and one potential square barrow.

6.5.1 Hillforts and hill top enclosures.

Seven hill forts lie within the project area. A potential eighth site lies on the top of Eggerton Ridge (Figure 35). The large sub-oval enclosure is visible as both earthworks and cropmarks on the aerial photographs and has been cut by (and therefore predates) the Axminster to Dorchester Roman road. The univallate enclosure is approximately 6ha in area and its position on the crest of a ridge and size make it a candidate for an early hillfort perhaps dating to the sixth century BC.

It has been suggested that many early hillforts may have developed out of earlier enclosures attached to linear boundaries or at focal points along a network of linears constructed in the Later Bronze Age (Cunliffe 1993, 167). A number of linear boundaries lie in the vicinity of (and run up to) the proposed hillfort at Eggerton; whilst at least one of these boundaries was fossilised in a modern field hedge up to the mid 20th century, they are considered likely to be of much earlier prehistoric origin and may be indicative of an earlier Bronze Age origin for the Eggerton Ridge enclosure.



The large enclosure on Eggerton Ridge, Long Bredy is probably the site of an early Iron Age hillfort (MDO1541). The smaller adjacent sub-circular enclosure is possibly of earlier Bronze Age origin. (MDO941).

.Figure 35. Bronze Age enclosure and early Iron Age hillfort on Eggerton Ridge, Long Bredy.

Of the remaining seven hillforts, three are also univallate and generally oval in shape and the simplicity of their ramparts may be indicative of an early date. The site at Old Warren (Danes Camp MDO1364) is the smallest of the sites at less than 2ha. The OS field investigator noted that it was unlike other hillforts and whilst being located in a good defensive position, it was not in a defensive state being a single scarp with no earthworks on the neck of the spur. The site has therefore been suggested as unfinished.

The Old Warren hillfort provides a sharp contrast to that of Maiden Castle which is the largest and most complex hillfort in Britain. It lies on a site of an earlier Neolithic causewayed enclosure and its massive multivallate ramparts enclose an area of 19ha - the size of 50 football pitches. The Maiden Castle site has been the subject of much previous archaeological survey and excavation and whilst accurately mapped during the project no new information concerning the site was forthcoming.

Figure 36. Poundbury Iron Age hillfort. (MDO1541) A Bronze Age round barrow and later medieval ridge and furrow cultivation marks are visible lying within the hillfort on this lidar image. Environment Agency D0067595, November 2006. © Environment Agency copyright 2008. All rights reserved.

The majority of the hill forts are sited in defendable locations on the tops of chalk hills and ridges on the higher ground in places of prominence within the landscape. The site at Poundbury however, is in a more lowland situation at 95m OD on the lower slopes just off the flood plain of the River Frome (Figure 36). Whilst its northern and eastern sides have some natural protection due to the slope down to the river which lies only 40m to the north, its western side is not so easily defendable. The hillfort may therefore have been sited with reference to a significant river crossing.

Figure 37. Abbotsbury Castle. A hut circle settlement lies within the Iron Age hillfort on Wears Hill, Abbotsbury. (MDO12). Photograph: NMR 178/295 SY 586/19, 2nd February 1971. © English Heritage. NMR.

One of the smallest hillforts in the project area is that of Abbotsbury Castle (Figure 37, MDO12). Sub triangular in shape, up to four ramparts enclose an area of less than 2ha at the western end of the chalk ridge of Wears Hill. Within the hillfort are the remains of a hut circle settlement still clearly visible as extant earthworks on aerial photographs. Fragments of at least eleven hut circles were identified during the mapping project all located towards the north eastern side of the hillfort.

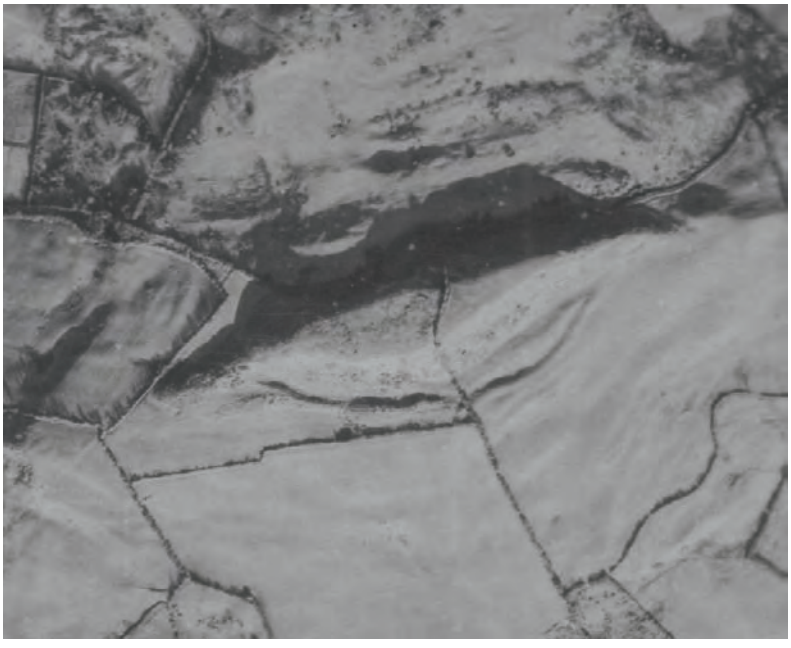


Figure 38. The natural slumping of soft geological strata at Shipton Hill has previously been interpreted as ramparts associated with the site of an unfinished hillfort. (MDO22073).

Photograph: RAF CPEUK2431 Frame 3158, 22nd January 1948. English Heritage (NMR) RAF Photography.

Figure 38. Natural slumping of soft geological strata at Shipton Hill.

The site at Shipton Hill should also be noted. Here linear banks have previously been interpreted as ramparts associated with the site of an unfinished hillfort (Figure 38). This prominent elongated hill has clearly been the focus of Iron Age activity with excavation on the site producing Iron Age artefacts which included pottery sherds and hammer stones as well as quern fragments and spindle whorls (Butcher 1955). However the rampart-like features are probably of natural origin, this area being much disturbed by prehistoric landslips and erosion of the soft underlying geological strata.

6.5.2 Iron Age field systems.

A number of field systems and field boundaries visible on the aerial photographs were recorded in the HBSMR with an Iron Age date. In the main, these were enclosed field systems which had been recorded prior to the project, sites such as the banked field system on Notten Down, Maiden Newton (Figure 39). As many of these field systems may have had earlier Bronze Age origins as well as being in continuous use into the Roman period, they will be discussed together in the Prehistoric section 6.6.

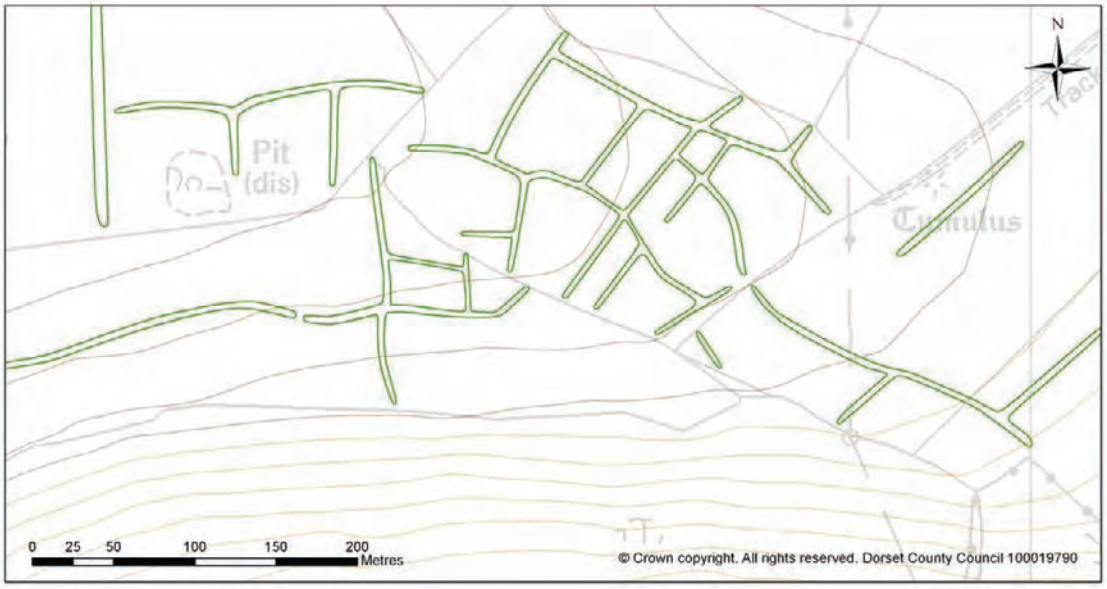


Figure 39. The Iron Age enclosed field system on Notton Down, Maiden Newton. (MDO1606).

6.6 NMP results: Prehistoric sites (4000BC –AD409)

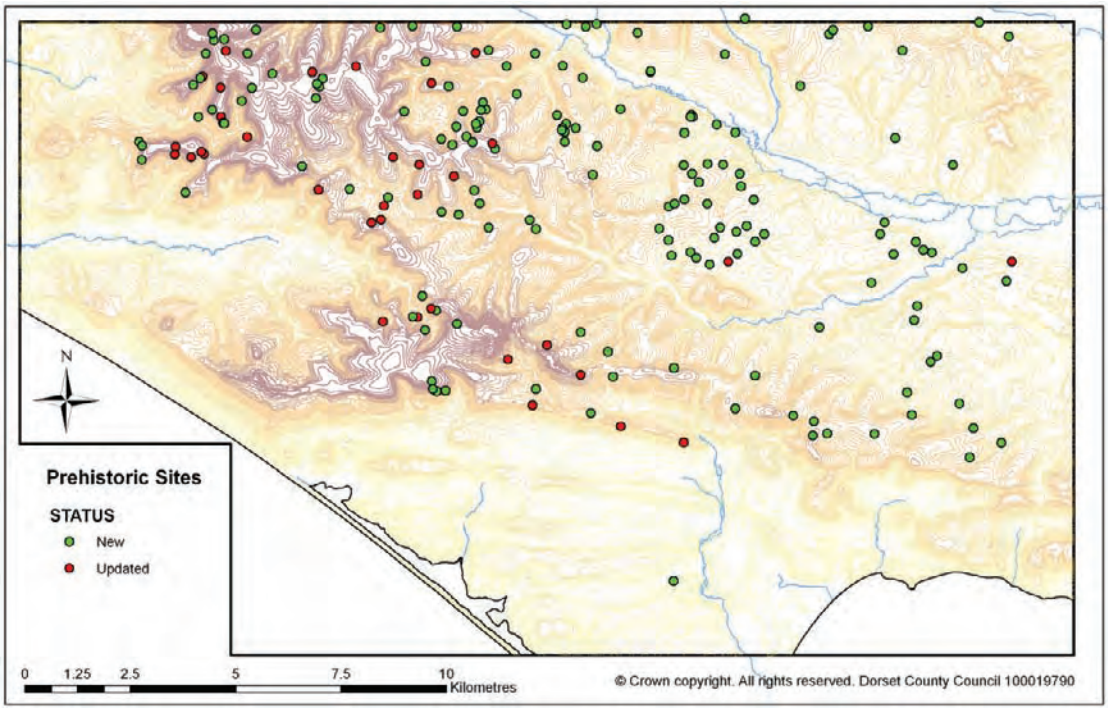


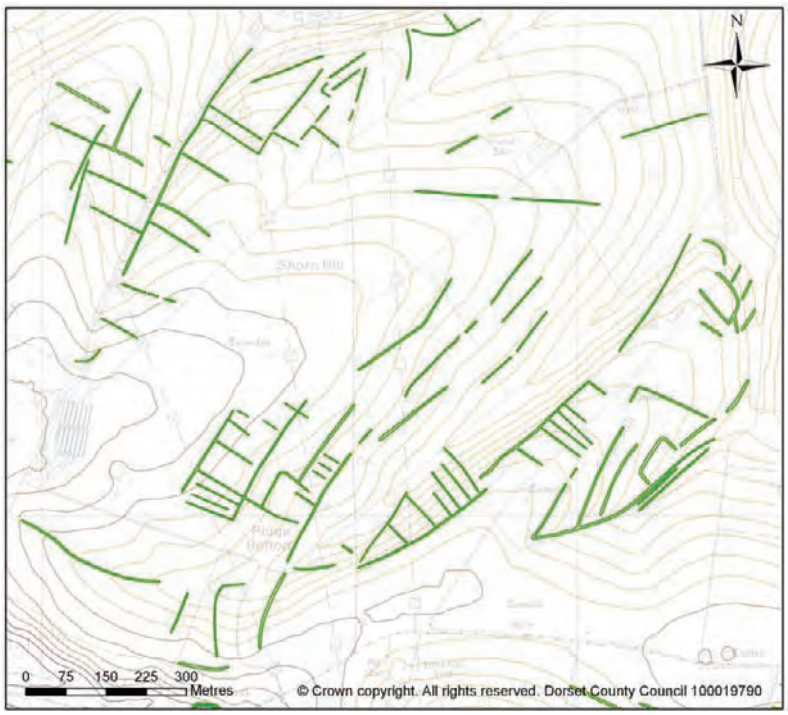
Figure 40. Distribution of prehistoric sites.

In addition to the specifically dated sites described in sections 6.3, 6.4 and 6.5, 195 sites plotted during the mapping project were ascribed a generic prehistoric or prehistoric/Roman date in the HBSMR database. Of these, 90 were more specifically dated to the Iron Age/Romano-British period. For the purposes of this report, these sites are referred to as 'Prehistoric' in the following section even though some sites may have been in use in the Roman period.

6.6.1 Prehistoric field systems

Extensive areas of prehistoric field system were plotted during the mapping project, particularly on the upper slopes of the steep chalk ridges in the north of the project area. It is difficult from aerial photographic evidence alone to assign a specific date to these field systems and whilst several might be assumed to be Iron Age in date, many would have had their origins in the Bronze Age and others may have continued in use well into the Roman period. It has been suggested that surviving Bronze Age field systems on the South Dorset Ridgeway were systematically laid out in relation to the dry valleys and coombes. (Woodward 1991, 152).

Coaxial Field Systems. Several of those field systems plotted are of a coaxial nature, set out along a single prevailing axis of orientation. Coaxial field systems are generally considered to have been constructed and used over a long period of time extending from the middle of the second millennium BC through until the early first millennium AD (EH 2010a).



Fragments of a possible coaxial field system are visible on Shorn Hill and Great Hill, Winterborne St Martin, much has been plough-levelled and is now only visible as cropmarks. (MDO25317 MDO25318).

Figure 41. A possible coaxial field system on Shorn Hill, Winterborne St Martin.

Regular Aggregate Field Systems. The majority of the prehistoric field systems plotted are of a regular aggregate type. These comprise fields defined by boundaries laid out in a consistent manner and along two axes set at right angles to each other (EH 2010a).

Figure 42. The prehistoric field system on Fordington Down, Bradford Peverell. (MDO20846).

As with coaxial types, regular aggregate field systems can span a wide period of time from the Bronze Age to the end of the Roman period therefore specific dating of

individual systems on the basis of the photographic evidence alone is not generally possible.

An extensive Celtic field system lies on Fordington Down, Bradford Peverell (Figure 42). Up until relatively recently the site survived as well preserved earthworks on the chalk grassland. Unfortunately since the war, the expansion of an arable farming regime in the area has resulted in extensive damage to earthwork sites under the plough; the field system is now no longer visible on the ground and only visible as cropmarks on the most recent aerial photographs.

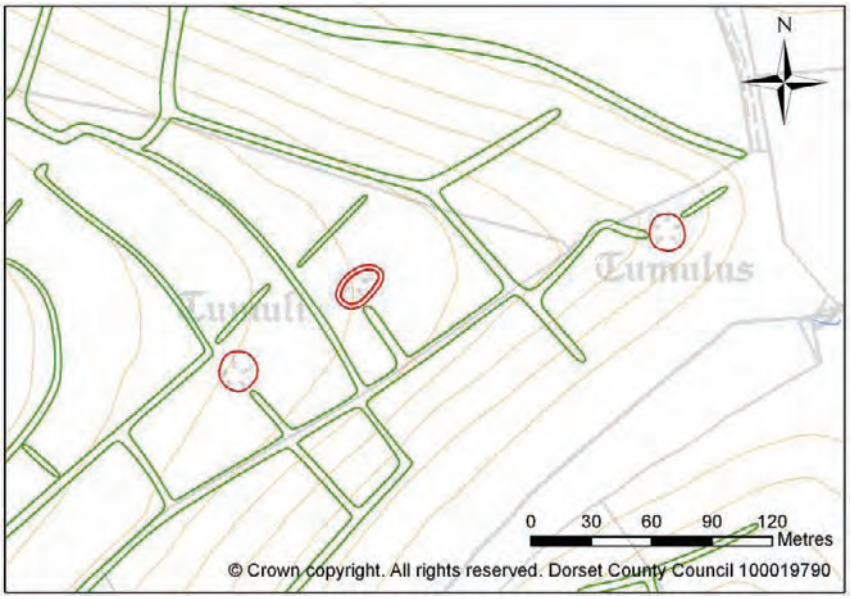


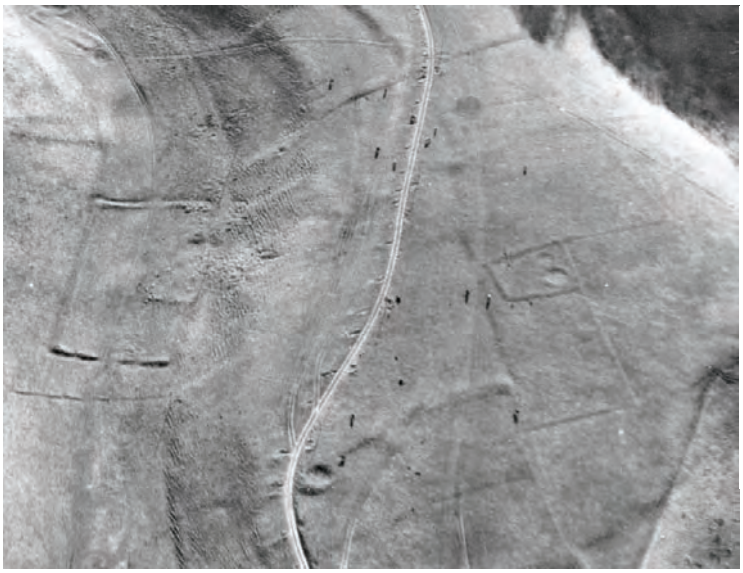
Figure 43. Three Bronze Age barrows incorporated into the prehistoric field system at Compton Valence. (MDO21497).

