



Historic Farmsteads

Preliminary Character Statement: South East Region



ENGLISH HERITAGE



The Countryside Agency
**Landscape
Access
Recreation**

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This document is one of eight Preliminary Character Statements which provide information on the characteristics of traditional farm buildings in each Region. They can be viewed and downloaded at www.helm.org.uk/ruraldevelopment and at www.ahds.ac.uk.

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Summary: South East Region

I LANDSCAPE AND AGRICULTURAL CONTEXT

NATIONAL FRAMEWORK

Patterns of land use were very varied, reflecting cultural factors as well as climatic conditions and the physical structure of the landscape. The distribution of farmsteads, their dates of foundation and their relationship to the farming landscape are intimately linked to **historical patterns of fields** and **settlement** in the landscape. Areas of nucleated settlement, concentrated in a central band running from Northumberland into Somerset and Dorset, are associated with villages whose communally farmed townfields were subject – at varying rates – to amalgamation and enclosure by tenants and landlords from the 14th century. This process was often associated with the creation of new holdings and farmsteads within the new enclosures. Areas of dispersed settlement, where farmsteads are either isolated or grouped in hamlets and surrounded by originally smaller townfields and more ancient patterns of enclosure, are most strongly characteristic of western and parts of eastern and south-eastern England. Between the two extremes are areas that contain both nucleated and dispersed settlement to varying degrees.

Agricultural development in England can be divided into the following major periods:

- *Up to 1750* Economic boom in the 12th and 13th centuries, which included the development of large farms on monastic and secular estates, was followed by contraction of settlement and the leasing out of estates after the famines and plagues of the 14th century. The period from the 15th century was characterised by a general increase in agricultural incomes and productivity and the emergence – particularly from 1660 – of increasingly market-based and specialised regional economies. Substantially complete farm buildings of this period are rare, and provide the first evidence for the development and strengthening of regional traditions and building types. Many surviving farmsteads in upland areas, with farm buildings attached to their farmhouse, survive from the later 17th and 18th centuries. It is otherwise very rare for farmsteads to have more than a house and barn dating from this period.
- *1750 – 1880* This is the most important period of farm building development, the production of farmyard manure by cattle playing a major role in increasing agricultural productivity. The increased output of this period was encouraged by rising grain

prices and the demands of an increasingly urban population, and was enabled by the expansion of the cultivated area (especially from the 1790s to 1815), the continued reorganisation and enlargement of holdings and the final phase of the enclosure of open fields – concentrated in the Midland counties. Substantial improvements in animal husbandry were made with the development of improved breeds and a greater awareness of the importance of the need for housing, particularly for cattle, which hastened fattening and meant that manure could be collected and stored better. The high-input/high-output systems of the 'High Farming' years of the 1840s to 1870s were based on the availability of imported artificial fertilisers, manures and feeds.

- *1880 – 1940* There was little fresh investment due to the long farming depression in this period, notable exceptions being some estates and continuing developments in dairying areas. Hygiene regulations in the inter-war period resulted in intense forms of housing for pigs and poultry, and the replacement of earlier forms of housing for dairy cattle by new forms of cow house with concrete floors and stalls, and metal roofs and fittings.
- *1940 to present* The 1937 Agriculture Act anticipated the need to increase self-sufficiency, and the Second World War witnessed a 60% rise in productivity. This was the result of the growth in livestock numbers, increasing scientific and government control and guidance, more specialised systems of management and the conversion to arable of permanent pasture. The Agriculture Act of 1947 heralded the intensification and increased specialisation of farming in the post-war period, accompanied by the development of government and industry research and guidance. The Government provided grants to cover the capital cost of new building under the Farm Improvement Scheme (introduced 1957). The introduction of wide-span multi-purpose sheds in concrete, steel and asbestos met increasing requirements for machinery and for the environmental control of livestock and on-farm production, particularly of milk.

REGIONAL PATTERNS

The northern part of Buckinghamshire and most of Oxfordshire is characterised by nucleated villages with low levels of dispersed settlement. Settlement is also strongly concentrated in the valleys of the chalk areas of the Hampshire Downs, the South Downs and the North Downs. Settlement is otherwise generally dispersed with

a high number of hamlets and isolated farmsteads, many of medieval date or even earlier; on the clays and sandstones. In the area immediately west of London, along the plain of the River Thames, there are significant numbers of villages intermixed with scattered farms and hamlets.

Probably of greatest significance to the farming of the Region is its proximity to London, which provided a ready market for most goods, especially corn. Much of the Region was well-placed to meet this demand, due to the navigability of the Thames and some other rivers, and the use of coastal shipping. The growing demands of London meant that much of the Region continued to specialise in corn production, even in the 15th century and the period 1650 to 1780, in contrast to some other parts of the country where arable significantly contracted in favour of pastoral farming. Some areas of the Region that did not have access to water transport for arable produce or where corn was less profitable, such as the coastal marshes, began to specialise in stock that could be driven to market on the hoof, or in higher value goods that made land transport financially viable.

The demands of London also encouraged specialised production: Kent was already recognised for its fruit, vineyards and cider by the 13th century and by the 17th century fruit growing to supply the London market was increasing in importance. Hop growing developed from the later 16th century and spread into neighbouring counties.

A highly distinctive feature of the Region was the contrast between the large capital-intensive farms of arable landscapes and the smaller farms of wood-pasture landscapes, which supported a greater degree of diversity in agricultural practice, including woodland enterprises, fruit growing, dairying and fatstock. The arable areas were hard-hit by the depression from the late 1870s, there being a vast increase in dairying for example on the chalk of Berkshire.

2 BUILDING MATERIALS

NATIONAL FRAMEWORK

The use of locally available materials, combined with local vernacular traditions, makes a fundamental contribution to local and regional diversity.

Long-rooted traditions such as earth walling, thatch and timber frame, survived much longer on farm buildings than farmhouses. Buildings in stone and brick, roofed with tile or slate, increasingly replaced such buildings from the later 18th century.

Standardised forms of construction, including softwood roof trusses, developed across the country in the 19th

century, often reflecting the availability of materials such as Welsh slate transported along the canals and, later, the railways. Corrugated iron was used from the late 19th century as a cheap means of replacing or covering roofs (particularly thatch) in poor condition.

REGIONAL PATTERNS

In the northern part of the Region building stones of an excellent quality were widely available, in contrast to the southern parts of the Region – notable exceptions being Kentish ragstone and the carstone of Surrey and Sussex.

Earth construction is concentrated in the western and northern parts of the Region.

Timber framing was the dominant building technique across much of the Region until the early 17th century for housing and the early 19th century for farm buildings. For most timber-framed agricultural buildings weatherboarding was the typical wall covering, examples of which date from the medieval period.

By the 18th century brick was often being used in preference to timber framing in the clay areas of the Region. It was not until the end of the 18th and into the 19th century that brick, usually combined with flint, became common in the chalk areas. Usually brick and flint were banded horizontally but occasionally the brick was used to create square panels.

The predominance of arable across the majority of the Region meant that straw for thatching was widely available, and in the western half of the Region long straw thatch remains as a highly distinctive feature. Water reed was used in coastal areas, and a small number of solid thatch roofs also survive. Clay tiles were widely used in the Region, and stone slates were quarried from the limestones of Oxfordshire and the Wealden sandstone of Sussex (Horsham slate).

3 FARMSTEADS

NATIONAL FRAMEWORK – FARMSTEAD TYPES

The scale and form of farmstead plan types are subject to much variation and are closely related to farm size and status, terrain and land use. It was far more common for the houses on farms in northern and western England to be attached to the farm buildings. By contrast, even small farms in the South East and East Anglia were characterised by detached houses and separate buildings, often loosely arranged around the sides of a yard.

- *Linear plans*, where houses and farm buildings are attached, were ideally suited to small farms (usually stock rearing and dairying), especially in northern pastoral areas with little corn and longer winters

where there was an obvious advantage in having cattle and their fodder (primarily hay) in one enclosed building. They now display a wide range in scale, from large steadings of independent Pennine yeoman-farmers to the smallholdings of miner-farmers.

- *Dispersed plans*, comprising clusters and unplanned groupings of separate buildings, were more widespread. They now range from those of hamlets, where the buildings of different owners were often intermixed, to large-scale individual steadings, some of which were of high status.
- *Loose courtyard plans* became most strongly associated with large and/or arable farms. The buildings are built around a yard with or without scatters of other farm buildings close by.
- *Regular courtyard plans*, where the various functions were carefully placed in relation to one another in order to minimise the waste of labour, and where the manure could be conserved, were built – at first on large estates – from the later 18th century.

REGIONAL PATTERNS – FARMSTEAD TYPES

The longhouse is unknown in the South East Region and linear plans are uncommon except in the limestone uplands in the north west of the Region.

The loose courtyard plan, formed by a collection of detached structures arranged around a yard, usually with the farmhouse located on one side of the yard, is the predominant farmstead type in the Region. There are a number of 17th-century gentry farmsteads in Hampshire that have detached buildings to all four sides of the yard. They exhibit considerable differences in scale depending on farm size and farming region, particularly the contrasts between open arable and wood pasture landscapes.

A great variety of dispersed farmstead types are found in the Region, concentrated in areas of ancient enclosure (especially the Weald) and on the heathland fringes where small farms with few buildings were usual.

Although estates were active in many parts of the Region the South East does not contain high numbers of model farms: the activities of estates are to be seen less in new integrated plans than in individual examples of barns, granaries and cattle housing.

NATIONAL FRAMEWORK – BUILDING TYPES

The functions of crop processing and storage and the accommodation of animals and birds determine the variety of building types, which could house one or a combination of functions. The principal types are listed below.