It has been noted that a number of Dorset barrows are superimposed upon field boundaries and other boundaries avoid or incorporate barrows (EH 2010a). This would indicate that the field systems were laid out at a time when the barrows still held positions of significance in social terms. This phenomenon can be seen at Compton Valence where a prehistoric field system appears to incorporate three Bronze Age barrows, perhaps indicating an earlier rather than later date for its construction (Figure 43).

6.6.2 Prehistoric settlements and enclosures

Sixty seven prehistoric settlement related features were identified during the project, including 12 settlements and 46 enclosures. Of these, 57 were new to the Dorset HBSMR and 56 had been plough damaged and were visible as cropmarks on the aerial photographs.

One of the few prehistoric settlement sites still surviving as earthworks lies within the field system on Crow Hill. The small rectilinear enclosure to the right of the image (Figure 44 below) contains the remains of two hut circles and is presumably the site of a Bronze Age or Iron Age enclosed settlement. A third hut circle lies 130m to the east, adjacent to a modern track. The larger rectilinear enclosure to the left of the image is one of two set within the dry valley. Neither are dated but are recorded in the Dorset HBSMR as post dating the field system and therefore of Roman or later date (MDO1365).

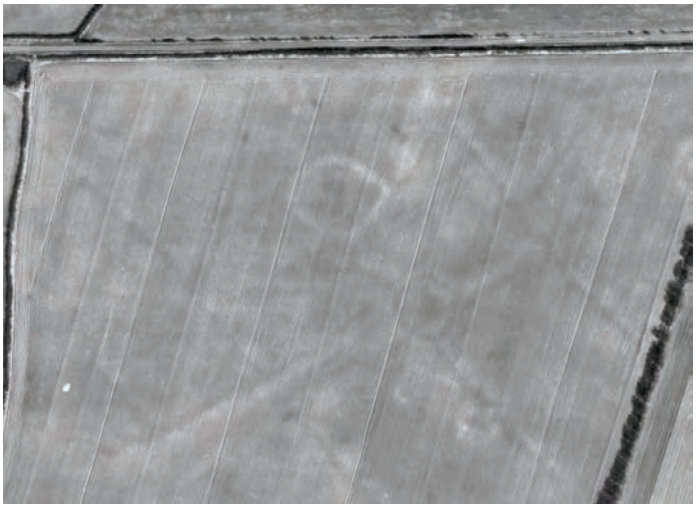


Prehistoric hut circles are visible lying within this prehistoric field system on Crow Hill, Littlebredy, (MDO20884)

Photograph: NMR 65/97 SY 5987/2, 26th March 1968. © English Heritage. NMR.

Figure 44. Prehistoric hut circles within a prehistoric field system on Crow Hill, Littlebredy.

The majority (55%) of prehistoric settlement and enclosure sites lie in areas of relatively high ground above the 130m OD contour, only 17 are below 100m OD. Those sites situated on higher ground are generally set within extensive field systems which are possibly contemporary with the settlements.



Prehistoric enclosures lying within a Celtic field system on Eggerton Ridge, Long Bredy, (MDO21407 and MDO21537).

Photograph: NMR OS/69053 04, 2nd April 1969. © Crown Copyright. Ordnance Survey.

Figure 45. Two prehistoric enclosures on Eggerton Ridge, Long Bredy.

Examples of new sites include two small rectilinear enclosures on Eggerton Ridge situated within the remains of a Celtic field system (Figure 45). They lie immediately to the west of the possible hillfort described in section 5.9.1 and typical of settlement enclosure sites in elevated positions, they lie within a presumably contemporary field system. The enclosures and field system are only visible as cropmarks on vertical aerial photographs taken by the OS in 1969.

The two enclosures at Wolfeton Clump, (Figure 46) lie at 105m OD. The enclosures were first photographed in 2005 when they were visible only as plough levelled cropmarks. These enclosures are set within an extensive prehistoric field system which was visible as extant earthworks on RAF aerial photographs taken in 1948 (MDO20448) although no trace of the enclosures was visible.

Figure 46. Enclosures at Wolfeton Clump, Charminster. (MDO20439)

Only 17 of the 67 settlement related prehistoric sites are situated below 100m OD. Unlike the upland sites, relatively few appear to be associated with field systems with 82% lying as isolated enclosures or groups of enclosures. It is uncertain whether this is due to different priorities in their siting or that the lowland enclosures performed a different function in society.

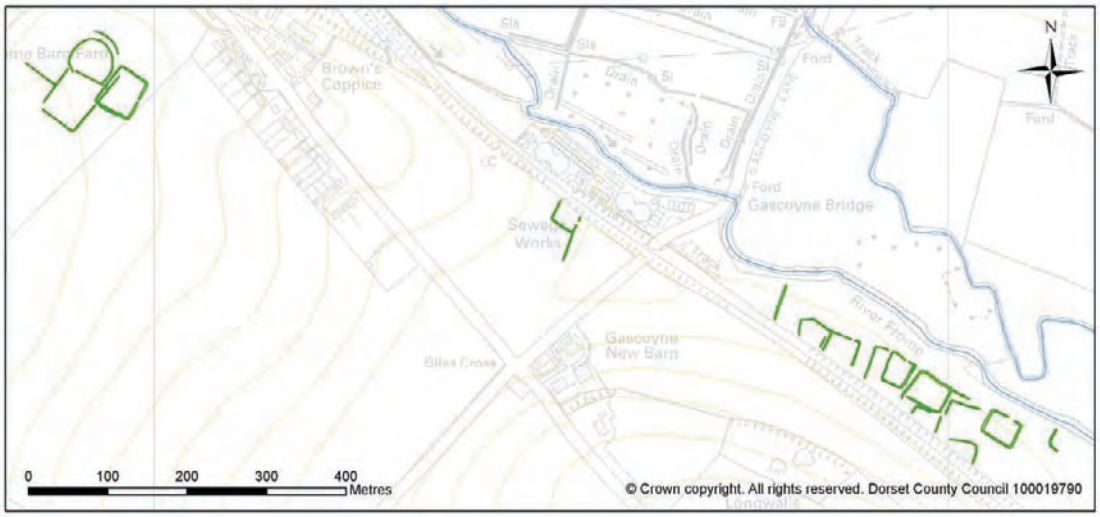


Figure 47. A series of rectilinear ditched prehistoric or Roman enclosure to the south of the River Frome at Bradford Peverell. (MDO20928, MDO20930, MDO21010 and MDO21011).

A linear series of up to ten rectilinear ditched enclosures were recorded to the south of Gascoyne Bridge. All are of roughly similar size, between 30 and 50m across (Figures 7 and 47) and they are considered to be the remains of an Iron Age or Roman village. The site now lies less than 20m to the south of the river. The easternmost of the enclosures is only partially visible and its northern side has probably been eroded by the river which may well have altered its course significantly since the enclosures were first constructed. There is no evidence for an associated field system immediately adjacent to the site, its inhabitants may have farmed the field system to the south west on Fordington Down (Figure 42).

The linear settlement site at Gascoyne Bridge is reminiscent of a number of other sites such as the Late Iron Age settlement at Cleave Point (Woodward 1986) and the Roman settlement at Maiden Castle Road, to the north of Maiden Castle hillfort

(Figure 48). Whilst of Roman date, the Maiden Castle Road site proved on excavation to be of Late Iron Age origin (Woodward and Smith 1988).

Figure 48. Late Iron Age-Roman settlement at Maiden Castle Road, Dorchester.

The D-shaped enclosure to the west of Thorncombe Farm, Stinsford is located on the lower valley slopes to the north of the River Frome (MDO20549). It is one of only a few sites recorded in a relatively low lying position, situated only 20m above the river flood plain. Unlike the majority of prehistoric settlement sites in more elevated areas, the site does not appear to be set within an extensive field system although there are fragments of field boundaries in its vicinity. The site is considered to be a prehistoric farmstead with associated pits and a double-ditched trackway leading up to the Roman road between Dorchester and Old Sarum which lies less than 200m to the north.

Figure 49. D-shaped enclosure to the west of Thorncombe Farm, Stinsford.

6.7 NMP results: Roman sites (AD43 – AD409)

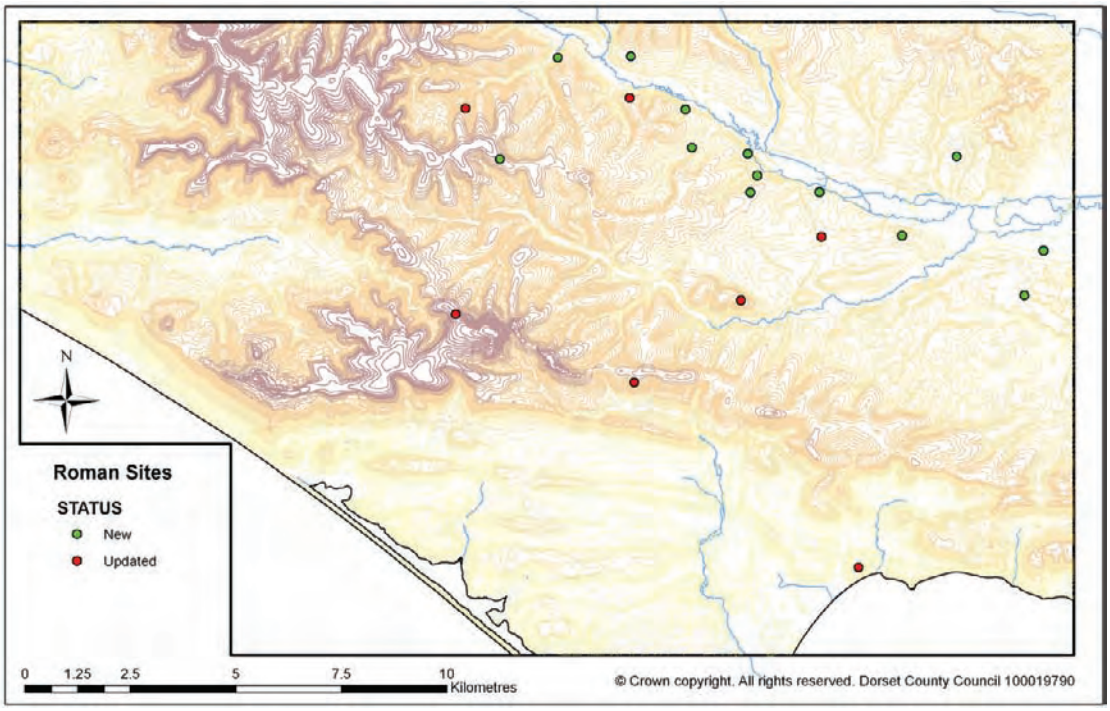


Figure 50. Distribution of Roman Sites.

Twenty sites were mapped during the project and allocated a specifically Roman date, of these 13 were new to the HBSMR database. As Figure 50 above shows, the majority of these sites lie within 1.5km of the River Frome and its tributaries.

The line of the Roman aqueduct serving the Roman civitas capital of Dorchester is intermittently visible as cropmarks and earthworks for over 11 km to the west of Poundbury (Figures 51 and 53). The aqueduct is known to have originally run for 18km from the River Frome to Dorchester and was dug in the late first century AD (Wacher 1974).

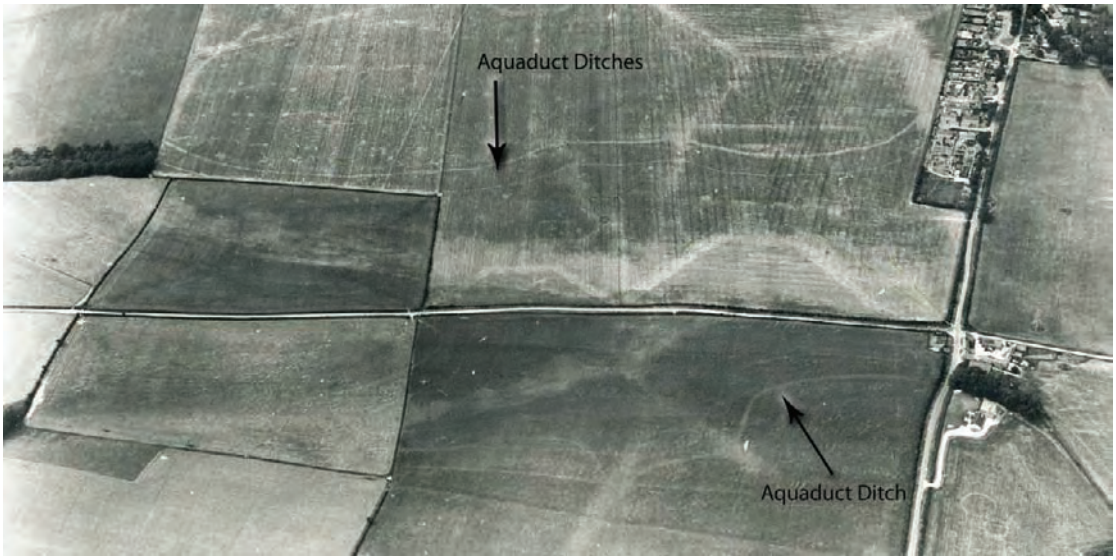


Figure 51. Roman aqueduct at Dorchester, visible as cropmarks. Closely following the contours at Combe Bottom, Bradford Peverell, the parallel ditches visible as pale cropmarks on this photograph taken in July 1976 form part of the Roman aqueduct supplying Dorchester (MDO20877). Photograph: NMR SY 6592/1/19 JRB 3302/19, 8th July 1976. © Crown Copyright.

Over 6km to the northwest of Dorchester, within Frampton Park, lies the western side of a rectilinear enclosure 50m across (Figure 52). The site has been interpreted as a construction camp associated with the Roman aqueduct and was excavated by Bournemouth University in 1998.

Probable site of a Roman construction camp at Frampton Park, Frampton (MDO21681).

Photograph: NMR 15344/20 SY 6294/3, 04th August 1995 .© English Heritage. NMR.

Figure 52. Possible Roman construction camp at Frampton Park.

The Roman farmstead at Poundbury Farm is located on the crest of a ridge to the west of the civitas capital of Dorchester. Field boundaries and enclosures associated with the Roman settlement were visible as soilmarks on aerial photographs taken whilst the site was under excavation by Wessex Archaeology in 2007. The site lies in close proximity to the Roman aqueduct described above (Figure 53).

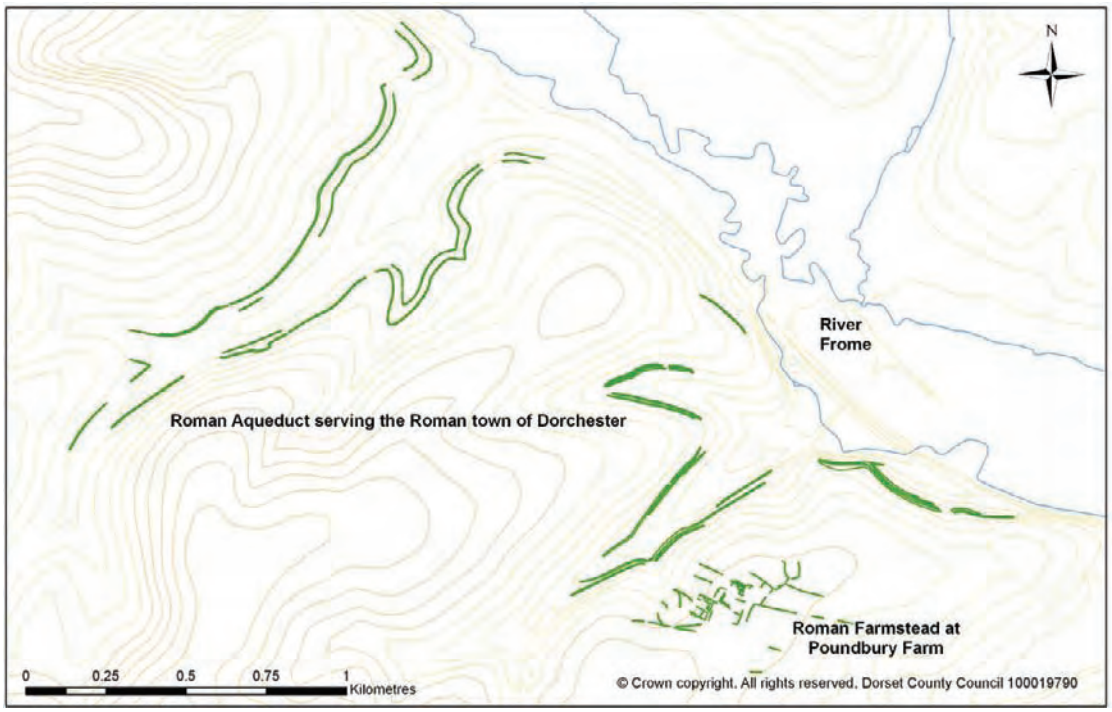


Figure 53. Roman sites to the west of Dorchester.

One potentially important new Roman site lies at Lower Lewell Farm, West Knighton (Figure 54). Aerial photographs taken in 1978 by the OS appear to show the southwest corner of a large rectilinear enclosure. The corner is perfectly rounded in a manner typical of Roman military camps and comprises a wide ditch with traces of an inner bank. The site is also visible as a low earthwork on RAF photographs taken in 1948. The site has been tentatively indexed as Roman in the HBSMR database, based purely on its morphological characteristics.

The massive ditch with a perfectly rounded corner, visible on this photograph taken in 1978, may form the south-west corner of a previously unrecorded Roman military camp or fort at Lower Lewell Farm, West Knighton, (MDO20884)

Photograph: NMR OS/78080 011 15344/20 SY 6294/3, 11th June 1978. © Crown Copyright. Ordnance Survey.

Figure 54. Possible site of a Roman military camp at West Knighton.

6.8 NMP results: Medieval sites (AD410 – AD1539)

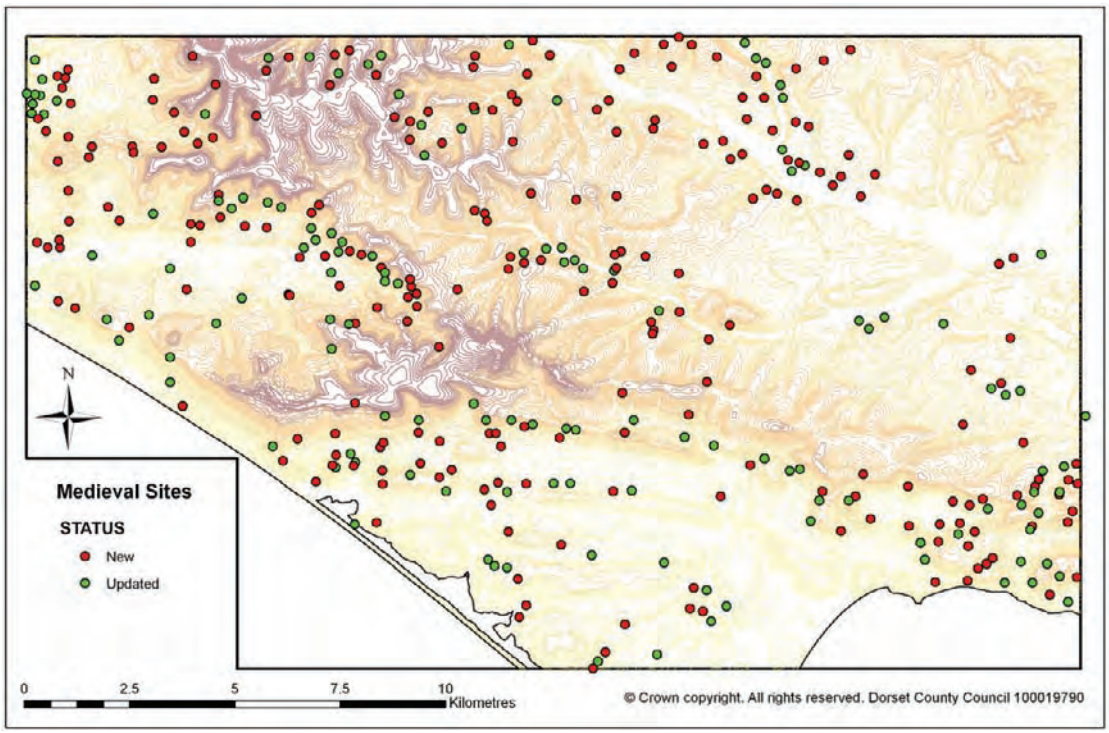


Figure 55. Distribution of medieval sites.

No features were plotted during the NMP project which could be positively identified as relating to the early medieval or Anglo Saxon period (AD410-AD1065). The later medieval period however is richly represented with 133 sites listed in the Dorset HBSMR prior to the project. This number was almost tripled as a result of the mapping with a further 229 new sites being identified on the aerial photographs and added to the Dorset database.

As the distribution map above shows, the medieval sites are generally located off the highest ground. Many are located on the coastal lowlands and the southern slopes on the periphery of the chalk downs. A smaller number are situated within the valley of the River Frome and its tributaries such as the Rivers Cerne and South Winterborne.

The new sites are primarily related to agricultural activity although eleven new deserted and shrunken settlements were also recorded for the first time. In addition new sites included a drove road, two hollow ways and two enclosures.

6.8.1 Medieval field systems

Large numbers of sites associated with medieval agriculture were plotted during the project. This included 47 field systems, 46 lynchets, 45 strip fields and 89 strip lynchets. Of these sites, 138 (61%) were new to the Dorset HBSMR. In addition, 25 field boundaries and 46 areas of preserved ridge and furrow cultivation strips were identified, all of which were new sites previously unrecorded.

It is clear that the South Dorset Ridgeway was extensively cultivated in the Middle Ages and there is much evidence for the reuse of older prehistoric field systems into the medieval period with many Celtic-type field systems being overlain by medieval cultivation ridges.

Figure 56. A prehistoric field system overlain by medieval cultivation ridges, Southover Bottom, Frampton. (MDO21674). Photograph: RAF CPEUK2431 Frame 3272, 22nd January 1948. English Heritage (NMR) RAF Photography.

Field systems and strip fields. During the medieval period in much of England, arable cultivation took place using the open field system (Hare 1994). Large open fields associated with each village were split into sections or furlongs and then further subdivided into smaller strips. Each year, villagers would have been apportioned a number of strips for their own subsistence farming within the larger open field. From the 12th century onwards, these smaller strips were gradually enclosed by field boundaries giving rise to the typically long narrow strip fields attributed to this period.

During the project, 95 of these typically medieval strip field systems were recorded

and assigned a specific medieval date in the Dorset HBSMR. Of these, 57 (60%) were new records.

Parallel ridge and furrow cultivation marks are clearly visible within the long narrow fields of this Medieval strip field system to the south of Langton Herring, (MDO1334).

Photograph: NMR MAL/6804 012, 1st February 1968. © English Heritage. NMR

Figure 57. Medieval strip fields to the south of Langton Herring.

These medieval field systems generally comprise parallel groups of narrow fields defined by low banks, which may be laid out following or across the contour of the slope. The strip field systems encountered showed a variation in the width and length of individual fields, this is perhaps the result of the rolling topography (the land being bisected by ridges and vales) as much as a deliberate feature of design. In some cases traces of parallel cultivation ridges or ridge and furrow were still visible on the aerial photographs within the individual field units (Figure 57).

Parallel medieval cultivation ridges are visible as cropmarks and earthworks on the crest of the ridge at Wood Hill, Charminster. The ridge and furrow does not appear to lie within an enclosed field system and may be a rare surviving example of an open field system. The ridge and furrow lies to either side of a presumably contemporary trackway which leads down to a small medieval farmstead just off the flood plain of the River Cerne. *(MDO21090).*

Figure 58. Parallel medieval cultivation ridges at Wood Hill, Charminster.

Lynchets and strip lynchets. Many of the steeper slopes of the dry chalk coombes were cultivated as a response to increasing demand resulting from population growth in the later medieval period. The construction of extensive strip lynchets lining the

valley sides of the chalk downs occurred throughout much of southern Britain during this period (Hare 1994) as people were forced by population pressure to cultivate marginal areas and steep hillsides. The South Dorset Ridgeway was no exception to this and many strip lynchets were plotted on the steep valley slopes during the project. For example, to the east of the modern village of Askerswell on the upper reaches of the River Asker where strip lynchets are visible as earthworks on the north and south sides of the valley (Figure 59).

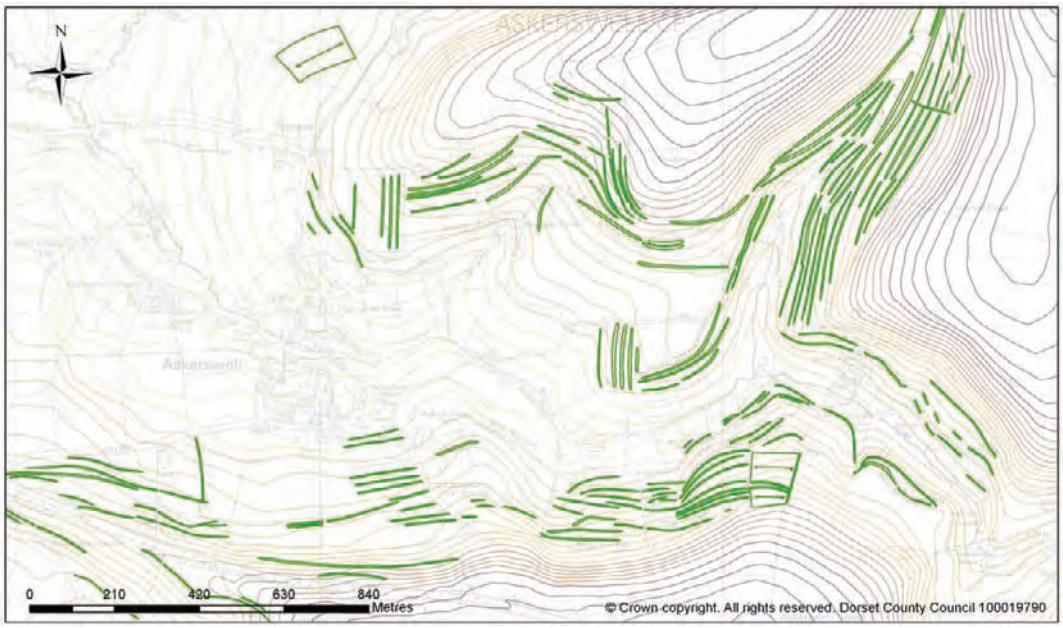


Figure 59. Medieval strip lynchets to the east of Askerswell.

Many of the strip lynchets on the South Dorset Ridgeway survive as upstanding monuments and have therefore been noted in the past, surveyed by the OS field surveyors and consequently recorded in the Dorset HBSMR. Despite this, significant extra detail was added to many of these systems of lynchets during the mapping project. For example the system of lynchets to the south of Uploaders on the north western edge of the project area; here additional lynchets were identified as low earthworks from the lidar imagery supplied by the Environment Agency (Figure 60).

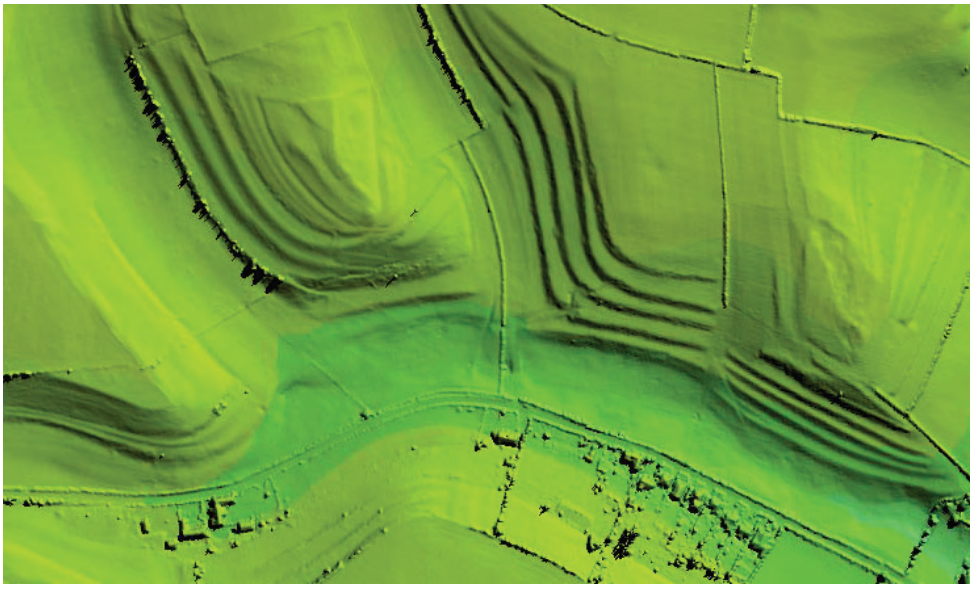
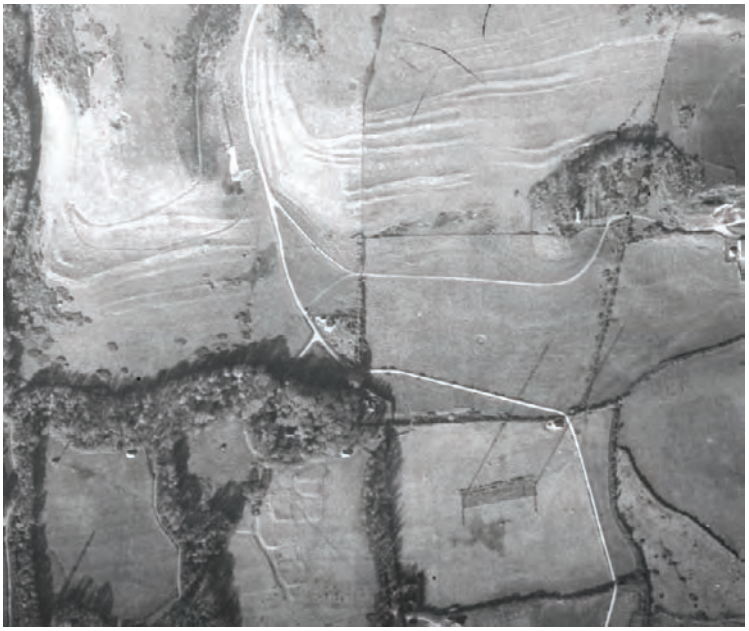


Figure 60. Medieval strip lynchets to the south of Uploaders. Lidar image D0060472 21st April 2006. © Environment Agency copyright 2008. All rights reserved.

Similarly, at the opposite end of the project area a series of medieval strip lynchets had previously been recorded in the HBSMR immediately to the north of the deserted medieval village of Ringstead (Figure 61). The whole medieval complex including the village earthworks themselves have been plotted for the first time during the project with significant detail being added to the system of contour strip lynchets to the north as well as the discovery of previously unrecorded strip field systems to the west of the deserted village.



The medieval village of Ringstead (MDO1813) lies towards bottom of this image taken by the RAF in November 1946. Medieval contour strip lynchets lie to the north of the village and traces of parallel strip fields to the west.

Photograph: RAF CPEUK1824 Frame 4318, 4th November 1946. English Heritage (NMR) RAF Photography.

Figure 61. The Medieval Village of Ringstead with associated strip lynchets.

6.8.2 Medieval settlements

From the fourteenth century onwards, a decline in the rural population caused the shrinkage and desertion of a large number of medieval villages and hamlets in England. This population decline commenced as a result of Black Death of 1348-9 which may have reduced the population by as much as 50% (Hare 1994). However soil exhaustion, a change from an arable farming to a pastoral regime and, at the end of the medieval period, the movement of a large portion of the rural population into towns also contributed to abandonment of many rural settlements.

Forty four medieval villages and settlements were plotted during the project of which 11 were new to the Dorset HBSMR.

Sixteen of the 44 medieval settlement sites plotted during the mapping project lie just within the valleys of the River Frome and its tributaries, 12 are on the gently rolling ridge and vale landscape between the coast and the chalk downland north and west of Weymouth and a further five sites within the catchment of the River Bride in the west of the project area. Smaller numbers are situated on the higher ground of the South Dorset Ridgeway itself but none where identified on the south facing downland and heath to the northeast of Dorchester.

New medieval settlement sites include the deserted settlement at Cokers Frome Farm (Figure 62) which lies on the flood plain of the River Frome immediately north of Dorchester. The site comprises a street or hollow way running roughly east-west with the fragmentary remains of enclosures and building platforms. This settlement lies 700m to the southeast of another medieval settlement at Frome House (MDO20966).

Medieval settlement earthworks at Cokers Frome Farm, Stinsford. The line of the main street and adjacent building platforms are visible on this photograph taken in 1994. (MDO20966).

Photograph: NMR 15029/32 SY 6991/5, 5th May 1994. © English Heritage. NMR.

Figure 62. Medieval settlement earthworks at Cokers Frome Farm, Stinsford.

To the east of Abbotsbury and west of West Elworth Farm are the remains of a deserted medieval settlement identified for the first time during the mapping project. At least ten house platforms are visible as extant earthworks on vertical photographs taken by the RAF in 1948 and Meridian Airmaps Ltd (MAL) in 1968 (Figure 63). The site is on a gentle north facing slope 90m from a small stream and, like the Cokers Frome Farm site described above, only 700m west of a second possible medieval settlement, this time at East Elworth Cottages.

Probable site of a deserted medieval settlement at West Elworth Farm, Abbotsbury, (MDO25952)

Photograph: NMR MAL/6804 005, 1st February 1968. © English Heritage. NMR

Figure 63. Deserted medieval settlement at West Elworth Farm, Abbotsbury.