Barns are generally the largest farm buildings to be found on farms. They were either designed solely for

storing and processing the corn crop, these being most common in areas of arable production, or as combination barns to incorporate many functions. Threshing machines, usually powered by horses accommodated in a projecting wheel house, were introduced from the later 18th century. Split-level mixing barns developed in many regions from the later 18th century as a result of the widespread introduction of machinery for processing corn and fodder. The introduction of the portable steam engine and threshing machine in the 1850s heralded the end of the traditional barn as a building for storage and processing.

Field barns were built in areas where farmsteads and fields were sited at a long distance from each other, and where holdings were intermixed. **Granaries** were either detached or built over stables and cart sheds. **Cart sheds** often faced away from the farmyard and were typically close to the stables and roadways, giving direct access to the fields. **Stables** were normally two-storey well-lit buildings with a hayloft above. **Cow houses** were typically built for dairy cattle. The folding of stock in strawed-down yards and feeding them with root crops became more general from the later 18th century, together with the subdivision of yards into smaller areas and the construction of **shelter sheds** and **looseboxes**. **Pigs** were undoubtedly kept on most farms and particularly on dairying establishments, where there was a ready supply of whey on which to feed them. **Dovecotes** were built to house pigeons, which provided variety to the diets of high-status households and a rich source of manure.

REGIONAL PATTERNS – BUILDING TYPES

As also found in the East of England region, this Region has high densities of pre-1750 barns. Some, particularly in wood-pasture areas, were combination buildings, housing both the crop and stock with one or two bays divided off and often lofted. A highly distinctive characteristic of the Region, also shared with the East of England, is the concentration of aisled barns dating from between the 12th century and the 19th century. They are particularly concentrated in northern Hampshire, Berkshire and Kent.

An unusual type of barn that appears to have developed in the chalk downland areas of Hampshire, Berkshire and Wiltshire (in the South West Region) is the staddle barn, which has an unaisled timber frame raised on staddles as for a granary. Most appear to date from the mid- to late 18th century.

The free-standing timber-framed granary set on staddle stones (or cast-iron staddles in some later 19th-century examples) is more commonly encountered in the South East Region than in any other part of the country. Most date from the 18th and early 19th centuries although

there are some 17th-century examples. Brick-built granaries supported on arches are occasionally found in the South East although they are more commonly encountered in the South West Region.

The Region also has some very early examples (17th century and earlier) of stables and cart sheds and probably contains the greatest number of early cart sheds in the country. These buildings are usually free-standing and timber-framed. Brick was commonly employed for stables earlier than for other farm buildings.

The Weald contains some of the earliest evidence for cattle housing in the Region, where multi-functional barns or outshots to barns were used. Only rarely were

individual structures provided. From the later 18th to the mid-19th century there was an increase in the provision of open-fronted single-storey cattle sheds on many farms, where they were usually ranged along one or more sides of the yard, often attached at one end to an earlier barn.

Cattle increased in importance on many chalkland farms in the later 19th century, either as a move to dairying during times of falling wheat prices or to produce manure to maintain soil fertility for cereal production. New, cheaper, technologies such as mass concrete were used for many dairy buildings and new shelter sheds were added to many farmsteads. In East Hampshire, L-plan yards, often replacing earlier buildings, provided enclosed cow houses and fodder storage.

1.0 Introduction

If the land is best suited for tillage, then the outhouses must be adapted to the purposes of keeping cattle for plowing; of holding and thrashing corn; and of preserving straw, &c. for winter food. In the counties where oxen plow, ox-houses must exceed the quantity of stabling: if where horses only are used, stables alone will be sufficient. If the land seems to promise fairest for pasturage, then cow houses, suckling-houses, sheepcots, dairies, and fattening houses must predominate; and if for grass, much barn-room seems unnecessary.

The Complete English Farmer, 1771, quoted in Wiliam 1986, p.67

Farm buildings are the leitmotif of the countryside. It seems appropriate to describe them with a musical term for they are thematic, and the resonance of their forms, colours and textures within the scenery is that of sound, overall and orchestrated. Here and there is the solo instrument, spectacular in its own right, but much more important is the orchestral effect.

Darley, Gillian (1981) *The National Trust Book of the Farm*, The National Trust, London, p.7

Historic farmsteads and their buildings make a fundamental contribution to the richly varied character of our countryside, and illustrate the long history of farming and settlement in the English landscape. England displays a huge diversity in geology, with a greater variety in small areas than anywhere else in Europe, which combined with varied farming practices has resulted in a great diversity of materials and types of farmstead.

It is clear, however, that we know far more about the nature and processes of change affecting land cover and field pattern than we do about agriculture's built environment and its contribution to countryside character and local distinctiveness. Furthermore, we know far less about the working than the domestic buildings of the farmstead. Recent research has made initial efforts to address this issue, and has made it clear how the domestic and working buildings of the farmstead are subject to very different processes of change (Gaskell & Owen, 2005).

English Heritage is now undertaking to develop this knowledge base in order to inform diverse future outcomes, such as the targeting of grant aid and the development of character-based policies for the sustainable reuse of farm buildings. This document is one of eight regional *preliminary character statements* that aim to promote better and more accessible understanding of the character of farm buildings. It is important, as a first step in this process, to present an information base for a broad diversity of users with an interest in researching,

understanding and managing historic farmsteads. It has therefore been written as a sourced synthesis of information, drawing together information that will enable the farmsteads of each Region to be better understood within the national context of farmstead and agricultural development, and their surrounding fields and settlements. As this is a preliminary statement, it and future work will benefit greatly from information and comments. These will be gratefully received at the following e-mail address:

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The objectives of this document are:

- To provide an information base and introduction to the subject.
- To place the development of the farmsteads and farm buildings of the South East Region within their national context.
- To demonstrate, with examples, how the *present* stock of farmsteads and their buildings reflects the diversity of farming, settlement and landscape character in the South East Region.
- To provide broad guidance on the value and survival by period and functional type.

An accompanying policy booklet has also been prepared, which makes the case for urgent action and considers

the importance of historic farm buildings, their value and their future. See *Living buildings in a living landscape: finding a future for traditional farm buildings*, at www.helm.org.uk/ruraldevelopment.

In each of the following sections, the national overview is presented immediately before the regional statement. For example, on the topic of barns, the national overview describes the development, variety and uses of barns nationally while the regional statement describes the variety that can be seen in the barns of the Region.

Section 2 provides an introduction to characterisation and briefly describes the landscape character of the Region, examining the pattern of rural settlement across the Region.

Section 3 describes the predominant building materials used for farm buildings nationally and in the Region.

Section 4 provides a brief introduction to the agricultural history of England with particular reference to the development of farmsteads and farm buildings divided into the major periods, supported by statements relating to the survival and significance of farm buildings from each period. This is followed by a summary of the

agricultural history of the Region.

Section 5 provides a national and regional background of types of farmsteads and farm buildings.

Sections 6, 7 and 8 provide a national and regional overview of key building types.

Section 9 provides a Glossary of terms both familiar and unfamiliar to the reader (e.g. dairy, linhay, enclosure).

Section 10 provides a list of national and regional sources for further reference.

It is also important at this stage to outline a distinction in terminology. 'Traditional' is a term often used to describe farm buildings pre-dating 1940, after which modern building materials (concrete, steel, asbestos sheet) and revolutions in farming technology and farmstead planning marked a sharp divide with previous practice. 'Historic' is more encompassing, as it includes farmsteads of all dates, irrespective of changes in form and material; it has been used in this document in order that the reader can view the history of farm buildings, and their change and adaptation over the centuries, within their broad historical context.

2.0 Understanding Context and Character

2.1 LANDSCAPE CHARACTER AND CHARACTERISATION

Landscape character is defined as a distinct and recognisable pattern of elements that occur consistently in a particular type of landscape. Particular combinations of geology (Figure 1A), landform, soils, vegetation, land use, field patterns and human settlement create character. Character makes each part of the landscape distinct, and gives each its particular sense of place. Landscape-scale techniques for understanding and guiding future change, now brigaded under the heading of characterisation, have developed since the 1990s. These have developed as multi-disciplinary and holistic tools for understanding the whole rural environment, its capacity to absorb change and its links to community values and needs.

During the 1990s the Countryside Commission worked with English Nature and English Heritage to identify Joint Character Areas (159 in total) for the whole of England, each of these resulting from a combination of factors such as land cover, geology, soils, topography, and settlement and enclosure patterns. These are now being used as the framework for the delivery of advice and the targeting of resources for many aspects of the rural environment, most recently to farmers under the Higher Level Stewardship Agri-Environment schemes, and local authorities have taken forward this methodology for Landscape Character Assessments on a finer scale. These are also being used as the spatial framework for reporting change in the countryside, in the Countryside Quality Counts project (see www.cqc.org.uk).

The South East region extends over the Joint Character Areas listed in Figure 1B. Whenever the text cross-refers to the Joint Character Areas, they will be listed by their number (i.e. JCA 152). The key characteristics and a detailed description and map for each Character Area are available from the Countryside Agency's website (www.countryside.gov.uk/lar/landscape). The web addresses for each JCA are detailed in Section 11.

Human impact has been central to the development and present character of landscape. Historic Landscape Characterisation (HLC), which is being developed by English Heritage with its county and local partners, is using GIS mapping techniques to deepen our understanding and perception of the long historical development of our landscapes. The practical applications of HLC now include development plans, a broad range of conservation and enhancement strategies, strategic land-use planning and similar initiatives, and research and academic implications (Clark, Darlington & Fairclough, 2004; Rippon, 2005, 100–142).