To the north of the River Bride, towards the eastern end of the valley, lies the modern village of Litton Cheney. At Cowleaze Corner to the east of the village the site of a deserted village is clearly visible as cropmarks on aerial photographs taken in October 2000 by English Heritage (Figure 64). The site has not previously been recorded on any earlier photographs and no record of the features existed in the Dorset HBSMR.

The site comprises a series of small rectilinear bank and ditched enclosures between 20m and 40m across. It has been interpreted as a settlement site of probable medieval date although an earlier origin cannot be ruled out.

A series of conjoined rectilinear enclosures are visible on aerial photographs at Cowleaze Corner, Litton Cheney. They are potentially the site of a Medieval settlement (MDO21241).

Photograph: NMR 18962/13 SY 5590/3, 6th October 2000. © English Heritage. NMR.

Figure 64. Deserted medieval settlement at Cowleaze Corner, Litton Cheney.

Whilst 11 settlement sites were recorded in the Dorset HBSMR database for the first time during the project, significant new detail was added to other previously recorded later medieval deserted and shrunken villages. For example at Higher Tatton Farm, Portesham where the medieval earthworks stretch across several modern fields. Photographs taken in the low sunlight of February 1968 clearly show several small building platforms to the south of the modern farm with a wide track or hollow way leading into a series of larger fields to the north and east (Figure 65).

Figure 65. Medieval settlement at Higher Tatton Farm, Portesham. (MDO872) Earthworks associated with the settlement are clearly visible on this vertical photograph taken in 1968. Photograph: NMR MAL 6804 042, 1st February 1968. © English Heritage. NMR.

A number of other potentially late medieval sites were plotted, but as a post medieval date was also possible, they were recorded as 'historic' (AD410 - AD1900) within the project database. These sites are described in section 6.10 below.

6.9 NMP results: post medieval sites (AD1540 - AD1900)

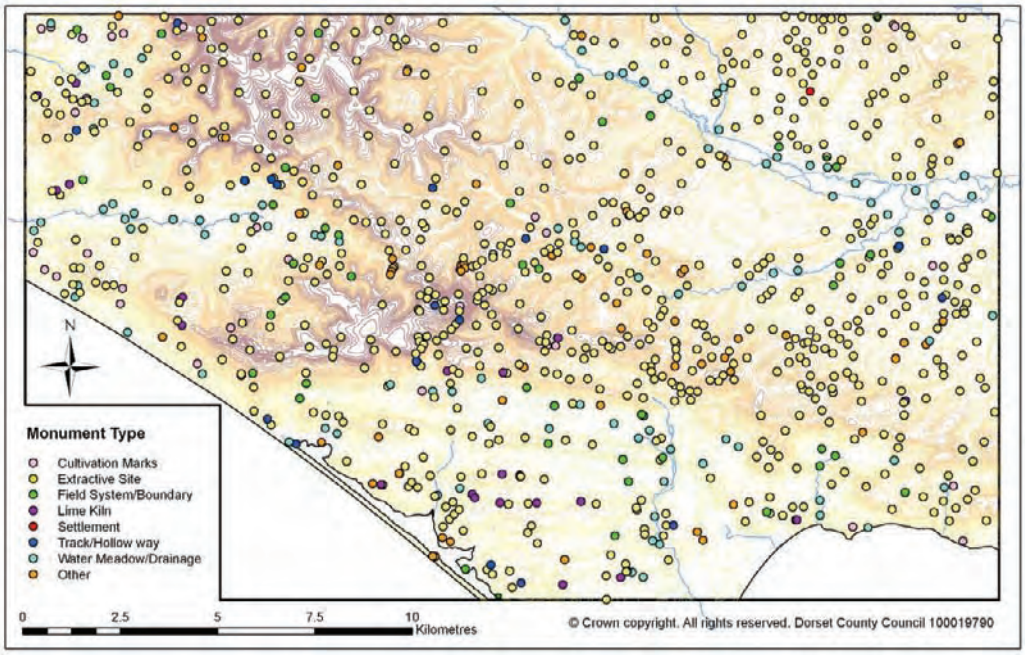


Figure 66. Distribution of post medieval sites.

During the mapping project 917 sites were identified from the aerial photographs and attributed a post medieval date. In addition a further 30 sites were allocated a post medieval or modern date. This amounted to almost a third of all site records in the project database. The majority (75%) of the post medieval monuments were visible as extant earthworks or structures and 92% were new sites.

Many of the sites attributed to the post medieval period may have had their origins in the medieval period, for example the numerous extractive pits described in section 6.9.1 and the extensive water meadows found along the River Frome.

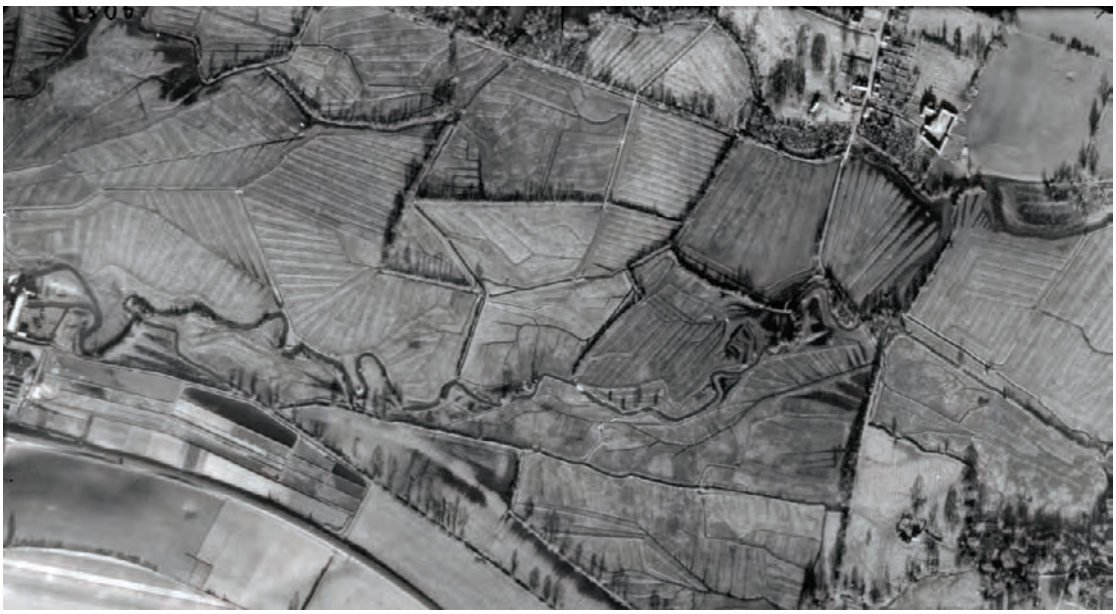


Figure 67. Post medieval water meadows in the Frome valley near Dorchester. (MDO20538). Photograph: RAF CPEUK1934 Frame 5081, 17th January 1947. English Heritage (NMR) RAF Photography.

6.9.1 Post medieval agricultural features

Of the 947 post medieval sites recorded during the project, 168 (18%) were associated with agricultural activity. These monuments included 39 water meadows, 29 cultivation marks or ridge and furrow and 56 ditches, drains and drainage systems. In addition, 44 post medieval parliamentary field systems and fragments of field boundaries were identified, being distinguishable from medieval boundaries by their ruler-straightness.

Of the post medieval water meadows, all are extant or partially extant. The most extensive systems lie within the flood plain of the River Frome, however smaller systems were plotted in all the river valleys including those of the Bride, Wye, Cerne and South Winterborne. Within the Frome valley, most of the main drainage channels were already partially marked on the OS First or Second Edition maps although none had previously been recorded in the HBSMR.

In addition to the above features, 27 post medieval enclosures and fragments of enclosures were identified. The majority of these are rectilinear in form and most are likely to be related to stock management.

At Cowleaze, Winterbourne Steepleton three square enclosures each with an internal mound were excavated by P J Woodward in 1982. The enclosures are 20-22m across and prior to excavation had been interpreted by the NMR as Iron Age square barrows. The excavations concluded that an Iron Age date was unlikely and that the features were more likely to be post medieval in date; documentary maps and present field and wood names suggesting that they are more likely to be earthworks associated with the management and farming of rabbits. During the mapping, the possible site of a fourth enclosure was identified, 90m to the southwest of the other three, as well as a round mound interpreted as the site of a rabbit warren on the strength of its proximity to the other sites (Figure 68). An almost identical square enclosure is located at Broadmayne (Figure 93 (left)).

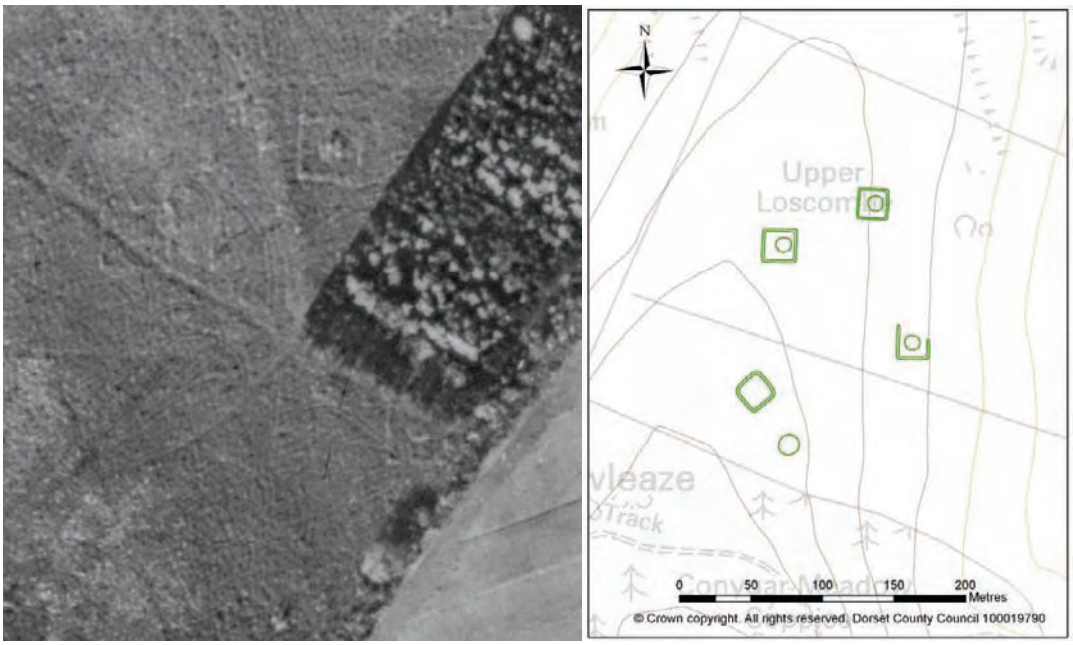


Figure 68. Square enclosures and mounds at Cowleaze, Winterbourne Steepleton, considered to be associated with post medieval rabbit farming. (MDO3371-3, and MDO24686-7). Photograph: RAF CPEUK1824 Frame 4279, 4th November 1946. English Heritage (NMR) RAF Photography.

Another site associated with animal management is the decoy pond at Abbotsbury Swannery. The site is documented as early as 1655 (RCHME 1952) and is currently

protected by scheduling. The site is listed in both the Dorset HBSMR and the NMR as having only three pipes. The original fourth pipe, in the southwest, is silted up and barely visible on RAF photographs taken in 1946. However it appears to have been reinstated and is clearly visible on aerial photographs taken by English Heritage in October 2000. To the north of the decoy pond lies a well preserved post medieval water meadow (Figure 69).

Figure 69. Decoy Pond and post medieval water meadows at Abbotsbury. (MDO59) (MWX227). Top right photograph: NMR 24500/41 SY 5784/029 6th December 2006 © English Heritage. NMR. Bottom right photograph: RAF CPEUK2431 Frame 4287, 22nd January 1948. English Heritage (NMR) RAF Photography.

6.9.2 Post medieval extractive features

The majority (73%) of sites assigned a post medieval date are associated with extraction. These include large scale quarries and smaller extractive pits including chalk, sand and gravel pits and spoil heaps. Some of these sites, particularly the larger pits and quarries, are marked on the OS First and/or Second Edition maps and several may have had their origins in the earlier medieval period.

The extractive features are widely and evenly scattered across the chalk downlands to the north and south of the Rover Frome. They also lie in linear groups along the east-west ridges towards the south of the project area. The majority are considered to be chalk pits although 25 sites were interpreted as gravel, sand or clay pits.

Twenty four lime kilns were identified during the mapping project, most of which were previously known from documentary sources but five were new to the record. All but one still survive as earthworks or ruined structures with one only visible as cropmarks and most are associated with extractive pits.

All but two kiln sites lie to the southwest of the main chalk escarpment ridge, the largest concentration is situated to the east of Langton Herring where nine lie on the ridge between the villages of Langton Herring and Buckland Rippers (Figure 70).

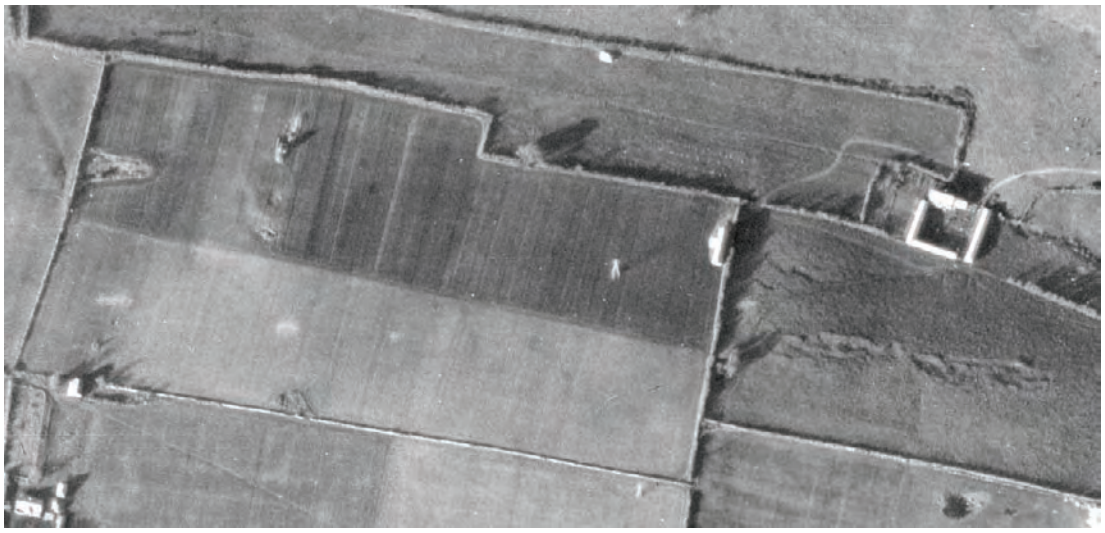


Figure 70. Lime kiln at Buckland Ripers with associated shallow workings. The kiln is visible as an extant structure to the top left of this photograph taken by the RAF in 1946. The shallow workings to the east and west of the kiln are considered to be of contemporary date, (MDO25705). Photograph: RAF CPEUK1824 Frame 4463, 4th November 1946. English Heritage (NMR) RAF Photography.

In addition, three areas of possible turf cutting were identified including two groups of rectilinear features on Askerswell Down (MDO21309 and MDO21951). The third site lies to the east of Eggardon Hillfort where a shallow straight-edged zigzag scarp can be traced on aerial photographs taken in 1948. The shallow features appear to be less than a metre deep and on Eggardon the largest is 200m across (Figure 71).

Figure 71. Shallow rectilinear scarps considered to be associated with post medieval turf removal to the east of Eggardon Hillfort, Powerstock. (MDO21912). Photograph: RAF CPEUK2431 Frame 4153, 22nd January 1948. English Heritage (NMR) RAF Photography.

6.10 NMP results: Historic (medieval or post medieval) sites (AD410 -AD1900)

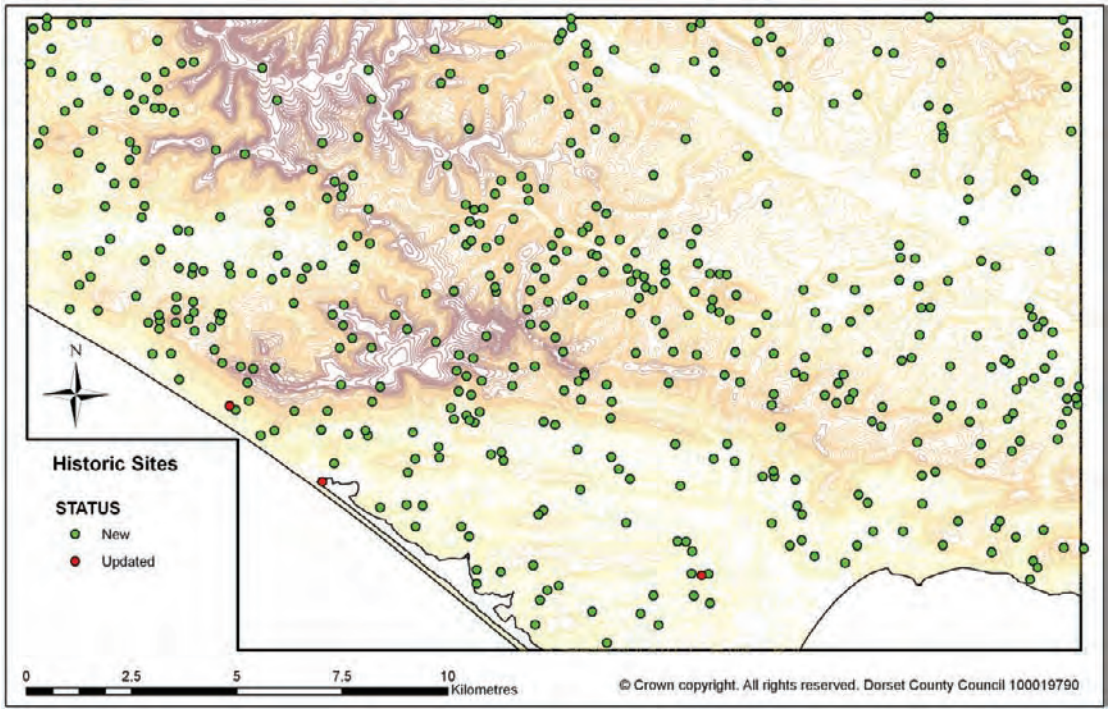


Figure 72. Distribution of Historic (medieval or post medieval) sites.