Pilot work is now indicating that the density and time-depth of farmsteads, and the rates of survival of different types of steading and building, are closely related to patterns of historically conditioned landscape character and type (Lake & Edwards 2006). This work represents a shift in focus away from individual buildings to a more question-based and holistic approach, one that uses landscape to both reflect and inform the patterning of the built environment. Recording and understanding at a local scale can both test and refine these broad-based, contextualised statements and contribute towards a more integrated understanding of both buildings and landscapes.

For characterisation see: www.english-heritage.org.uk/characterisation

2.3 THE CHARACTER OF THE SOUTH EAST REGION: AN INTRODUCTION

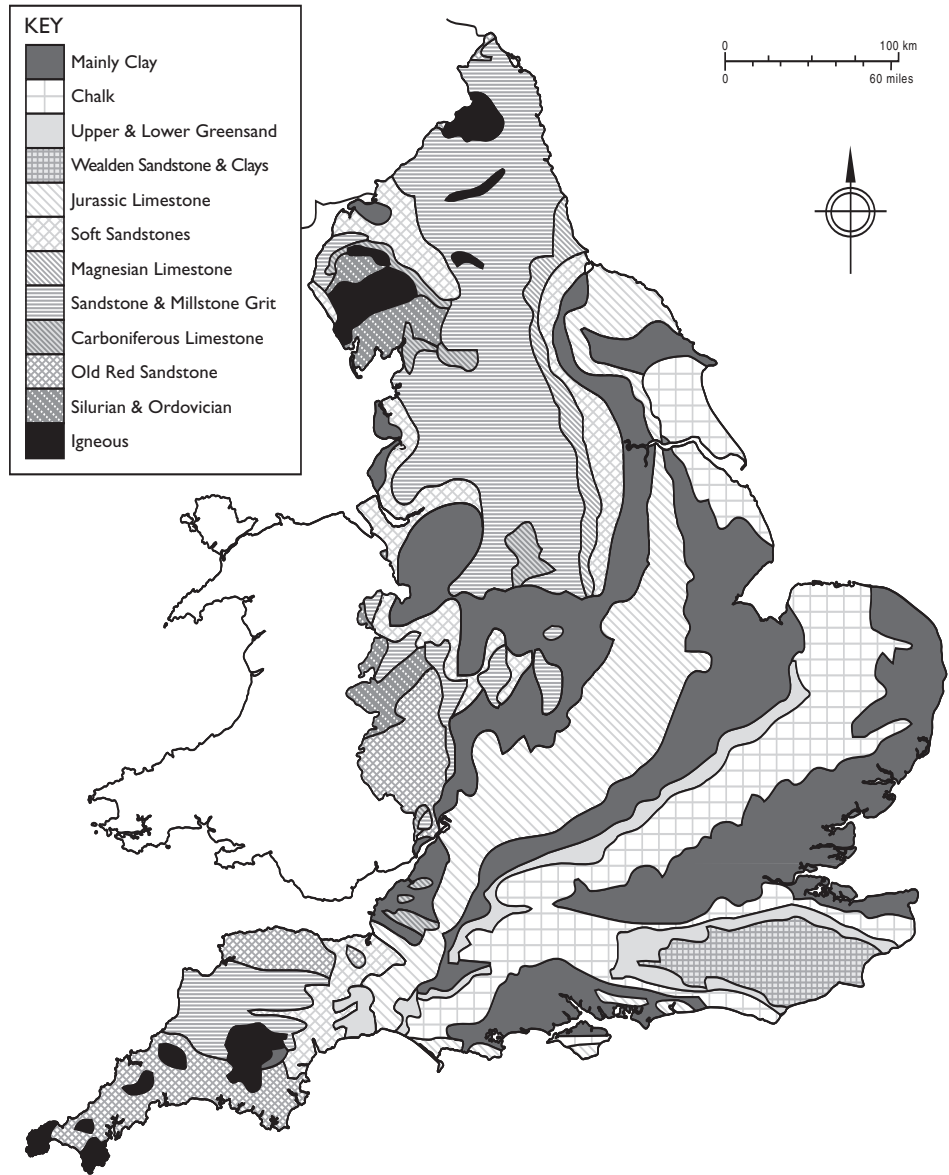
The Government Region of the South East comprises the counties of Buckinghamshire, East Sussex, Hampshire, Kent, Oxfordshire, Surrey and West Sussex and includes the Unitary Authority areas of the Isle of Wight, Milton Keynes, Portsmouth and Southampton, Medway Towns, Brighton and Hove, West Berkshire, Reading, Slough, Windsor and Maidenhead, Bracknell and Wokingham.

Geologically, the Region predominantly consists of young rocks such as chalk, tertiary clays and gravels overlying sandstones (Figure 1A). Chalk is the dominant geological feature of the Region, with two belts of chalk crossing the area from the western edge. To the south the chalk forms a wide band across Hampshire before dividing into two narrow bands, one extending south-east to the coast in East Sussex, the other, after a short break, continuing eastwards through Surrey and across North Kent. The second main belt of chalk runs north-eastwards across south Berkshire and into Buckinghamshire, cut through by the River Thames to the north of Reading.

In Kent and Sussex, lying between the two chalk ridges, is the sandstone upland of the Weald and the bordering clay vales. On the fringes of the Weald lower greensand is also exposed. South of the South Downs is the Hampshire Basin, which runs across the coastal fringe of Hampshire and part of West Sussex. Along the Thames Basin north of the chalk of Hampshire and the North Downs are clays, sands and gravels. Clay is also found along the Oxford Clay Vale, which extends across Buckinghamshire as the Bedford Lowlands. A line of small hills of Corallian Limestone breaks up the southern part

IA Geology Map of England

England displays a huge diversity in geology, with a greater variety in small areas than anywhere else in Europe. The varied geology in the South East Region offers a wide range of building materials for walling and roofing, making a major contribution to local distinctiveness in parts of the Region. Over much of the chalk and clay areas timber framing and brick are characteristic. Based upon 'Solid Geology' Source Defra/BGS, NERC: by permission of the British Geological Survey IPR/52-65C. ©NERC/Crown copyright. OS Licence no. 100042054



of this broad, flat vale. To the north of the Oxford Clay Vale is the Jurassic Limestone of the Cotswolds, the oldest rocks found in the Region.

The Region, like the East of England, does not display the strong contrasts between upland and lowland that can be seen in most of the other English Regions, but there are marked contrasts in the character of the landscapes (Figure 1B). In the south west is the New Forest with its large, open areas of barren lowland heath and woodland with little settlement; fringing the heaths are the fertile areas of the River Avon and the coastal fringe. Heathland is also a major element in the character of the Thames Basin Heaths of north Hampshire, south Berkshire and north Surrey, although the heathland is now far more fragmented and degraded than the heathland of the New Forest. Remnants of heath also survive on the sandstones of the Weald.

The chalk landscapes of the Berkshire and Marlborough Downs, the Chilterns, the Hampshire Downs, the South Downs and the North Downs dominate much of the

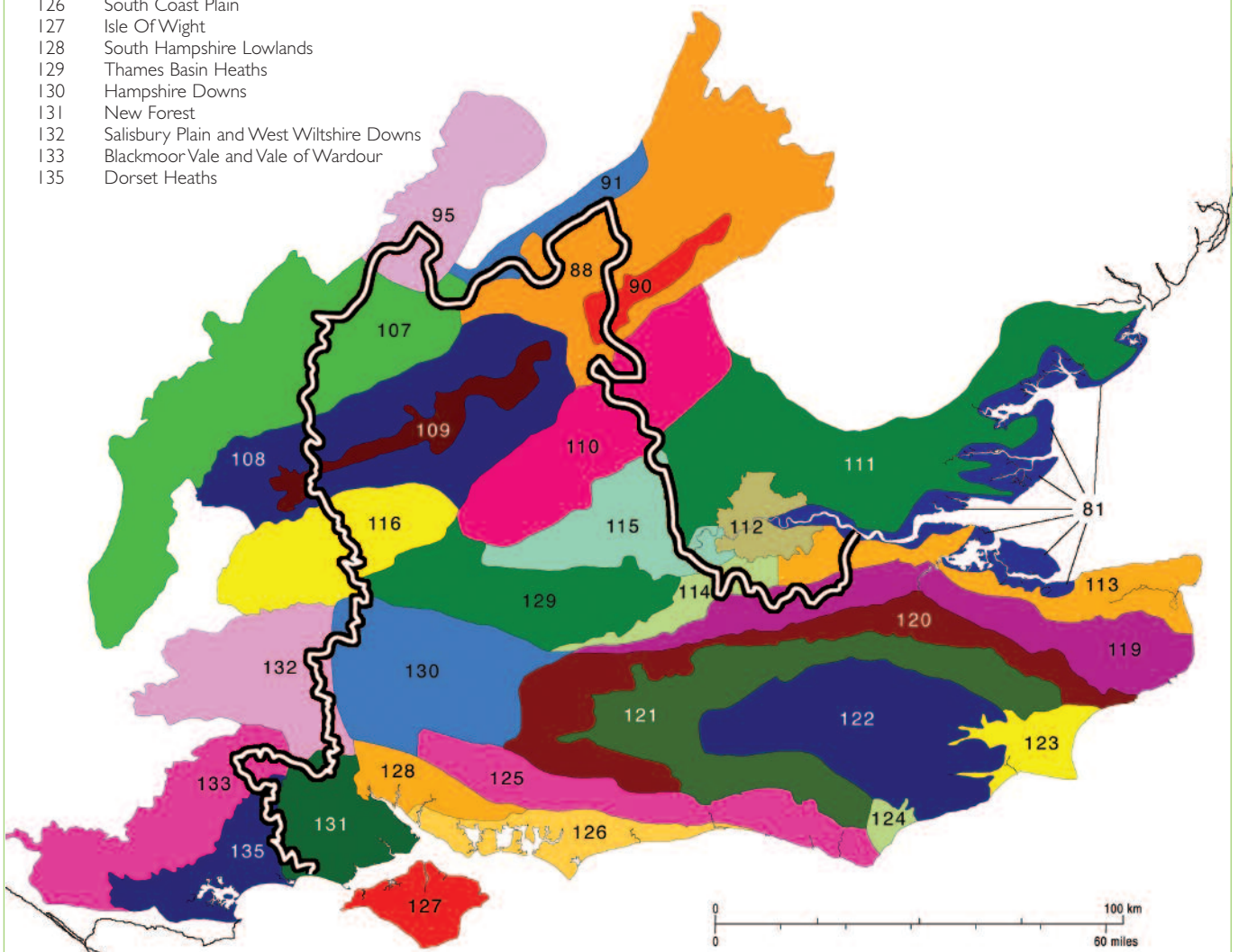
character of the landscape of the Region. Broadly, these areas have similar characteristics in that they form high, largely open, rolling landscapes, often with a scarp slope to the north, and are cut by dry valleys and chalk stream valleys where settlements are concentrated. Areas of clay with flints overlying the chalk often support woodland. The greater coverage of clay with flints on the North Downs and the Chilterns in comparison with the other chalkland areas has resulted in a greater level of woodland cover, making the Chilterns one of the most wooded lowland landscapes in the country. The higher levels of woodland in the Chilterns resulted in a different system of agriculture and enclosure to the other chalk areas, with smaller, ancient enclosures being typical as opposed to the relatively late enclosure of other downland areas that created large arable fields.

In the south-eastern corner of the Region is the Weald with the High Weald, a well-wooded landscape with areas of heath and sandstone ridges, bordered to the north, west and south by the gently undulating clay vales of the Low Weald. Where the Low Weald approaches

JCA JCA name
number

- 81 Greater Thames Estuary
- 86 South Suffolk and North Essex Clayland
- 88 Bedfordshire and Cambridgeshire Claylands
- 90 Bedfordshire Greensand Ridge
- 91 Yardley-Whittlewood Ridge
- 95 Northamptonshire Uplands
- 107 Cotswolds
- 108 Upper Thames Clay Vales
- 109 Midvale Ridge
- 110 Chilterns
- 112 Inner London
- 113 North Kent Plain
- 114 Thames Basin Lowlands
- 115 Thames Valley
- 116 Berkshire and Marlborough Downs
- 119 North Downs
- 120 Wealden Greensand
- 121 Low Weald
- 122 High Weald
- 123 Romney Marshes
- 124 Pevensey Levels
- 125 South Downs
- 126 South Coast Plain
- 127 Isle Of Wight
- 128 South Hampshire Lowlands
- 129 Thames Basin Heaths
- 130 Hampshire Downs
- 131 New Forest
- 132 Salisbury Plain and West Wiltshire Downs
- 133 Blackmoor Vale and Vale of Wardour
- 135 Dorset Heaths

IB This map shows the Character Areas relating to this Region. These are known as Countryside Character Areas or most commonly now as Joint Character Areas, this reflecting their development as multi-disciplinary means of mapping, defining and describing the character of distinct areas. The boundary is drawn around the Greater London area. Based upon Joint Character Areas. Source: Defra/English Nature/Countryside Agency. ©/Crown copyright OS Licence no. 100042054



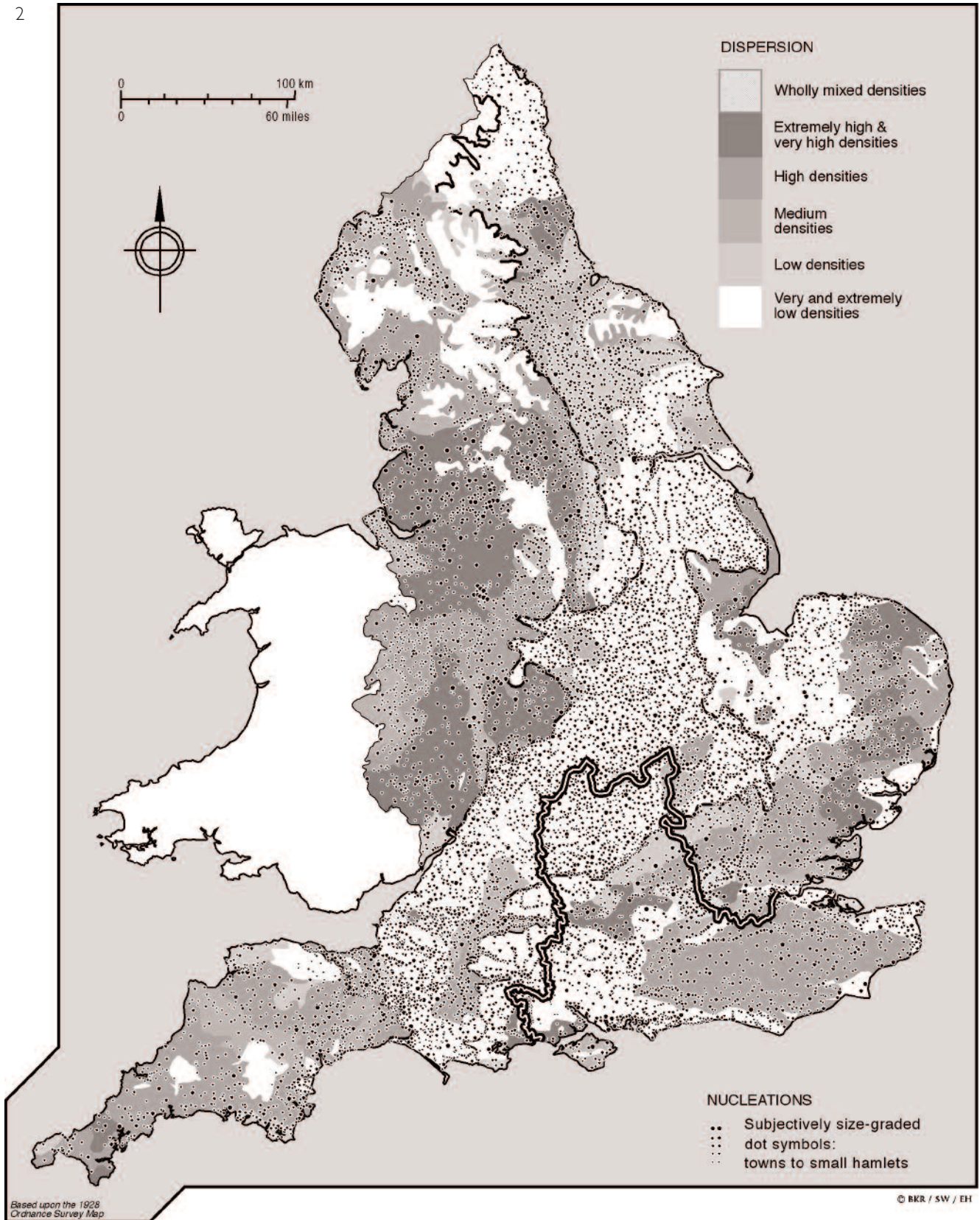
the coast it opens out into the flat, low-lying marsh areas of the Pevensey Levels and Romney Marshes. These areas are largely reclaimed wetland, maintained by drainage ditches to provide rich grazing land. The few settlements and farmsteads found in these areas are usually located on slightly higher areas of ground. Lying between the Low Weald and the North Downs is the Wealden Greensand, a greensand escarpment that carries extensive belts of ancient mixed woodland,

often on steep hangars, and areas of heathland and former heathland.

North of the North Downs chalk is the North Kent Plain, a low, gently undulating landscape that has long provided fertile arable and horticultural land with extensive areas of grazing marsh and reed beds along the coast. This area has experienced significant urbanisation focused on the main road between London

2 Rural settlement in England. Rural settlement can broadly be divided into two types: nucleated villages and dispersed farmsteads and hamlets. Figure 2 presents an analysis of the settlement pattern of England in the mid-19th century which identifies three 'provinces'. The Central Province, mostly characterised by nucleated settlement and once dominated by communal fields, stretches from Dorset, through Gloucestershire, the East Midlands, Yorkshire and along the north-east coast. This area is flanked by a South-Eastern Province covering the area from Dorset and Wiltshire to East Anglia, and a Northern & Western Province. In these Provinces settlement is mostly dispersed. Most of the South East Region lies in the South Eastern Province but even within this area of largely dispersed settlement there are areas of nucleated villages – particularly on the western chalk of Hampshire and Berkshire where villages lie in the chalk valleys. Only the north-western part of the Region extends into the Central Province. Based upon 'England: Rural Settlement in the mid-19th century'. Source: *An Atlas of Rural Settlement in England (2000)*
 © English Heritage / Roberts, B.K. and Wrathmell, S.

2



and Canterbury. The open and largely treeless character of the area means that this urbanisation can be visually dominant in the landscape.

There are considerable areas of high-quality land in the Region, although only about 12% is classified by the Ministry of Agriculture, Fisheries and Food (MAFF) as Grade 1 and 2, i.e. excellent and very good-quality land, compared to over 16% for England as a whole. Conversely, the area of Grade 4 and 5, i.e. poor and very poor land, is also about 12%, compared to the 21% average for England as a whole. Approximately 60% of the land area is used for agricultural production, lower than the national average of about 81% due to the extent of woodland (around 15%) and developed land (23% of the area, making the South East the most developed region of the UK outside London). There is no Less Favoured Area in the Region, although limited areas in, for example, the Chilterns and South Downs, are sufficiently restricted by altitude, soils and slope to fall within the criteria used to designate larger areas elsewhere in the country (ERDP 2000).