The nature of much of the evidence recorded during the project meant that for many sites it was difficult to ascribe a more precise date than medieval or later in origin. This was particularly true for agricultural features such as field boundaries, fragments of field systems, trackways and areas of parallel cultivation marks (ridge and furrow) which could have been medieval or post medieval in date. Other features such as extractive pits and drainage systems could be nineteenth (post medieval) or early twentieth century (modern) in origin. Where a more specific date could not be determined from the aerial photographic evidence, these sites were all recorded as historic in the project database.

Of the 474 records allocated an historic date 99% were new sites and 55% were visible as upstanding monuments.

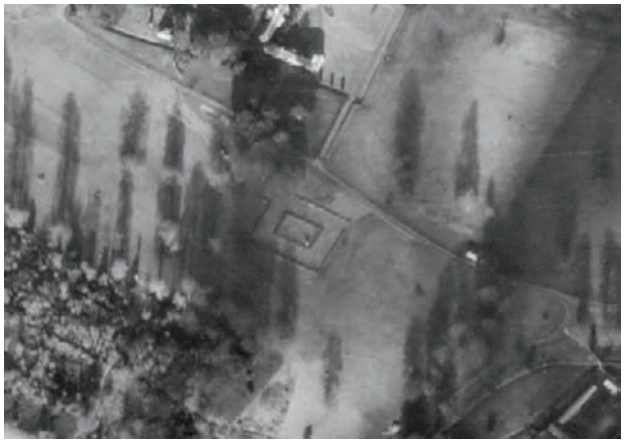


Figure 73. Rectilinear structure of late post medieval or early 20th century date at Frampton House, Southover. Photograph: RAF CPEUK1934 Frame 4093, 17th January 1947. English Heritage (NMR) RAF Photography.

One site of note lies at Frampton House near Southover where the foundations of a rectangular structure are visible on aerial photographs taken by the RAF in the 1940s (Figure 73). The outer enclosure is 61m across and may have been part of Frampton Court which was demolished in 1935 or possibly associated with the medieval Benedictine priory that once existed here and was dissolved by 1414.

6.11 NMP results: twentieth century sites

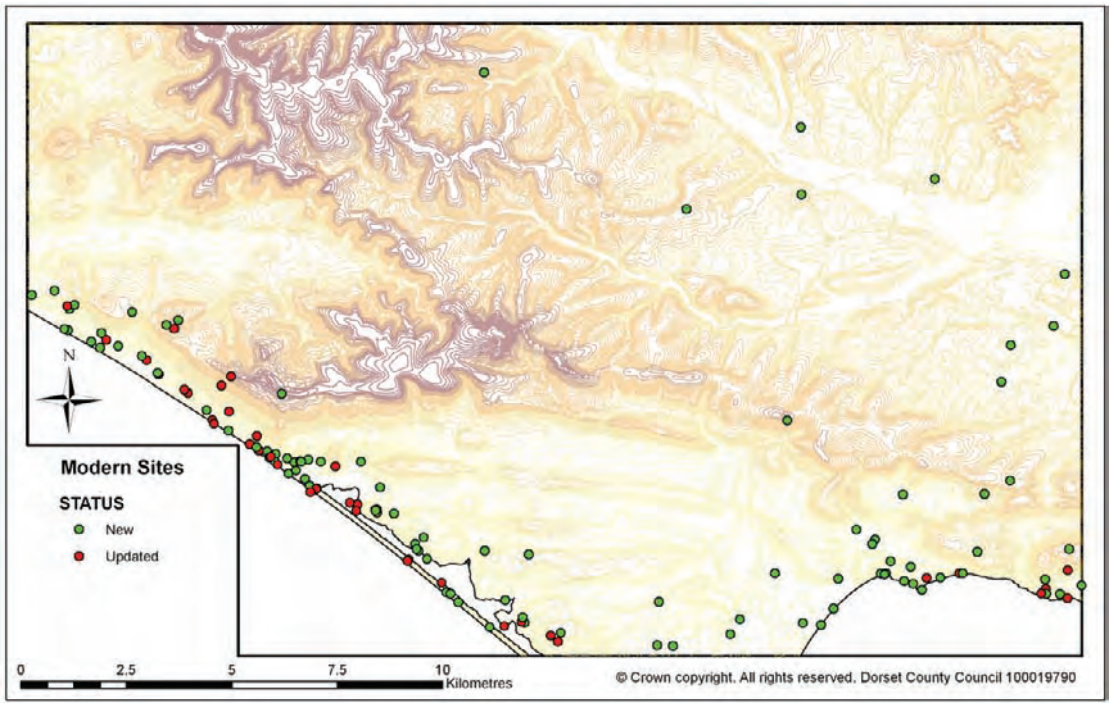


Figure 74. Distribution of twentieth century sites.

One hundred and thirty five twentieth century sites were recorded during the course of the project, of which, nearly three quarters (99 sites) were new to the record. The majority were recorded as extant structures on the photography, however it is not known how many still survive. Only five sites were recorded as having been plough levelled. All but one site (a gravel pit to the east of Dorchester) have been interpreted as of military origin dating to the First or Second World War.

As the distribution map in Figure 74 above shows, the majority of the sites are on the coastal strip along Chesil Beach and to the east of Weymouth and most relate to anti-invasion defences associated with the fortification of Britain in 1940/1 after the evacuation of British troops from Dunkirk in June 1940. At this time there was an urgent need to build defences in response to the threat of invasion from occupied France (Dobinson 1996b).

On 27 May 1940 a Home Defence Executive was formed under General Ironside, Commander-in-Chief Home Forces, to organize the defence of Britain. At first these defences focused on the coastline and a series of inland anti-tank 'stop' lines. These were often natural obstacles like rivers or breaks in the land-form like natural scarps that were enhanced with anti-tank obstacles and defended by pillboxes. The defences effectively divided the country up into a series of ‘fields’ surrounded by ‘hedges’ of anti-tank obstacles. The entire length of the south coast of Britain was fortified at this time.

The stretch of Dorset coast investigated during the current project lay within the Southern Command and during the Second World War the Abbotsbury Defence area

was defended by the 6th Battalion Durham Light Infantry. There are numerous defensive structures within the project area, many of which were constructed in 1940.

6.11.1 Anti-tank obstacles

During the project, ten sites associated with disrupting the advance of enemy tanks were recorded, of these nine were new to the record. The sites included four lines of anti-tank blocks or Dragons Teeth, the best documented of which lies to the west end of The Fleet at Reeds End (Figure 75). Here a double line of concrete anti-tank blocks cross Chesil Beach and are associated with at least two pillboxes and other military features.

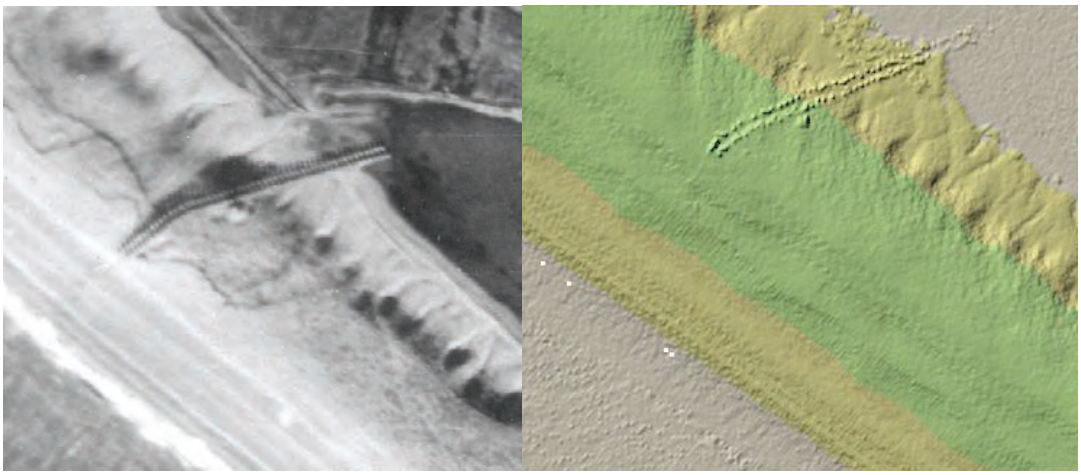


Figure 75. Anti-tank blocks at Reeds End, Chesil Beach, Abbotsbury. (MWX1315). The lidar image on the right was flown in 2003 and shows a double line of 36-38 blocks, some slightly displaced from their original positions. The image on the left was taken in 1948 when 50 pairs of blocks are visible and the original line of more just visible on the seaward side of Chesil Beach. The square structure to the south of the tank-trap is the position of a type 26 pillbox (MWX1335). Photograph: RAF CPE/UK/2431 Frame 4286, 09th March 1948. English Heritage (NMR) RAF Photography; Lidar Imagery D0028548, 14th July 2003, © Environment Agency copyright 2008. All rights reserved.

Three other sets of anti-tank blocks were identified during the project. In the east of the project area at Bowleaze Cove a line of Dragons Teeth were plotted running eastward from the Riviera Chalet Hotel towards Furzy Cliff. A line of 13 hulks are also visible on aerial photographs taken in 1947, partially buried in the sands at the cove. The regularity of their placement suggests that they were deliberately positioned to form part of a multiple line of anti-invasion beach defences at the cove (Figure 76).

One potential set of anti-tank blocks lie in a more unlikely spot, on the seaward side of Chesters Hill. Here a double line of block-like features are visible to the south of two masts associated with a Second World War radar or radio station (Figure 85, MDO25924).

The fourth line of anti-tank blocks is the most extensive running for nearly 1.5km from Overcombe to Weymouth. Over 500 small square structures are visible on aerial photographs taken between 1940 and 1946, running along the seaward edge of the coast road. They form part of a multiple line of beach defences which also included a double line of barbed wire entanglements. The entanglements were visible on the aerial photographs as dark lines running along the beach for over 2km south-westward from Overcombe before continuing out of the project area (MDO24821-2).

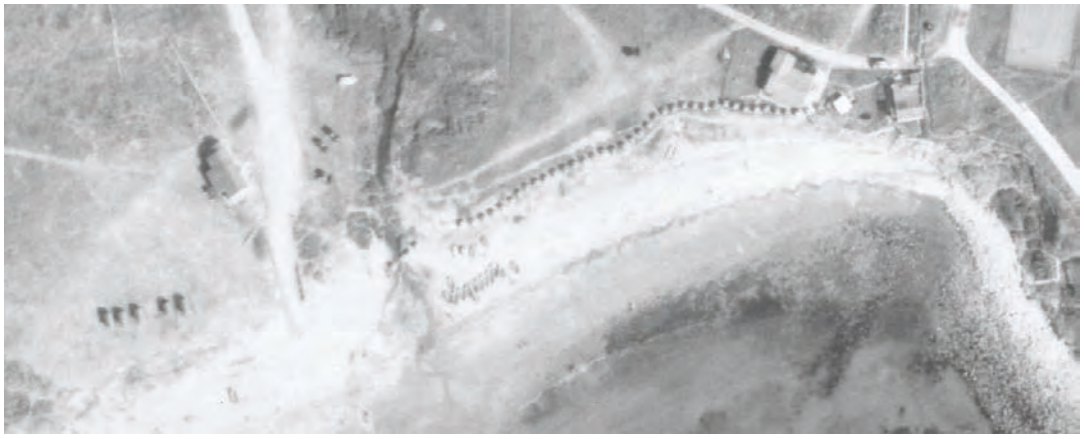


Figure76. Anti-tank blocks at Bowleaze Cove, Weymouth. (MDO24321). The line of deliberately placed hulks (MDO24320) is visible to the east of the small stream running across the sand. Photograph: RAF CPE/UK/2273 (PT1) Frame 5047, 22nd January 1948. English Heritage (NMR) RAF Photography.

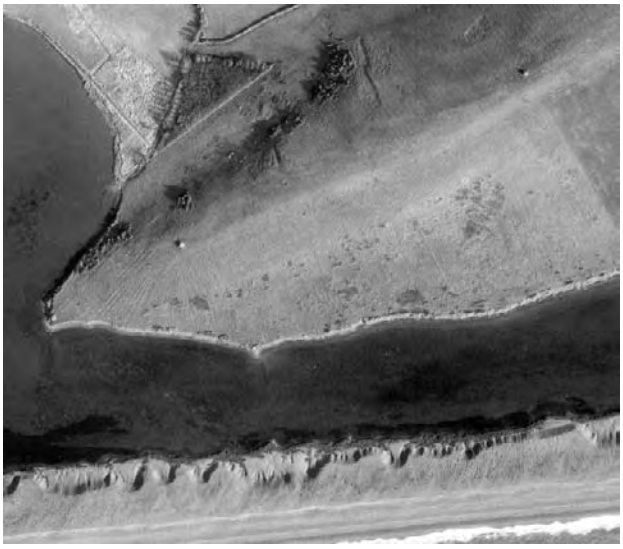
In addition to the anti-tank blocks, a series of anti-tank ditches and banks were constructed just inland of Chesil and Cogden Beaches. These defences were plotted for over 8km to the edge of the project area from Reeds End to Burton Common. For much of this distance the ditch and bank feature enhanced pre-existing features in the landscape such as the coast road or later 19th century drainage features. In many places however, completely new ditches were dug across the landscape (Figure 77).

Figure 77. Anti-tank ditch at Castle Hill Cottages. (MDO25905-6). The polygonal field just to the left of centre is the site of a Second World War gun battery (MDO25934). Photograph: RAF CPE/UK/1824 Frame 3317, 4th November 1946. English Heritage (NMR) RAF Photography.

6.11.2 Pillboxes

Forty five pillboxes were identified on the aerial photographs, of which 19 were previously unrecorded in the HBSMR. Three lie to the west of Weymouth, the rest are located along Chesil Beach, either on the beach itself or in elevated positions on the higher ground behind.

The pillboxes included Type 22 and Type 26 structures and are in various states of repair. Many are now completely destroyed but are visible on historic RAF photographs taken during or soon after the war.



Three pillboxes lie in a linear formation on Chesters Hill, Abbotsbury. A fourth lies to the south defending the landward end of a causeway across the Fleet from Chesil Beach. The pillbox to the top right of this photograph was originally located alongside a radio or radar station during the Second World War. (MWX1322, 1326, 1327 & 1332)

Photograph: MAL 6804 Frame 010, 1st February 1968. © English Heritage. NMR.

Figure 78. Pillboxes on Chesters Hill, Abbotsbury.

6.11.3 Other Beach Defences

Other types of anti-invasion defence constructed during the war included beach scaffolding obstructions (Figure 79). Known as Admiralty Scaffolding, they were initially designed as an obstacle to boats and therefore constructed at the half tide mark. Later they were adopted as an anti-landing or anti-tank barrier and constructed above the high tide mark on particularly vulnerable beaches.

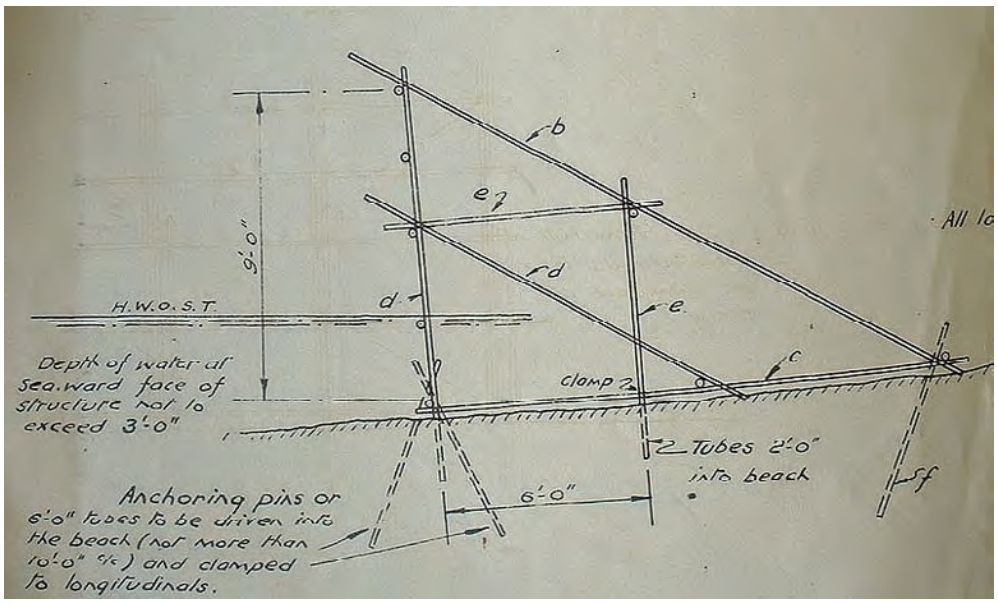
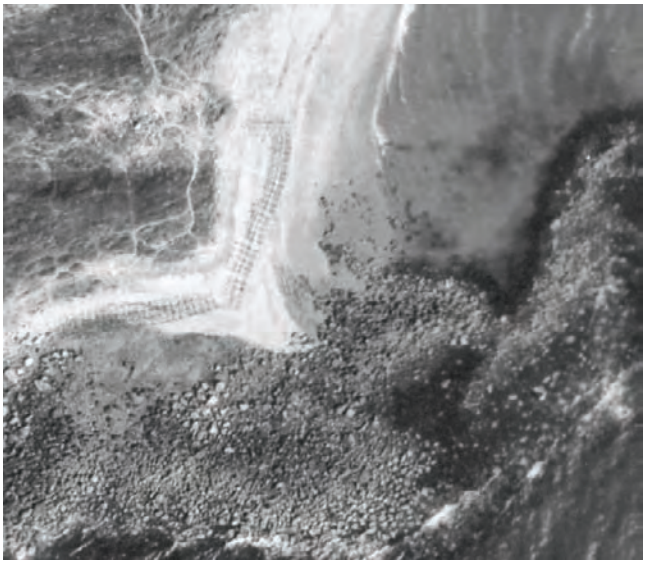


Figure 79. Drawing of beach scaffolding defence, type Z.1, also known as Admiralty Scaffolding. (HM Government 1940 UK National Archives: WO 199/1618)

A small section of beach scaffolding was identified protecting the headland of Redcliffe Point, Osmington, (Figure 80). Up to four lines of uprights are visible on aerial photographs taken in 1947, perhaps indicating that two lines of admiralty scaffolding had been constructed around this small promontory. Nothing is visible at this location on aerial photographs taken in August 1940 giving the site a terminus post quem of the latter part of 1940 for its construction.



Multiple lines of Admiralty Scaffolding were constructed around the headland of Redcliffe Point, Osmington (MDO24425).

Photograph: RAF CPE/UK/2273 (PTI) Frame 5045, 30th August 1947. English Heritage (NMR) RAF Photography.

Figure 80. Admiralty scaffolding around Redcliffe Point, Osmington.

An extensive series of pits and posts were identified on the aerial photographs lying towards the western end of the project area on Cogden and Chesil beaches. The features were scattered over a 7km stretch of beach and were sometimes placed slightly inland from the beach itself (Figure 81). They may perhaps be a minefield or an early phase of the anti-tank defences which culminated in the ditch and bank structure described above.

Figure 81. Anti-invasion defences at The Old Coastguards, Burton Road. A series of pits lie to the landward side of the anti-tank ditch and are possibly an earlier phase of the anti-tank defences (MDO25823). Photograph: RAF CPE/UK/2431 Frame 3284, 22nd January 1948. English Heritage (NMR) RAF Photography.

6.11.4 Coastal batteries

The sites of four gun or searchlight batteries were identified during the project, two of which were new to the Dorset HBSMR.

The first new site lies to the east of Castle Beach Cottage in a slightly elevated position overlooking Chesil Beach. The sites of two emplacements are clearly visible on vertical aerial photographs taken in 1946 along with several military style buildings within a small polygonal enclosure. This enclosure appears to have been protected by an outer perimeter of barbed wire which is visible as a dark line on oblique RAF photographs taken in 1942 (see Figure 82, right). Sites of several other features lie to

the southwest of the main battery on the shingle beach itself where the sites of four other possible emplacements and a pillbox are visible in 1946.

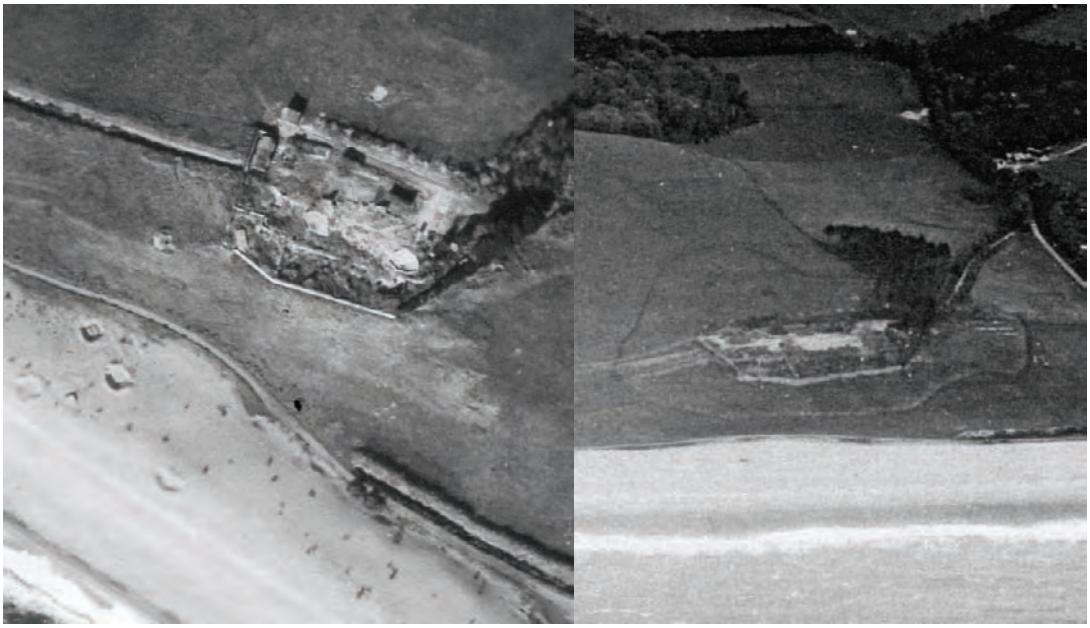


Figure 82. Site of a WWII coastal battery overlooking Chesil Beach. (MDO25934). Photographs: Left - RAF CPE/UK/821 Frame 3317 4th November 1946 and Right – NMR SY 5584/3 (140T194/H51/P062), 18th May 1942. English Heritage (NMR) RAF Photography.

The second new site lies just inland from Blackhead, Osmington where the positions of three heavy anti-aircraft gun emplacements are visible on photographs taken in 1946. Nissen huts line the hedgelines of adjacent fields.

The site of a previously unrecorded anti-aircraft battery lies just inland from Blackhead, Osmington. The positions of three heavy anti-aircraft gun emplacements are clearly visible on this photograph taken in 1946 along with associated nissen huts lining the hedgerows of the adjacent fields (MDO24455).

Photograph: RAF CPE/UK/1821 Frame 4447, 4th November 1946. English Heritage (NMR) RAF Photography.

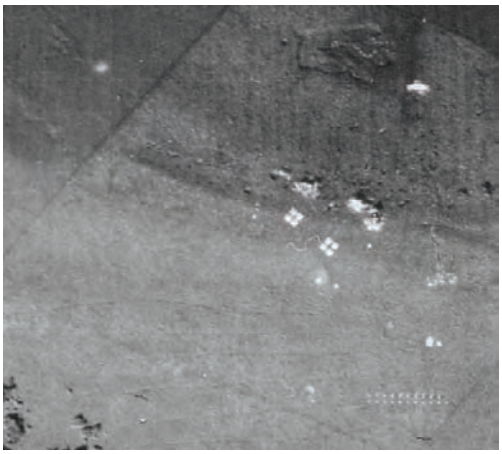
Figure 83. The site of an anti-aircraft battery near Blackhead, Osmington.

The gun emplacements, enclosures and ancillary buildings associated with the documented site of Portland 6 [D] Heavy Anti-Aircraft Battery, are visible on aerial photographs at Sea Barn Farm, Fleet (Figures 8 and 9), (Dobinson 1996a). The site comprises six square gun emplacements, three of which are still extant and marked

on the current edition OS map. This was also the site of an earlier First World War battery (MWX4686).

6.11.5 Radar/Radio Stations

Masts and ancillary structures associated with four radar or radio stations were identified during the project, all of which were new to the Dorset HBSMR. Three lie within the coastal strip and include two sites in close proximity to each other at Ringstead.



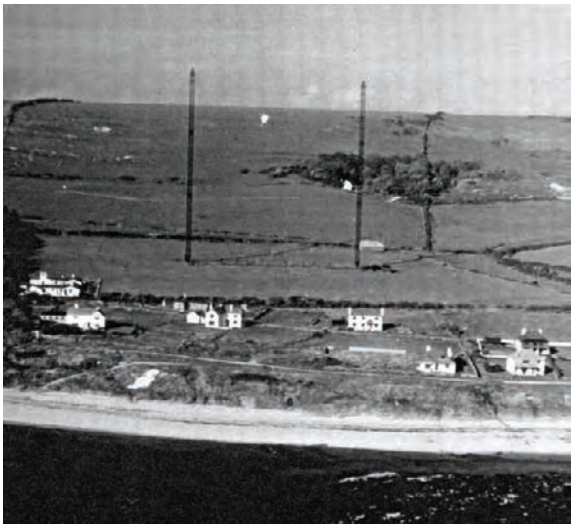
The two sets of four white structures set in a square formation visible on this photograph are the footings for two radio or radar masts on Chesters Hill. The masts are visible as extant structures on aerial photographs taken in 1942. The two parallel lines of structures to the bottom left of the image are reminiscent of anti-tank blocks. (MDO25925 and MDO25924).

Photograph: RAF CPE/UK/1824 Frame 3319, 4th November 1946. English Heritage (NMR) RAF Photography.

Figure 84. Sites of two WWII radio or radar masts on Chesters Hill.

Chain Home was the name given to a ring of early warning radar stations positioned around the British coastline during the Second World War. The system was used for the long range detection of enemy aircraft and was later used in conjunction with a Chain Home Low system which could detect aircraft at lower altitudes. The system comprised a transmitting array, formed of wires strung between two metal towers, up to 110m high. The receiving array was on tall wooden towers with two antennas at right angle to each other (Dobinson 1996d).

The site of a Chain Home station was known in the Ringstead area (Dobinson 1996d) and two sets of towers were identified during the project. These are visible in Figures 85 and 86 below as well as to the southeast of the deserted medieval village of Ringstead illustrated in Figure 61, section 6.8.1 above.



The transmitting array of the Ringstead Chain Home Station. This is one of two array situated adjacent to each other. A series of wires are faintly visible strung between the two towers. (MDO24569).

Photograph: NMR SY 7481/21 RAF 30300/PSFO 0039, 12th October 1950. English Heritage (NMR) RAF Photography.

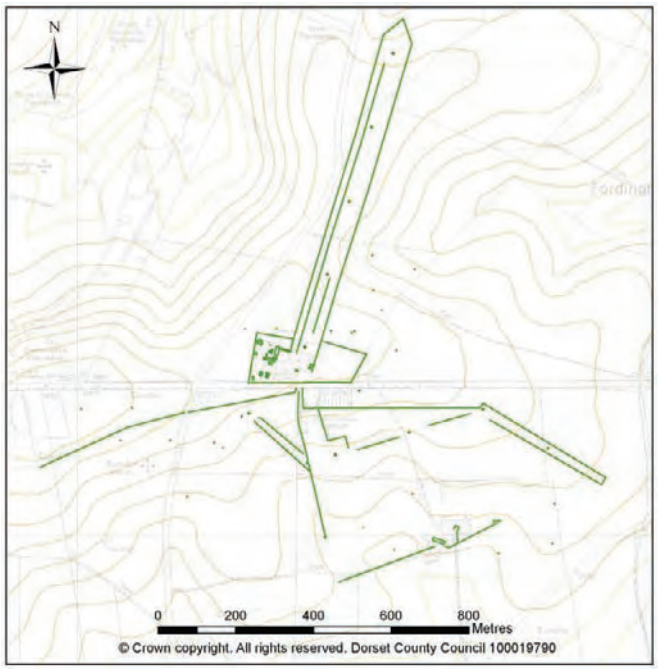
Figure 85. Site of the transmitting array of the Ringstead Chain Home Station.

One of two adjacent towers, probably the receiving array of the Ringstead Chain Home Station (MDO24568). A square Type 26 pillbox lies in the foreground and is associated with the heavy anti-aircraft battery of Upton Fort (MWX1430).

Photograph: NMR SY 7481/21 RAF 30300/PSFO 0030 12th October 1950. English Heritage (NMR) RAF Photography.

Figure 86. One of two adjacent towers associated with the Ringstead Chain Home Station.

The fourth site lies inland to the southwest of Dorchester and is the site of Dorchester Radio Station, otherwise know as Dorchester Beam Station (Figure 87). This was not a military site but built by Marconi during 1925-6 as a transmitting station associated with the Imperial Wireless Chain established at the same time for the Post Office (South Dorset Radio Society 2010). The Station continued in operation for over 50 years but with the success of satellite communication in the 1960s and 70s, the station went into decline and was finally closed in 1978.



Site of Dorchester Beam Station built by Marconi in the 1920s. The arrays of beam aerials, the transmitter hall and their associated buildings, masts and cables were plotted from RAF vertical photographs taken in the 1940s. *(MDO20830).*

Figure 87. Aerials, buildings and cables associated with the site of Marconi's Dorchester Radio Station.

6.11.6 Chesil beach bombing decoy

During the Second World War a number of bombing decoy sites were constructed in strategic locations across the country as a response to the increased German aerial bombing from the summer of 1940 onwards. The German raids focused on airfields, important naval and army sites as well as major towns and cities. Many of these potential targets were protected by decoy sites including dummy structures, fires and

lighting displays whose purpose was to draw away enemy bombs from their intended targets (Dobinson 1996c).

An N Series (Naval) site was constructed in 1941 and 1942 to protect the important naval base at Portland. This site comprised four decoy sites at Speed Beacon, Littlemore, Wyke Oliver and Fleet. The Fleet decoy was a QL (simulated lightening) and QF/Starfish (diversionary fire) site and its documented grid reference was SY637791, to the south of the project area (Dobinson 1996c 116).

The site of a Second World War bombing decoy was identified as earthworks on aerial photographs taken in 1942 and 1946 on Chesil Beach near Henbury at SY609807 and was considered to relate to the Portland Naval QL site described above. The visible features included bunkers, buildings and a linear feature (presumably the line of a cable) running the length of the site (Figure 88).

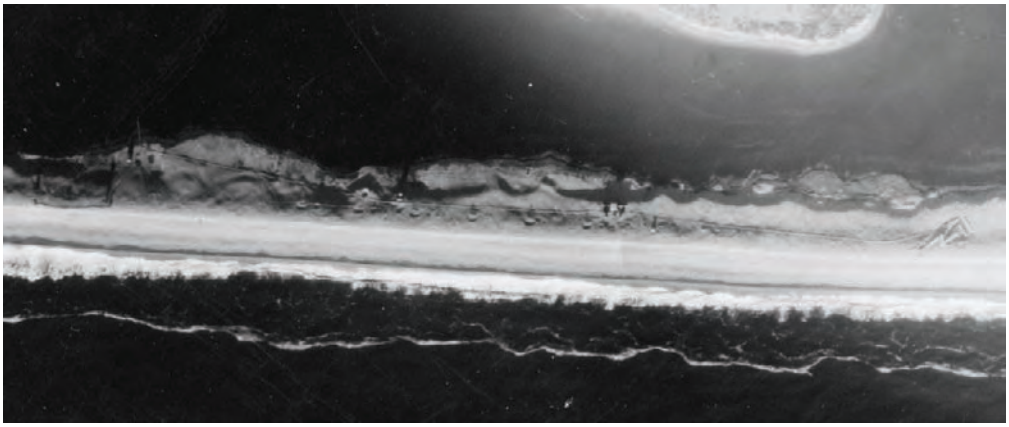


Figure 88. Site of a WWII bombing decoy on Chesil Beach. (MDO25754). Photograph: RAF CPE/UK/1824 Frame 3320, 4th November 1946. English Heritage (NMR) RAF Photography.

6.11.7 Bomb Craters

The fact that this stretch of Dorset coast was a potential target for German bombing raids during the Second World War is evidenced by a number of bomb craters identified during the mapping project. Sixteen craters or groups of craters were plotted (as well as three sites listed as post medieval extractive pits but alternatively bomb craters). Most lie towards the south east of the project area and presumably were targeted at sites in and around Weymouth and Portland.

Perhaps the most interesting site lies at Redcliff Point where a cluster of up to 40 small near circular depressions were visible as earthworks on aerial photographs taken in August 1947 (Figure 89). It was noted that the features were not present on earlier photographs taken in August 1940. The Redcliff Point craters, lying in close concentration and right on the cliff edge, are most likely to be the result of an ordnance disposal exercise rather than the result of enemy bombing.