The climate is favourable for a wide range of crops, with a relatively long growing season and frost-free period in the coastal areas, although inland areas can suffer from late spring frosts. High light levels are a feature of the south coast of the Region, enabling farmers to grow a wider range of crops than other regions of England. Average rainfall is 758mm, 78mm less than for England as a whole, whilst monthly rainfall is fairly constant, providing good growing conditions for crops on medium and heavier bodied soils. In general terms rainfall is progressively less from west to east and south to north, due to the predominant south-westerly winds bringing weather fronts from the Atlantic. However, the topography has a major influence on rainfall: higher areas such as the Chilterns and South Downs cause precipitation and shelter adjacent low-lying areas (ERDP 2000).

2.3 THE CHARACTER OF RURAL SETTLEMENT

2.3.1 NATIONAL FRAMEWORK

Farmland has historically been divided into arable for growing corn and other crops, and meadow for hay and grass. In the past, farmers also had access to fallow land, land laid open after the harvest and areas of rougher common ground for grazing livestock. Patterns of settlement in the countryside varied from large, nucleated villages to dispersed settlement areas with scattered, isolated hamlets and farmsteads, both being closely related to the patterns of fields and their associated boundaries in the surrounding landscape. There were many variations between the two extremes of communal open fields with their scattered holdings,

which typically developed around larger nucleated settlements, and the anciently enclosed fields of isolated farmsteads and hamlets.

Re-arranging previously communal fields or common pasture land into self-contained private land units enabled the rationalisation of formerly scattered holdings, allowing better management of livestock and rotation of crops. This process of enclosure – evident from the 14th century and even earlier – resulted in the immediate or gradual establishment of new isolated farmsteads out in the fields. It could be undertaken on a piecemeal basis, or in one single phase, the latter form of enclosure being typically more regular in its appearance. Enclosure by parliamentary act, some of which formalised earlier agreements, often resulted in new designed landscapes. Parliamentary enclosure was concentrated in the period 1750 to 1880.

English Heritage has commissioned work on mapping these patterns of settlement in the English countryside, now published as *An Atlas of Rural Settlement in England* (Roberts & Wrathmell 2000) and *Region and Place, A Study of English Rural Settlement* (Roberts & Wrathmell 2002). In summary, it has been demonstrated that a Central Province mostly characterised by nucleated settlement and, by the 14th century, communal fields which occupied the great majority of the land area, is flanked by a South-Eastern Province and both a Northern and Western Province where settlement is mostly dispersed (Figure 2).

In areas of *nucleated settlement* in the medieval period and later, the majority of farmsteads were sited in villages and the surrounding land dominated by communally managed open fields, where the holdings of individual farmers were inter-mixed and farmed in rotation as meadow or arable land. Many open field systems were created during the period from the 9th to the 12th centuries, replacing earlier dispersed patterns of settlement with nucleated villages with communally managed fields, many of which were clearly planned by estates.

Farmsteads in areas of *dispersed settlement* are commonly isolated or clustered in hamlets. They are commonly medieval in origin (pre-14th century generally) and often surrounded by ancient and irregular patterns of field boundaries, including the reclamation of woodland or waste. Typically smaller and more numerous than the open fields of Midlands villages, these fields were either farmed from the outset as compact farming units or contained the scattered holdings or strips of individual farmers that were farmed on a communal basis. Areas of pasture and rough grazing were typically far greater in extent than in areas of nucleated

settlement, and have again been subject to varying rates of enclosure from the 14th century.

Between the extremes of nucleation and dispersion are the areas that to some degree included both villages and scattered farmsteads and hamlets. In these areas, nucleated villages again originated from developments between the 9th and 12th centuries, but were often intermixed with isolated farmsteads that date from both the medieval period or earlier and from the later enclosure of open fields and common meadow and pasture.

In some areas, the remains of earlier, including pre-Roman, farmsteads are visible as crop-marks or earthworks close to existing farmsteads or villages (see Roberts 1976 and Taylor 1983 for a useful introduction). While research is demonstrating that existing parish and field boundaries possibly originate from very early, even pre-Roman, field and estate boundaries, it is exceptionally rare for present farmstead sites – as in Cornwall's West Penwith – to display such continuity.

2.3.2 RURAL SETTLEMENT IN THE SOUTH EAST REGION

The greater part of the South East Region lies within Roberts and Wrathmell's South-Eastern Province, where settlement tends to be more dispersed with a higher number of hamlets and isolated farmsteads. Only the northern part of Buckinghamshire and most of Oxfordshire lie within the Central Province, which is characterised by nucleated villages with low levels of dispersed settlement (Figure 2).

Within these broad generalisations there are some significant differences in settlement patterns across the Region. Although across the majority of the Region dispersed settlement is considered to be typical, across the chalk areas of the Hampshire Downs, the South Downs and the North Downs the levels of dispersed settlement are extremely low; in fact they are lower than

any other area of lowland England. Across the western parts of the Hampshire Downs, for example, settlement is closely related to the river valleys, where linear settlements lie alongside the chalk streams with characteristic long, narrow land units stretching from the river to the downland giving each community a full range of the various landscape resources (Hare 1994, p.159). It is acknowledged that this area could have been included in the Central Province (Roberts & Wrathmell 2000, p.44).

In the area immediately west of London, along the plain of the River Thames, there are significant numbers of villages intermixed with scattered farms and hamlets (Roberts & Wrathmell 2000, pp.42–3). (The settlement pattern of this area stands in contrast to the rest of the Region.)

Away from the chalk areas, on the clays and sandstones, settlement typically comprises high numbers of small hamlets and scattered farmsteads. In the Weald the colonisation of the woodland, converting the summer lodgings of distant communities to permanent occupation, probably began in the 10th century but was not complete until the late 15th or 16th centuries when there was a substantial growth in population (Everitt 1986, p.54). Charter evidence suggests that some of the other wooded clay areas such as north Hampshire were being assarted by the 10th century, resulting in a similar pattern of isolated farmsteads, hamlets and small irregular fields. Where heathland dominated, settlement tended to congregate on the fringes of the heath and to encroach upon the open common, often creating distinctive 'islands' of small closes and building plots.

In the northern part of the Region, falling in the Central Province, settlement generally consists of nucleated villages. Where there are isolated farms they are typically moated sites in the clay vales of Oxfordshire and Bedfordshire or represent movement out of villages at the time of enclosure (Roberts & Wrathmell 2000, p.49).

3.0 Building Materials

3.1 NATIONAL OVERVIEW

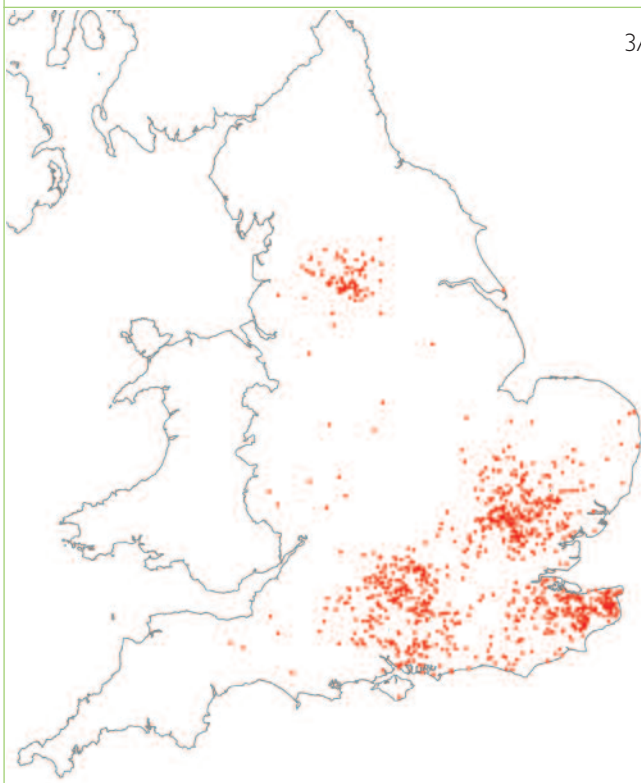
Farm buildings were frequently altered and re-roofed, and survivals can display evidence for successive phases of rebuilding, marked by straight joints in masonry or indications of mortise holes and joints in timberwork.

The present stock of farm buildings displays strong local and regional variation. This is the result of a range of factors, particularly England's huge diversity in geology, the status of the owner, availability of resources managed in the local landscape and the cost of manufactured materials (Rackham 1972; Moir 1997). Long-rooted traditions such as earth walling and thatch in Cornwall and timber frame in Norfolk, survived much longer on farm buildings than farmhouses, and were not overtaken by increasingly fashionable and robust forms of construction (such as stone in parts of Cornwall, brick in Norfolk) until the early to mid-19th century (Potts 1974; Lucas 1997). The coastal shipping trade had for many centuries allowed the transport of building materials, but the arrival firstly of canals and then railways allowed the easier transportation of building materials into inland

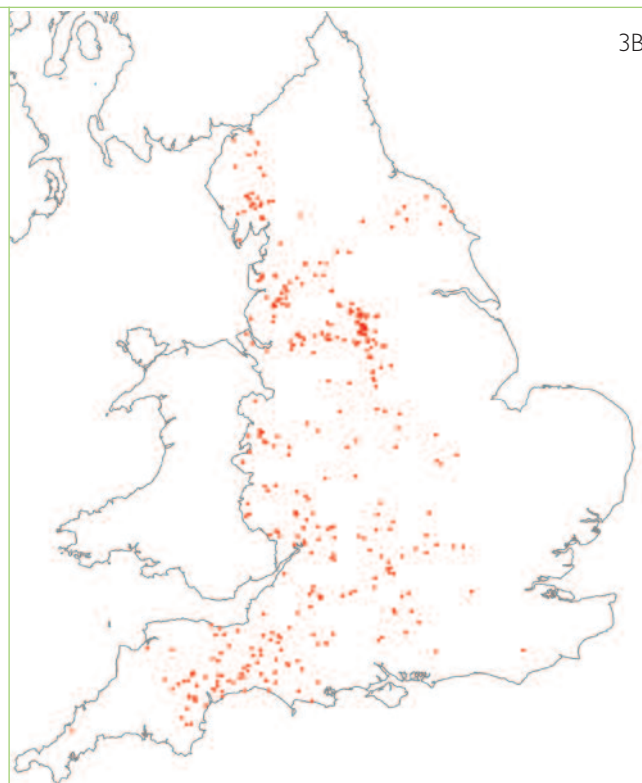
areas. Buildings in stone and brick, and roofed with tile or slate, increasingly replaced buildings in clay, timber and thatch from the later 18th century. Mass-walled buildings comprise the majority of listed agricultural buildings (67%), with timber framing accounting for just over one quarter of entries.