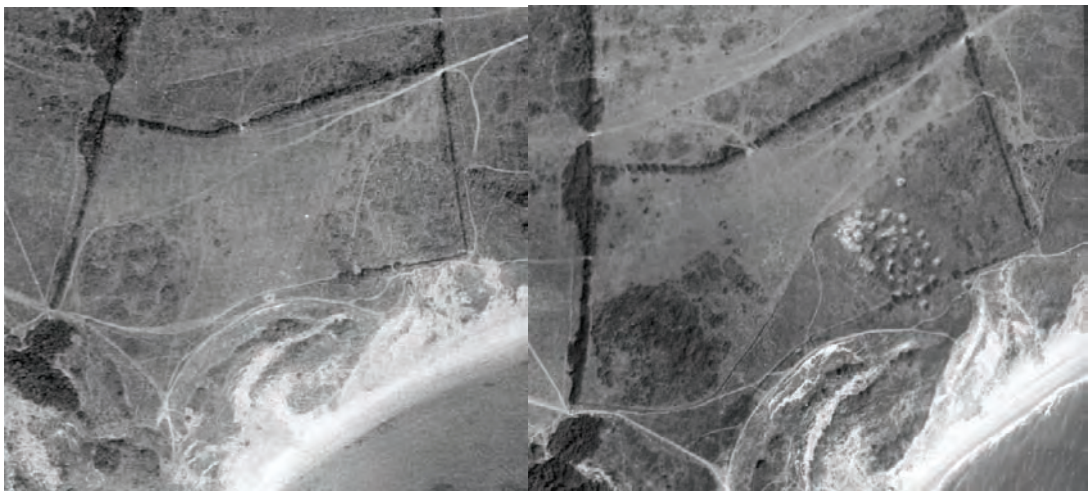


Figure 89. Bomb craters at Redcliffe Point. The cluster of craters are visible on the aerial photographs on the right taken in 1947. They are not visible on the left hand photograph taken in 1940. Photographs: Left: RAF/225A/BR226 Frame V3, 5th August 1940; Right: RAF CPE/UK/2273 (PTI) Frame 5045, 30th August 1947. English Heritage (NMR) RAF Photography.

6.11.8 Floating Breakwaters

Floating breakwaters (or bombardons) were an integral part of the Mulberry Harbour which was a temporary harbour developed in the Second World War to offload cargo and troops on the Normandy beaches during the allied invasion of France at D-Day in 1944. The two prefabricated harbours (Mulberry A and B) were built at various locations along the south coast of England and then towed across the English Channel in sections before being assembled at Omaha Beach and Arromanches.

The large floating breakwaters were constructed of fabricated steel and several sections were wrecked along the shore at Osmington Bay (Figure 90).

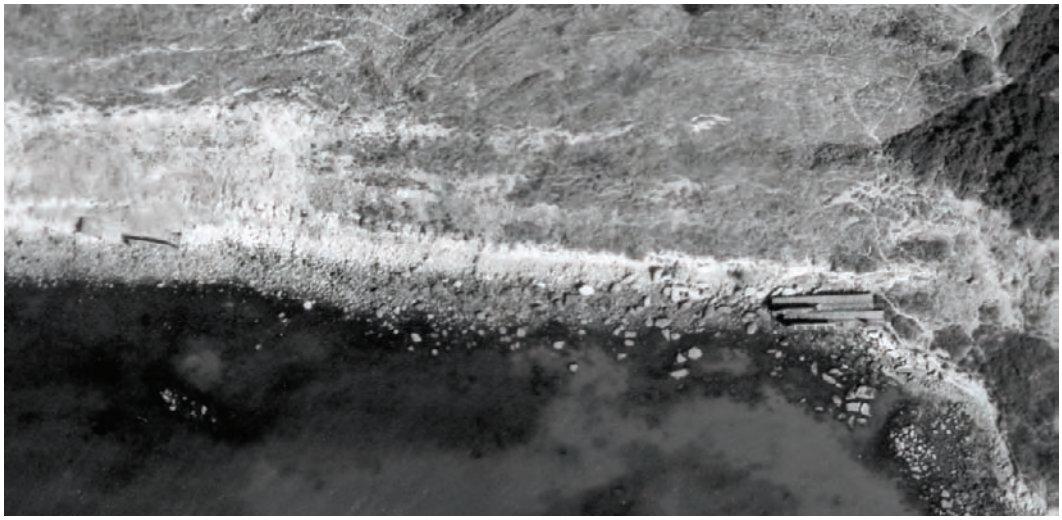


Figure 90. Three sections of bombardon wrecked to the west of Redcliff Point, Osmington. (MDO25323/25). Photograph: RAF CPE/UK/2273 (PTI) Frame 5045, 30th August 1947. English Heritage (NMR) RAF Photography.

6.11.9 Military camps and depots

Twenty two Second World War military sites were identified as camps, depots, buildings and unassigned ‘military sites’. As with the other military features, the

majority lay along the coastal strip however six sites lay inland and within 5km of Dorchester. All were new to the Dorset HBSMR.

The largest camp lay to the south and east of Poundbury Hillfort between what is now Grove Trading Estate and Normandy Way (Figure 91). This was the site of the Royal Horse Artillery Barracks which is marked on the OS 1st edition map of 1890. The camp was greatly enlarged during the war when numerous barracks blocks were constructed to either side of the A35, marked as Poundbury West Camp and Poundbury East Camp on the 1963 edition OS map.

Poundbury Second World War Camp. The southern and western rampart ditches of the Iron Age hillfort were being used as storage depots when this photograph was taken in 1948, (MDO20960).

RAF CPE/UK/2431 Frame 4259, 22nd January 1948. English Heritage (NMR) RAF Photography.

Figure 91. Second World War Camp at Poundbury.

To the northeast of Dorchester lies the Georgian house of Kingston Maurward, now an agricultural college. It was occupied by American servicemen during WWII and the grounds were used as a fuel depot for the D-Day landings, (Kingston Maurward, 2010). The storage sites are clearly visible on aerial photographs taken in 1944, some partially hidden under the trees of the park (Figure 92).

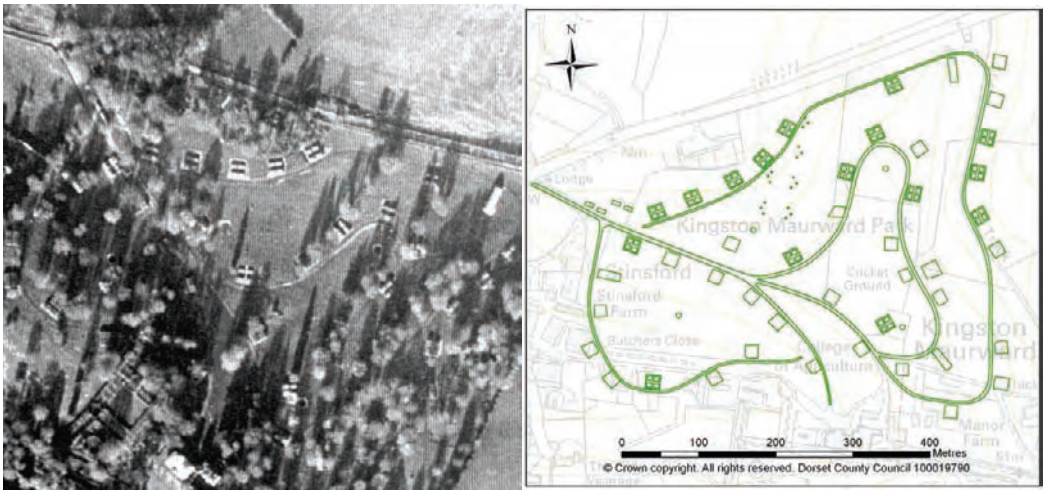


Figure 92. Second World War fuel depot at Kingston Maurward. Photograph: US/7PH/GP/LOC138 Frame 5005, 4th January 1944. English Heritage (NMR) RAF Photography.

A number of small clusters of military buildings are visible on aerial photographs taken soon after the war in the fields surrounding the adjacent villages of West Kingston and Broadmayne (Figure 93). Those surrounding Broadmayne are fairly

well hidden from the air being situated amongst pre-existing farm buildings and adjacent to hedge lines. Those of the camp at West Kington are more easily distinguishable however, the nissen huts forming a circular corral in the centre of a field with a triple line of huts lining the lane between the two villages.

Figure 93. Military camps within the villages of Broadmayne and West Kingston. Photographs: Left RAF CPE/UK/1824 Frame 4262, 4th November 1946; Right RAF CPE/UK/1934 Frame 3079, 17th January 1947. English Heritage (NMR) RAF Photography.

Two presumably military sites were identified within half a kilometre of each other at Preston, Weymouth (Figure 94). The sites comprise a number of sub circular features 4.5m across, set in a regular grid pattern. They are associated with other larger oval features, all of which are visible as patch marks on RAF photographs taken in August 1947. The features are considered to be the sites of two tented encampments, the size of the circular features being consistent with British army 160lb tents which were used as section tents during the Second World War (WDRob 2010).

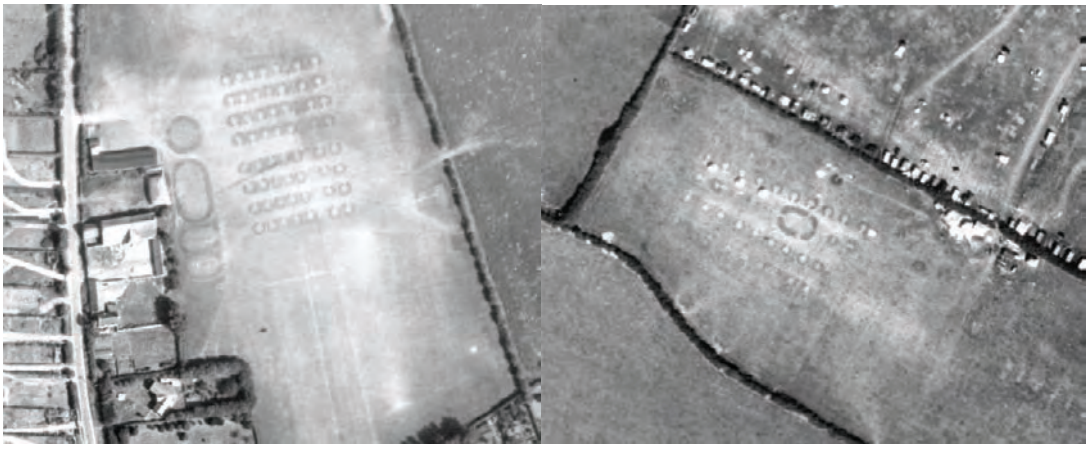


Figure 94. The probable sites of two tented encampments at Preston, Weymouth. (MDO24372 and MDO24921). Photograph: Left RAF CPE/UK/2273 PTI Frame 5001, 30th August 1947; Right RAF CPE/UK/2273 PTI Frame 5043, 30th August 1947. English Heritage (NMR) RAF Photography.

6.12 NMP results: Undated sites

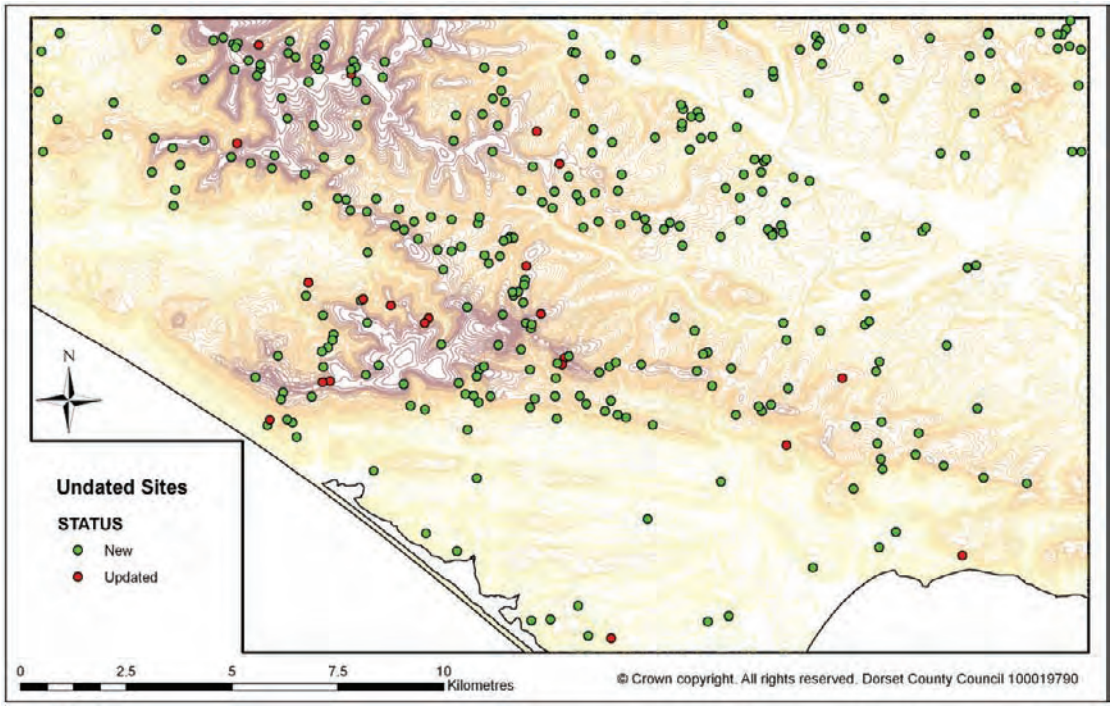


Figure 95. Distribution of undated sites.

A large number of sites were listed in the project database as of uncertain date. These are sites to which a more specific prehistoric or historic date could not be allotted with confidence and they include agricultural features such as field boundaries and field systems, trackways, mounds and enclosures. Many of these sites could well be of prehistoric origin. Of the 330 sites, the majority (93%) were previously unrecorded.

Figure 96. The settlement and field system at Fordington Bottom. (MDO20895, MDO20896, MDO20899). Photograph RAF CPE/UK/2431 Frame 4261, 22nd January 1948. English Heritage (NMR) RAF Photography.

Nearly half of the undated sites are of agricultural origin and include field boundaries, field systems and lynchets. One example lies to either side of the dry coomb of Fordington Bottom (Figure 96). Here a settlement and field system lie in close

association with each other. The settlement and field system may date to the Roman period although a medieval date for some of the strip lynchets is probable.

Forty six of the undated sites are hollow ways and trackways. One example is at Higher Came Farm, where two trackways are visible as cropmarks running through the barrow cemetery described in section 6.4.1 above. The trackways do not appear to be associated with any other contemporary features, such as field boundaries or enclosures but appear to simply cut across the landscape (Figure 97).

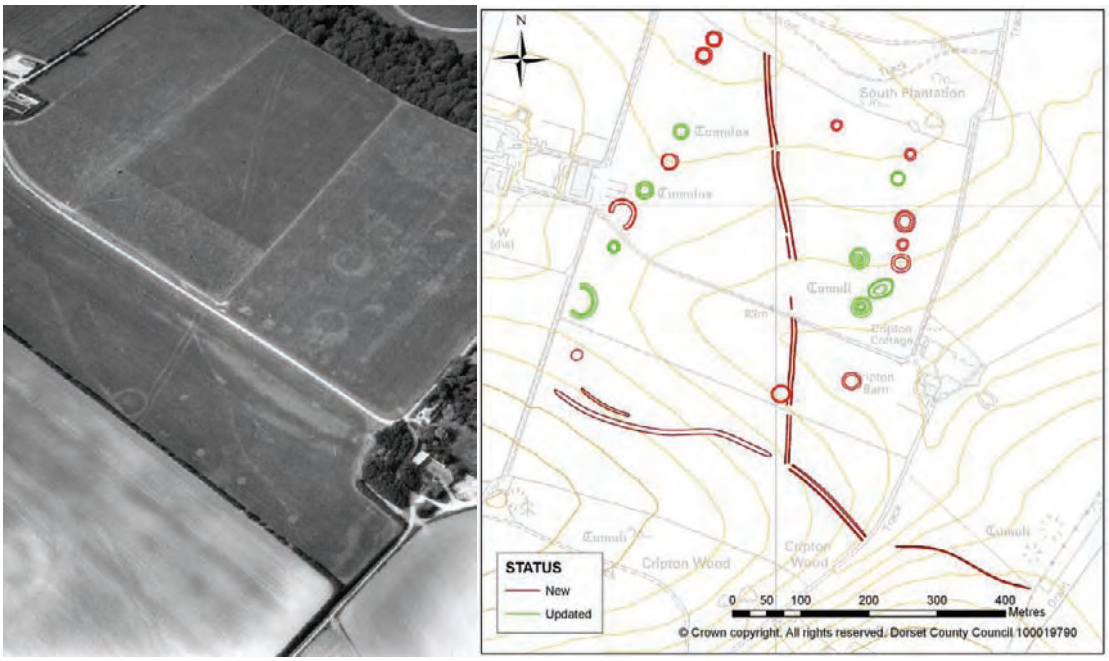


Figure 97. Undated trackway at Cripton Cottage, Higher Came Farm, Winterborne Came. (MDO 20741 and MDO 25125). Photograph: NMR 15344/49 SY 7086/15, 4th August 1995. © English Heritage. NMR.

The western side of the north-south trackway coincides with the position of one of the Bronze Age round barrows. Whilst a small kink in the western ditch may indicate a slight deviation of its course, the trackway is significantly narrowed at this point by the presence of the barrow. As the trackway does not appear to significantly change its course to allow for the presence of the barrow, it is possible that the barrow is later than the trackway and was not there when the trackway was originally in use. Alternatively the trackway may be of much later date and the barrow may have already been levelled so as not to require avoiding.

A series of converging trackways associated with a rectilinear enclosure and possible field boundaries was identified at Chilcombe (Figure 98). These undated features may be of medieval or later origin; however a prehistoric date is possible, the features lying just to the south of Iron Age hillfort on Chilcombe Hill

Figure 98. Undated Trackways and enclosures at Chilcombe. (MDO22031). Photograph: NMR OS/84029, 14th April 1984. © Crown Copyright. Ordnance Survey

Fifty one undated enclosures were identified during the project, of which only four had been previously recorded in the Dorset HBSMR. Thirty one sites (61%) were visible as cropmarks. Many of these enclosures were fragmented with only part of the enclosure circuit visible. Most are rectilinear, often sub square, in form, ranging in size from 15-50m across and are interpreted as stock enclosures. Their rectilinear form indicates a late Iron Age or historic date.

Figure 99. Enclosures and settlement earthworks at Gorwell Farm, Long Bredy. (MDO24164, MDO24165 and MDO24090). Photograph: NMR MAL/6804 Frame 50, 1st February 1968. © English Heritage.

Four large rectilinear enclosures or fields lie on the northern side of a small coomb at Gorwell Farm, Long Bredy. Along the south facing slopes of the coombe itself a series of small banked enclosures and field boundaries are visible, presumably the site of a deserted settlement. The features are of uncertain date and may be of prehistoric or medieval origin.

Moonfleet Manor House, Fleet. Rectilinear enclosures set within a fragmented field system. These features are likely to be Iron Age or Roman in origin although a later medieval origin cannot be ruled out. There was some Second World War activity in this area with slit trenching identified immediately to the west of this site (MDO23171).

Photograph: NMR 23562/22 SY 6180/18, 15th June 2004. © English Heritage. NMR.

Figure 100. Rectilinear enclosures at Moonfleet Manor House, Fleet.

7 Conclusions

The NMP mapping on the South Dorset Ridgeway identified 3452 monuments of which 2500 were previously unrecognised archaeological features. In terms of the kinds of sites potentially visible on aerial photographs (see section 6.1.1) this amounts to an 85% increase in the archaeological record within the project area. In this respect the project fulfilled its aim of improving knowledge of the archaeological resource, by providing a fuller awareness of the range and extent of archaeological remains within the project area.

The enhanced awareness of the archaeological resource will facilitate management of the area's historic environment on a site specific as well as a strategic level. By looking in detail at the areas of cropmark sites, NMP mapping will help define those parts of the South Dorset landscape most sensitive to threat by ploughing.

The main outcomes of the NMP mapping and recommendations for further survey and research are set out below.

7.1 Outcomes

Whilst many of the sites recorded during the mapping project were post medieval extractive features and cultivation remains dating to the historic periods, a significant number of prehistoric or Romano-British sites were identified as were a range of twentieth century military sites. The mapping results have therefore greatly improved our understanding of the nature and extent of human activity on the Ridgeway for all periods bar the early medieval.

Forty nine sites identified were assigned a Neolithic or Neolithic/Bronze Age date, of which 15 were new to the record. These new sites included two potential long barrows, two oval barrows, seven hengiform monuments and a possible henge monument at Forty Acre Plantation. All of the new sites lie to the north of the main chalk ridge watershed and within the catchment of the River Frome and its tributaries. The project has significantly increased the numbers of these important downland sites and further investigation of the new sites is an important future research aim.

The mapping confirms that Bronze Age funerary monuments extended right across the Ridgeway and on the higher ground to the north of the River Frome. Whilst the distribution of sites has not significantly changed as a result of the mapping project with large numbers of barrows previously recorded in the Dorset HBSMR, the numbers have increased with 325 new sites being identified - over half of which were only visible as cropmarks. Significant numbers of these new sites have been identified on the south side of the River Frome between Dorchester and Bradford Peverell as well as others to the north of Maiden Castle between Dorchester and Cowleaze. Whilst few settlement sites and field systems were interpreted as Bronze Age, a number of enclosures and round houses were mapped during the project which might be evidence of Bronze Age settlement or, at least, have Bronze Age antecedents.

The numbers of later prehistoric sites that have been recorded are extremely significant with 72% of sites assigned an Iron Age, prehistoric, Iron Age/Roman or Roman date being new to the record. Types of new sites attributed to these periods were wide ranging including enclosures, settlements and extensive field systems as well as two possible Roman camps. The site at Frampton Park has been excavated and a Roman date confirmed and the site at West Kingston would also benefit from further investigation.

The early medieval period is still poorly understood with no sites identified for this period. The later medieval period however is richly represented with 229 new sites

recorded. Whilst many of these were agricultural features such as field systems and lynchets the 11 new settlement sites are of great importance. Extensive areas of medieval strip fields, strip lynchets and ridge and furrow cultivation were plotted during the project. These, along with large numbers of field boundaries of historic and uncertain date which were also mapped will inform any future research into the development of the historic landscape and Historic Landscape Characterisation.

The greatest numbers of sites recorded during the project were dated to the post medieval period (see Table 1, page 28). This is a period that has traditionally been ignored by archaeological survey and field investigation. The current project is perhaps one of the first to systematically record post medieval sites, particularly the water meadow systems along the valley of the River Frome. A fuller picture of the location and extent of extractive features visible on the available photographs will hopefully assist our understanding of the importance and extent of the extractive industry, particularly at a small, local scale.

Given its position on the south coast with the important Naval installations at Weymouth and Portland harbour, this stretch of the Dorset coast was heavily protected from invasion during the Second World War and the remains of military installations can be found right along the coastline. As the majority of these sites were temporary installations and not designed for longevity many leave no trace on the ground. Those that do survive are threatened by modern destructive forces: urban expansion, ploughing and coastal erosion. The systematic recording of military sites, particularly using the RAF vertical photographs taken during and soon after the war, has proved highly informative with many significant sites (for example the heavy anti-aircraft battery at Blackhead, Osmington (Figure 83)) being recorded for the first time. Further research into the impact of the War on the Dorset Coast using the exhaustive documentary sources from the period may prove invaluable in providing more precise dating and interpretations for some the features plotted.

7.2 Recommendations

- **Continuing aerial reconnaissance.** Specialist aerial reconnaissance has been undertaken over the project area in recent decades and a significant number of important new sites identified during the project. In addition, a large number of remains were identified from vertical photographs taken by the OS and by the RAF in the 1940s. There consequently remains considerable potential for the discovery of archaeological sites through a continuing programme of aerial reconnaissance particularly during the summer months. The use of NMP mapping during future aerial reconnaissance will also allow much greater efficiency by facilitating better targeting in an area of very dense archaeological remains.

- **Further NMP projects.** The significant numbers of important new sites recorded during the project demonstrate the effectiveness of NMP mapping on the Ridgeway. This is despite it being an area of relatively good monument survival with many sites still visible in the landscape as extant earthworks. Further NMP projects within the county would be of great value, especially in those areas subject to continued ploughing.

- **Further investigation of sites recorded from aerial photographs.** Although a large number of sites have been recorded from aerial photographs, a relative lack of field work and excavation means that little is known about them. In particular the date and function of many features is unclear. A programme of ground based investigation of a representative sample of the sites recorded by NMP, involving field walking, geophysical

survey and limited excavation, would significantly enhance current knowledge of prehistoric, Roman and Saxon rural settlement.

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Project Archive

The HES project number is **2008086**

The project's documentary and drawn archive is housed at the offices of the Historic Environment Service, Cornwall Council, Percuil Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing the project design, project correspondence and administration.
2. This report held in digital form at: G:\Historic Environment (Documents)\NMP DATA\Dorset\Report
3. The AutoCAD drawings held in digital form at: R:\Historic Environment (CAD)\CAD Archive\NMP Archive\Dorset

Appendix 1 Methodology

Sources

Aerial photograph collections

All readily available aerial photographs were consulted during the project. These were primarily from the two national collections which kindly provided the project with photographic loans sent to the project teams' offices in Truro. Those from the Cambridge University Collection were only consulted for the first Mapping Block:

The National Monuments Record (NMR) in Swindon which holds large numbers of aerial photographs of the project area. These include vertical prints taken by the Royal Air Force (RAF) and Ordnance Survey (OS) ranging in date from the 1940s to 1999. The NMR also holds a large collection of oblique prints; including military obliques taken by the Ministry of Defence (MOD) between 1941 and 1950 and a collection of specialist oblique prints, slides and digital images which were taken for archaeological purposes and range in date from the 1960's to the present day. In addition a small number of very earlier oblique images taken in the 1920s and 30s by OGS Crawford are held in the NMR collection

Cambridge University Committee for Aerial Photography (CUCAP). The CUCAP collection contains a small number of vertical photographs taken for a range of non-archaeological purposes. The collection also contains specialist oblique photography resulting from archaeological reconnaissance.

In addition to these two national collections, the Dorset County Council (DCC) holds a collection of vertical photography with good potential to provide a significant amount of data. Images from five years of flying (1972, 1986, 1997, 2002 and 2005) are held in this collection.

In total 9046 aerial photographs were consulted during the project. These consist of 5075 vertical prints, 3477 specialist oblique photographs, and 498 military obliques.

The largest photographic collection was that of the NMRC. Available photographs consisted of 3535 verticals, 3281 specialist obliques and 498 military obliques. A loan arrangement was put in place enabling the consultation of these photographs at Cornwall Council's offices in Truro.

Relevant photographs contained in the collection held at CUCAP consisted of 529 verticals and 655 specialist obliques, 98 of which were replicated in the NMRC collection. Only prints from the first mapping block (Section 4) were available for loan to the project and 196 oblique prints and 135 vertical prints were consulted at the Cornwall Council's offices in Truro.

Photographs available to the project in the Dorset County collection amounted to 1405 digital vertical images taken in 1972, 1997 and 2002 which were all provided as digital files on CD.

Lidar

The Environment Agency has undertaken lidar surveys of the country as the technique results in the production of a cost-effective terrain map suitable for assessing flood risk, measuring land topography and assessing coastal erosion and geomorphology.

The Environment Agency has agreed to provide EH with their complete catalogue of lidar data. The data is supplied as static .jpeg images derived from the full data. This data has no height information incorporated within it; each pixel is graded purely

by colour. However these colour elements can be manipulated and enhanced in exactly the same way as conventional aerial photographs.

All readily available lidar tiles of the project area, held by EH during the lifetime of this mapping project were consulted.

Data sources

Data from the Dorset HBSMR

The project team had remote access to the full Dorset HBSMR database throughout the lifetime of the project although there was no access to the GIS data held within the HER.

Data from the National Monuments Record

Data from the National Monuments Record (NMR) Archives and Monuments in England (AMIE) database was provided to the project team for the study area. This data included details of all archaeological sites and was provided digitally in a series of PDF files and Arcview shapefiles.

Map Sources

In addition to the current OS MasterMap data which was used as the primary source of control for the rectification and mapping, the historic mapping from the 19 and 20th centuries (Epoch 1 and 2) was consulted to further understand the archaeology of the project area and to aid interpretation of specific sites

Archaeological scope of the project

All archaeological features were recorded, both plough-levelled and upstanding remains, dating from the Neolithic period to the twentieth century (pre-1945), including industrial and military features. Archaeological or historically significant sites appearing on the OS base map which have not been photographed, or which are completely obscured by vegetation, were not recorded. The project did not usually record structures still in use or fossilized in later structures that are still in use, e.g. buildings, field walls, canals, railways, leats and hedges, but if appropriate, some exceptions were made.

Plough-levelled features and earthworks

All cropmarks and soilmarks representing buried "negative" features (i.e. ditches and pits), earthworks or stonework of archaeological origin were recorded. All earthwork sites visible on aerial photographs were recorded, whether or not they had previously been surveyed (including those marked on the OS maps), and whether or not they are still extant on the most recent photography.

Ridge and furrow

All areas of medieval and post medieval ridge and furrow were mapped using a standard convention to indicate the extent and direction of the furrows. The project database included brief comment on preservation and visibility over the area mapped as well as any archaeological assessment.

Buildings and structures

The foundations of buildings and structures which appear as ruined stonework, earthworks, cropmarks, soilmarks or parchmarks were recorded. Standing roofed or unroofed buildings and structures were not recorded unless there was no other adequate map record. However, in specific archaeological contexts (e.g. industrial and military complexes and country houses), or when associated with other cropmark and earthwork features, and particularly when buildings have been demolished since

the photography (even if depicted by the Ordnance Survey), then it may have been appropriate to map them, in order to make an association explicit.

Industrial features and extraction

Areas of industrial archaeology were recorded using the appropriate conventions where they can be recognised as pre-dating 1945. Roofed or unroofed buildings, when associated with other mapped features within industrial complexes, may have been recorded as described above.

All extractive features believed to pre-date 1945 were mapped. These included large-scale features such as quarries, pits and mines, as well as small-scale extraction of resources for immediate local use (e.g. minor stone quarries and gravel extraction).

Twentieth century military features

Twentieth Century military features were recorded to an appropriate level of detail. The extent of larger military complexes such as airfields and camps was depicted using the 'extent of area' symbol. The major buildings and structures within military complexes as well as isolated military structures, e.g. pillboxes or buildings associated with searchlight batteries, were mapped and recorded.

Field boundaries and field systems

All removed field boundaries and field systems were plotted where they were considered to pre-date the OS 1st Edition map (c.1880) and are not already recorded on any other OS map. Where post medieval field boundaries mapped by the OS may be misinterpreted (e.g. within complex areas of archaeological features), these may have been plotted or mentioned in the text record.

Parkland, landscape parks, gardens and country houses

All park and garden landscape features (including deer parks) visible on aerial photographs but not previously recorded by the OS were be plotted. Similarly, the former existence of country houses either completely or partially demolished during the period of photography were mapped. If the house is depicted by the OS then it will not be mapped but will be mentioned in the text record. Normally the whole complex of house, garden and park was recorded using a single brief text record.

Transport features

Major transport features (i.e. disused canals and main railways) are included in the Ordnance Survey sphere of interest and subsequently appear on OS mapping; these were therefore not mapped. Smaller features which are outside the Ordnance Survey sphere of interest were mapped, as were trackways, pathways and roadways considered to be post-medieval or earlier in origin and not already recorded by the OS.

Natural features

Geological and geomorphological features visible on aerial photographs were not generally mapped. In exceptional circumstances however, they were plotted but only if their presence helped to define the limits of an archaeological site or if it was considered likely that an archaeological interpretation may have already been (or in future be) made in error, in which case the true origin of the features was discussed within the project database.

Transcription

The results of the mapping were produced entirely in digital format using AutoCAD.

Information was derived from the photographs available in the collections identified above.

1. Oblique and vertical photographs were scanned.
2. Digital transformations of the archaeological features visible on the photographs were produced using AERIAL (Version 5.29). Digital copies of current OS 1:2500 MasterMap were used for control information and as a base for mapping in AutoCAD (Version Map3D 2010). All digital transformations will therefore be within a level of accuracy within 5m to true ground position, but typically less than 2.5m to the base map. Where necessary digital terrain models (DTM) were used to aid more accurate rectification of the photographs.
3. The rectified images were imported into the relevant AutoCAD drawings.
4. Archaeological features were digitally transcribed in AutoCAD according to a nationally agreed layer structure and using agreed line and colour conventions as specified by Aerial Survey and Investigation (EH 2010).
5. Polygons were drawn around each separate monument to define its extent. Object data was attached to the monument polygons and archaeological features in AutoCAD in a table called RECORD. This recorded the Unique Identifier numbers (UID) for records within the NMR and Dorset HBSMR databases.
6. Map Note Sheets (MNS) were maintained for each OS quarter sheet within the survey area. MNS record the progress of each sheet and the sources used.
7. Quality assurance checks were carried out by each member of the project team on selected map sheets to ensure that all sheets were completed to NMP standards.

Data processing

Project database

During the project, the project team had access to the Dorset HBSMR via the internet and therefore project recording was undertaken directly in to the Dorset database. The database automatically generated unique Project UID numbers and contained fields enabling monument indexing to be carried out to NMR and ALGAO standards. Appropriate data was entered into this database for each archaeological feature mapped.

AutoCAD attached object data

Three object data tables were incorporated into each AutoCAD drawing to enable concordance with the Dorset GIS and to facilitate basic analysis of the drawings.

The Dorset HBSMR number of all sites and the AMIE Hob UID of each site (where it existed) was recorded in the first table.

The second table recorded basic interpretative information and contained four fields; period, type, form, and photo number as well as including a comment field.

The third table recorded the date, surveyor, scale of survey, and copyright information.

These tables were attached to all plotted features and the relevant polygon defining the monuments.

GIS shapefiles

Each AutoCAD drawing was exported as an ArcGIS shapefile to the project GIS. Each mapped site could then be linked to the project database through the attached Project ID number.

Selected fields in the project database were attached to the individual features within the shapefiles.

Data exchange

The mapped data was provided to Dorset County Council as a series of Mapinfo (.TAB and .DAT) files with the HBSMR numbers attached. As the data recording phase of the project was undertaken directly into the Dorset HBSMR via a remote link, there were no further issues with data exchange to Dorset.

Copies of the mapping were provided to the NMR in AutoCAD format suitable for incorporation in to the EH Corporate GIS.

All data supplied to the NMR and DCC was to NMP monument recording standards and in line with EH minimum standards for monument recording.

Copies of the Project Design, Final Report and all other relevant project documentation will be deposited at DCC and the NMR. The PDF version of the report will be deposited with Archaeology Data Service (ADS).

Project outcome

A series of AutoCAD drawings was produced showing all archaeological features visible on aerial photographs for each of the two mapping blocks.

The Dorset HBSMR held in Dorchester was updated with information and descriptions of all archaeological sites mapped during the project.

The AutoCAD drawings with Access data attached were exported as ArcGIS shapefiles and Mapinfo .tab and .dat files.

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