There are strong regional and local differences in roof construction and carpentry, as is still demonstrated by the distribution of aisled and cruck buildings (Figures 3 and 4). From the medieval period, the unit of reference in timber-framed and mass-walled buildings became the bay, the distance between principal roof trusses. These bays could also mark out different areas of storage within barns and other buildings (see 3.1.1.3). Iron bolts, straps and tension bars became increasingly common, often in combination with imported softwood, in the 19th century. Textbooks such as Waistell's *Designs for Agricultural Buildings* (1827) and Stephens's *Book of the Farm* (1844) helped to promote more standardised forms of construction. Metal roofs were used from the 1850s for covered yards and other buildings on expensive planned

3 The distribution of listed aisled (left) and cruck (right) barns in England
Aisled construction, used for domestic buildings from the 12th century at the highest level in society, was suited to the storage and constructional requirements of large barns. The weighting of the distribution is southern English, outliers being generally of a high status and dating from before 1550; a notable concentration in northern England is in the Halifax–Huddersfield area, where the wealth derived from a combination of farming and the cloth industry in the 15th and 16th centuries led to the construction of a notable group of aisled houses and barns. Aisled construction continued to be employed in southern England into the 19th century.
Crucks in domestic buildings have a date range from the mid-13th to the mid-17th centuries, examples in the north of England being generally later in date, whereas in agricultural buildings the earliest survivals are 15th century and the latest (in the southern Pennines) early 18th century. There is a wide variety of forms in cruck construction. © Crown copyright. All rights reserved. English Heritage 100019088. 2005



3A



3B

4 A Aisled barn, Cressing Temple, Essex. One of the earliest barns in England, one of two surviving from an estate of the Knights Hospitaller and erected with timber felled between 1259 and 1280. (South Suffolk and North Essex Claylands)

B Barn at Cross Farm, Burgh-by-Sands, Cumbria, showing the full crucks to the interior of a late 17th-century clay-walled barn. This is one of a group of such barns on the Solway Plain, dating from between the 14th and 17th centuries. (Solway Basin)

A © English Heritage / Michael Williams;
B © Jen Deadman

5 Listed earth-walled agricultural buildings in England. Survival is much more extensive than this map indicates. The concentration of cob in the South West Region, particularly in Cornwall and Devon, is highly characteristic. The use of cob also extended across the Dorset, Wiltshire and Hampshire, Berkshire, Oxfordshire and Buckinghamshire (South East Region). In the latter county the use of chalk earth is called witchert, and is similar to chalk cob. Cob buildings usually had thatch roofs.

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farmsteads, but did not come into general use – mainly for covered yards – until the end of the 19th century. Pre-fabricated buildings in iron were manufactured and exported from the 1840s, the most well known on the farmstead being the Dutch barn (see 6.4.1), popular from the 1880s. Factory-made prefabricated buildings, built to standard widths applicable to a wide variety of uses, have since the 1950s been the standard building type used on farms. The principal materials are summarised below.

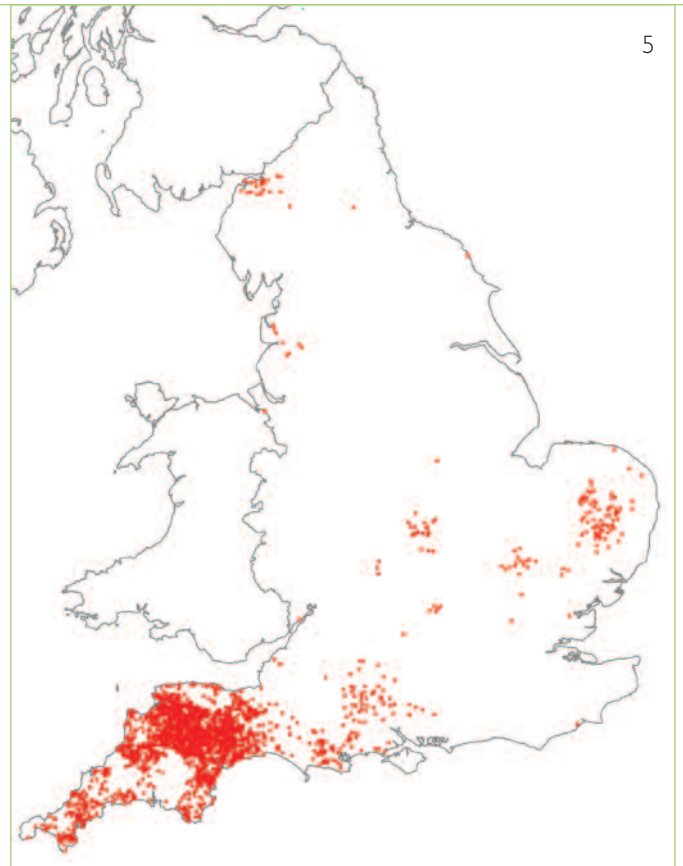
3.1.1 WALLING

3.1.1.1 Temporary structures

As could be expected, the most fragile structures are documented from excavation or archives (for example the Wiltshire vicarage stable 'enclosed with hurdle work' in Hobbs [ed] 2000, xvi and p.438) but have not survived. A long-standing building tradition, where posts were set directly in the ground with no definable bay structure, is documented from excavation and has survived in use for single-storey structures (including 18th-century cart sheds and 20th-century tractor sheds) to the present day (Lake 1989, p.43).

3.1.1.2 Mass walling

Mass-walled buildings now dominate the traditional farm building stock, almost exclusively so in the three northern regions. Stone and brick display a wide variety of treatment, their use reflecting not only the availability of materials but also the status of the farm and its owner. Large parts of England – particularly in the South East, South West, East of England, the East Midlands and the North West – display different traditions of walling in earth, dating from the 14th century (Figure 5). Concrete was used from the 1860s on some farms, for example for silage clamps, but did not achieve general use until after the 1950s.

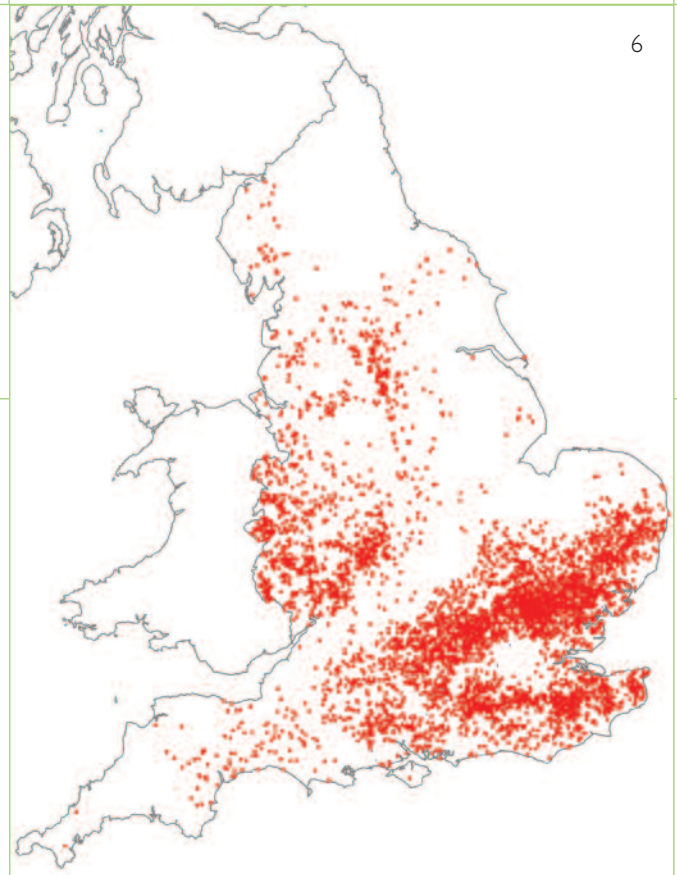


3.1.1.3 Timber frame

Timber-framed buildings are concentrated in the East of England, the South East and the West Midlands. The basic vocabulary of construction had been developed by the 13th century – notably the use of sophisticated jointing techniques, particularly at the junction of the main posts and roof trusses (the so-called bay divisions), and timber sills raised off the ground on dwarf walls. Climate and patterns of land use and ownership have affected the availability of timber and, together with cultural factors, have influenced the distribution, appearance of distinct traditions in timber framing and the framing of roof

6 Listed timber-framed barns in England. Although listing concentrates on the generally best-preserved sample of surviving buildings, this map broadly shows the extent of present survival. Note the separation – marked by the limestone belt running from Dorset to Yorkshire – of the major concentrations in south-east England and central southern England and western and northern England, where separate traditions of carpentry and framing developed. The map also reveals much about patterns of loss, and particularly rebuilding in stone and brick, over the centuries. There is a sharp boundary, for example, between the claylands of south Norfolk and Suffolk and the lighter soils of Breckland and north Norfolk, where brick had generally replaced timber frame by the 19th century. The absence of timber frame in the North East, where again it is documented, is notable. Such a map presents an obvious invitation to future analysis and research. © Crown copyright. All rights reserved. English Heritage 100019088. 2005

6



trusses for mass-walled buildings (Smith 1965; Stenning & Andrews 1988; and Figures 3 and 6). The infill between the timber frames would either be wattle and daub (a clay and straw mix), brick (often a later addition) or simply left as a wattle framework. Timber planks, either rebated or slotted like wattle, were also used but now only survive in very rare instances. External walling and render can also disguise evidence of earlier timber framing, including cruck and aisled construction.

3.1.1.4 Timber cladding

In parts of the country – particularly in the South East, East of England and the western part of the West Midlands – timber frames were often clad in horizontally fixed weatherboarding. Hand-sawn hardwood boarding is now rarely found, as machine-sawn softwood was increasingly used from the late 18th century.

Weatherboarding is either applied to a whole building (most commonly in regions in the South East and the southern part of the East of England) or to the upper portions of sidewalls (a common use in the West Midlands). Vertical boarding is mainly found in the South East. This had cover strips to prevent the ingress of rain; surviving examples date from the late 19th century. Hit-and-miss timber boarding, sometimes known as Yorkshire boarding, has been widely in use as cladding since the 1970s, since it provides good ventilation and meets modern animal welfare requirements.

3.1.1.5 Corrugated iron

See 3.1.2.3.

3.1.2 ROOFING

3.1.2.1 Thatch

Thatch was common in large parts of the country, and farmers used a wide range of locally available materials: heather, bracken, reeds, rushes, grass, turf, and straw from oats, barley, wheat and rye. Thatch, predominantly made of wheat straw or water reed, is now mainly confined to southern England and East Anglia (Figure 7). Heather and bracken was, until the 19th century, used in upland areas of moorland and heath, such as Dartmoor; the Pennines, the North York Moors and the Cheviots. Solid thatch, where the whole of the roof space was filled with materials such as heather or gorse with a straw or reed

topcoat, was formerly widespread but is now very rare (Moir & Letts 1999, pp.103–4).

3.1.2.2 Plain clay tiles and stone slates

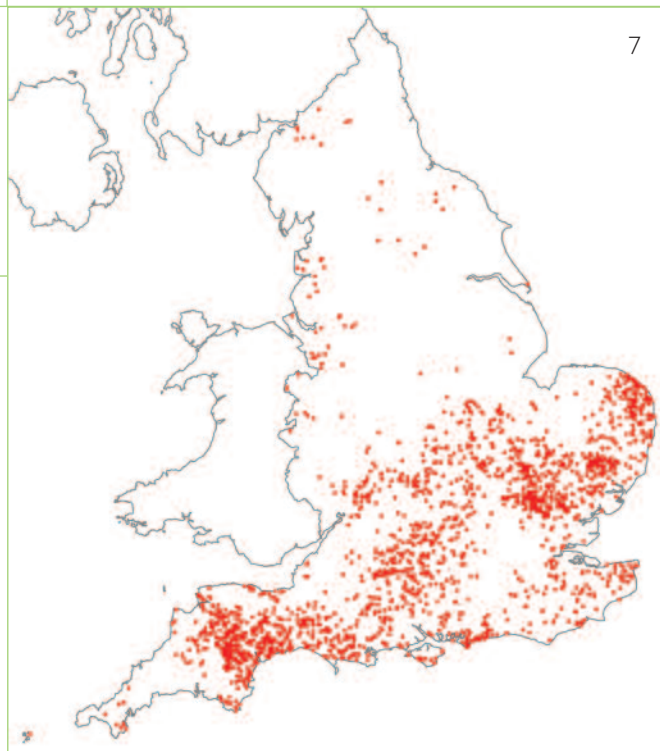
These materials were used at a high social level from the medieval period and are found in many parts of the country. Their use became increasingly widespread after the later 18th century, along with stone and brick walling, supplanting smaller farm buildings built of timber, earth and thatch in many parts of the country. The coastal trade and improved communications also enabled the widespread introduction of pantiles – instantly recognisable with their distinctive curved profile – into parts of the South West and across large areas of the eastern counties from north Essex to Northumberland, and of Welsh slate into many inland areas.

3.1.2.3 Corrugated iron and other prefabricated modern materials

Corrugated iron was used in England from the 1820s, initially for industrial buildings. Although several pioneering firms were producing portable corrugated-iron-clad buildings by the 1850s, it did not come into general use for new farm buildings (particularly on so-called Dutch Barns for protecting harvested hay and corn crops, see 6.4.1) until the farming depression of the 1880s made cheaper materials desirable. By the First World War, corrugated iron was in general use for the repair of roofs on farm buildings, particularly thatch. It was also used for the walling of model farmsteads built to a budget (Wade Martins 2002, p.175) and for smallholders' buildings in areas such as the New Forest.

7 Listed thatched agricultural buildings in England
 Particularly evident is the concentration of surviving thatch in southern England (the majority of which on agricultural buildings is listed) despite its widespread replacement by materials such as corrugated iron from the late 19th century. Rebuilding, and re-roofing in slate and tile, has removed the evidence for its formerly extensive use (in straw, heather and bracken) from much of the Midlands and northern England. Such a map presents an obvious invitation to future analysis and research.
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7



From the 1940s, asbestos cement cladding and a variety of insulating products found their way on to the farmstead. Hit-and-miss vertical boarding (also known as Yorkshire boarding) has been used as cladding since the 1970s.

3.2 BUILDING MATERIALS IN THE SOUTH EAST REGION

3.2.1 WALLING (Figure 8)

3.2.1.1 Stone

Across most of the southern parts of the Region there is a lack of good building stone. The chalk areas of the Hampshire Downs, the North and South Downs and the Chilterns generally provided only flint, which was not widely used for the construction of farm buildings until the 19th century, except in the South Downs where flint from the chalk and cobbles from the coast were commonly used (Nairn & Pevsner 1965, p.16). Chalk block is rarely seen. Moving eastwards from the Hampshire Downs along the South Downs there are differences in the appearance of flint walling. In most of Hampshire the flints used were relatively small and usually laid randomly. Into the South Downs larger flints were often used and flint work was often coursed.

Around the edge of the High Weald lower greensand outcrops provided 'ragstone', which was widely used across Kent and in London from the medieval period. Upper greensand, often called ironstone or heathstone, and golden sandstone from the Hastings beds were also used in buildings across the Weald. Carstone, hard ferruginous sandstone, was used in rubble walling and small pieces were used in galletting across Surrey and Sussex (Brandon 2003, p.32).

In the northern part of the Region building stones of an excellent quality were widely available. In 15th-century Oxfordshire quarrying was second only to wool in terms of economic importance. Across the Cotswolds the grey limestones predominate whilst at the northern edge of the county the Middle Lias, called marlstone, gave up a brown-coloured stone used for most buildings.

3.2.1.2 Earth

Cob, chalk mud mixed with straw, was widely used for houses, cottages, small farm buildings and boundary walls in the chalk areas of Hampshire, particularly on the

western side of the county. Chalk cob was usually rendered or, for working buildings and walls, coated with chalk slurry. Cob was rarely used for building barns, timber framing and, later, brick or brick and flint being preferred. In parts of the New Forest where clay was available this was used for the construction of small farm buildings, the wall surface often being left unrendered. Although chalk was available across the North and South Downs, there is little evidence for the tradition of earth construction in the eastern part of the Region.

Buckinghamshire and Oxfordshire contain a concentration of earth-walled buildings known as 'witchert', meaning 'white earth'. Witchert is found in a belt extending from south-west of Aylesbury through Thame to Dorchester-on-Thames. Non-witchert earth structures are also found in Oxfordshire (McCann 2004, pp.28–9).

3.2.1.3 Timber

Timber framing was the dominant building technique across much of the Region from the medieval period until the early 17th century for housing and the early 19th century for farm buildings. Cruck-framed buildings are found along the western edge of the Region, with a particular concentration in Oxfordshire and west Buckinghamshire. Few, if any, of the cruck-framed buildings of the Region date from later than the 16th century, unlike the West Midlands and Northern Regions where the cruck tradition continued longer. The use of crucks in Hampshire is usually associated with farmers of some wealth and status, and was abandoned in favour of box framing by the 16th century. Few of the Region's cruck buildings are agricultural; only two cruck barns are known in Hampshire (Roberts 2003, pp.20–22). Aisled construction was used for many of the Region's earliest

8 Examples of walling materials in the South East Region

- A Weatherboarding over timber frame. The typical wall covering for timber-framed agricultural buildings across the Region is horizontal weatherboarding. Rarely, evidence for vertical boarding rebated into the frame can be found. (Thames Basin Heaths)
- B Earth. Earth was used for walling in some parts of the region, chalk cob being the predominant form in the South East. In Buckinghamshire a particular form of earth walling is called 'witchert'. In the New Forest clay was widely used and, as with many agricultural buildings and boundary walls, the earth has been left unrendered leaving the 'lifts', the construction layers, visible. In some cases earth walling was given some protection with a chalk slurry and only rarely were agricultural buildings rendered, the typical treatment for domestic earth buildings.
- C Limestone, Cotswolds, Oxfordshire. Limestone was easily worked and built into roughly coursed walling, and even dressed and ashlar work for farm buildings. (Cotswolds)
- D Mixed sandstones. In the High Weald sandstones of different colours, textures and hardness were often combined and give the buildings a

highly distinctive appearance (High Weald)

- E Chalk. Generally, the chalk stone of the Region was rarely used for external masonry but occurs more frequently in farm buildings on the Isle of Wight. In this barn the chalk was laid in deep courses created with irregular, random stonework. (Isle of Wight)
- F Cobbles. Along the South Downs and coastal fringe in West Sussex and East Sussex cobbles, often derived from the beach, were used for the construction of farm buildings. (South Downs)
- G Flint. Across the chalk areas of the Region flint is a characteristic building material. Although used from the medieval period flint was more widely used in the late 18th and 19th centuries, typically combined with brick for corners and dressings to windows and doors. In this example flakes of flint have been pushed into the mortar joints between the flints, a technique called 'galletting'. (South Downs)
- H Brick. Locally made bricks can give a distinctive character to farm buildings as can the use of details such as burnt headers and corbelled brickwork at the eaves. (Thames Basin Heaths)

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barns, with particular concentrations in Kent and in north Hampshire/south Berkshire. Together with the southern part of the East of England Region, this Region contains the majority of timber-framed aisled barns in the country.

For most timber-framed agricultural buildings weatherboarding was the typical wall covering. The boards were typically overlapped and set horizontal but there is evidence in a few late medieval buildings of boarding that was vertical and set into rebates in the framing. In the Weald the framing of the earliest and smallest barns was usually filled with wattle and daub until the late 16th century. Weatherboarding was commonly used from the 18th century. Where barns also housed cattle it is common to find weatherboarding on the lower parts of the building and wattle and daub, which would be damaged easily by a kick from a cow, on the upper parts of the walls (Martin & Martin 1982, p.87). Weatherboarding was also used on houses in the Weald from the 18th century to the mid-19th century where it probably occurs more than in any other part of the country (Newman 1969, p.32). The white-painted horizontal boarding is an important characteristic of the area.

3.2.1.4 Brick and tile

Kent and the Sussex Weald form one of the principal brick areas of the country, the different clays available giving distinctive colours: soft reds to reddish brown from the alluvial clays of the Thames estuary; yellow from the river muds near Sandwich; light yellow provided by the limestone in the gault clays to the south of the North Downs; bright reds created by the iron content of the Wealden clays (Quincey 1993, pp.101–2).

In both north and south Hampshire and in the clay vales of Oxfordshire and Buckinghamshire, clay for brick and tile making was available and exploited from the medieval period, but it was not until the 17th century that bricks began to be more widely used, although usually for relatively high-status buildings. In north-east Hampshire for example, there is an important cluster of high-status brick-built houses, barns and other farm buildings of this period. These areas also produced locally distinctive coloured bricks. In Hampshire, Fareham Reds are probably the best known but in the Beaulieu area of the New Forest a creamy yellow brick was produced. In the clay vale at the foot of the Chilterns, the high lime and low iron content of the clay produced a silver-grey brick.

By the 18th century brick was often being used in preference to timber framing in the clay areas of the Region but it was not until the end of the 18th and into the 19th century that brick, usually combined with flint, became common in the chalk areas. Usually brick and flint were banded horizontally but occasionally the brick was used to create square panels.

In the 17th century the use of tile hanging appears to have been introduced in the Weald (Newman 1969, p.27) and is now a characteristic feature across Kent and Sussex

3.2.2 ROOFING (Figure 9)

3.2.2.1 Thatch

The predominance of arable across the majority of the Region meant that straw for thatching was widely available. By the end of the 18th century tile was often used in place of thatch on houses in the south-east of the Region whilst thatched farm buildings remained commonplace, particularly on small and medium-sized farms (Boys 1805, p.32). During the 18th century there is evidence that the use of thatch was beginning to wane with tiles being used on outshots to thatched barns (Martin & Martin 1982, p.109). On many of these agricultural buildings the thatch has been replaced with plain clay tiles, so that thatch is now rarely encountered (Newman 1969, p.32). The experience of the western, arable, part of the Region is, however, different. It is suggested that during the first half of the 19th century the number of thatched buildings actually increased (Moir & Letts 1999, p.19).

Although long straw thatch was the dominant thatching material, along the north coast of Kent and in Romney Marsh and the Pevensy Levels managed reed beds provided water reed for thatching (Moir & Letts 1999, p.51). On the areas of heath, in Berkshire, Hampshire, Surrey and in the Weald, for example, heather was often used as a base coat for straw. Many examples have now been stripped of the heather, making this roofing material a relative rarity in the Region. There are also a few known surviving examples of the use of gorse, usually in solid-roofed buildings. A number of solid thatch roofs are known (Moir & Letts 1999, pp.44–5).

3.2.2.2 Slate and stone

In relatively small areas of the Region stone suitable for splitting into stone tiles was available. In Sussex, the Wealden sandstone quarried near Horsham was made into stone tiles (Nairn & Pevsner 1965, p.16) whilst in Oxfordshire the limestone of the north of the county also provided roofing material of a similar character to that seen in the Cotswolds to the west. From the 14th century at least records show that stone slates were brought into Hampshire by sea through Southampton (Page 1996; Page 1999). It is probable that Purbeck in Dorset was the source of these slates.

3.2.2.3 Tiles

In the Weald and the clay areas of Hampshire where brick making was important, clay tiles were also made and widely used. The first tile-making activities were often sponsored by monastic institutions and the

9 Examples of roofing materials in the South East Region

- A Thatch. Straw thatch is an important roofing material across the western part of the Region, particularly in Hampshire and west Berkshire. Long straw thatching is recognised as being the traditional thatching style, typically having a flush ridge and sparred eaves. Water reed was not widely used in the Region. (Hampshire Downs)
- B & C Stone capable of being slit into thin sheets for making roofing slates is found in several areas including the Cotswolds (limestone, B) and in the Weald in the area around Horsham (sandstone, C). Each has its own character, both in terms of the colour of stone and the size of the slates produced. (B Cotswolds; C Low Weald)
- D Clay tiles. Clay for brick and tile making was available in many parts of the Region and was exploited from the medieval period. In the Weald of Kent in particular, the availability of clay combined with

predominantly pastoral farming meant that clay tiles largely replaced thatch. (Hampshire Downs)

- E Profiled roofing tiles are not a particularly characteristic feature of the roofs of the South East. Their use increased in the 19th century with improved transportation offered by canals and the railway (Cotswolds).
- F Welsh slate. Across most of the Region the use of Welsh slate increased as the railways made transportation easier and cheaper in the later 19th century. Slate allowed a lower roof pitch to be used, characterising many farm buildings of the period from earlier thatched or tiled buildings. In the heathland parts of the Region estates looking to save on building costs often laid slates 'economically' – leaving a small space between each slate to reduce the number required (Thames Basin Heaths). All © Bob Edwards except B © Jeremy Lake



products used on their buildings, including barns (Quincey 1993, p.107). In Surrey in 1301–2 the Bishop of Winchester used 2,000 tiles plus ridge and hip tiles for the kitchen in the manorial complex at Esher; whilst in Hampshire the tiles required for works to buildings at Highclere were made on the estate (Page 1996, p.339). The plain clay tiles of Kent and Sussex in particular are

an important characteristic of the buildings of the area. Pantiles are rarely encountered in Kent or Sussex and are not widespread in the rest of the Region. However, pantiles and serrated profile tiles are encountered on late 19th-century buildings in the North Hampshire and Berkshire heaths, usually on the farm buildings of larger estates.

4.0 Agricultural History and Farm Buildings

The existing stock of traditional farm buildings results from centuries of change and development. As a general rule, farmhouses (see 5.1) pre-date farm buildings, even in areas of 18th- and 19th-century enclosure. Larger-scale and higher-status buildings, which were consistently used for the same purpose or capable of being adapted to later uses, generally have the greatest chance of survival. It follows that barns are the overwhelming type of building to have survived from before 1750, and that steadings adapted or built anew in the later 18th and 19th centuries have retained evidence for a greater diversity of functions. Rates of survival differ both regionally and locally, but placing a building within its broad national and historical context will enable decisions on their wider value to be made.

4.1 AN INTRODUCTION TO ENGLISH AGRICULTURAL HISTORY AND FARM BUILDINGS: THEIR DEVELOPMENT, SURVIVAL AND SIGNIFICANCE

4.1.1 UPTO 1550 (Figures 10 & 11)

The 12th and 13th centuries were characterised by rising population, the colonisation of new land (through the drainage of fens, clearance of woods and expansion of farming on to upland moors) and the direct commercial management by estates of their land, whether this was dispersed among other holdings or ring-fenced in its own boundaries. The Church was a particularly active landlord, and monastic orders such as the Cistercians ran their estates from both home (or demesne) farms and outlying granges, which could be very large in scale (commonly 3 to 1000 acres in size). Climatic changes in the second decade of the 14th century, with increased rainfall and lower temperatures, led to famine. These troubles, compounded by pestilence (the Black Death of 1349 and subsequent epidemics), resulted in a sharp fall in population and the contraction or desertion of settlements on marginal soils. Direct cultivation by landlords continued on some home farms, but in most areas farms on estates became leased out – in whole or in part – to tenants, a process often accompanied by the breakdown of traditional customary tenancies. Other developments which accelerated from the 14th century included the amalgamation of farms into larger holdings, the enclosure of former communally farmed strips, and a steady growth in productivity sustained by greater emphasis on pastoral farming, new techniques and rotations of crops.

4.1.1.1 Survival and Value

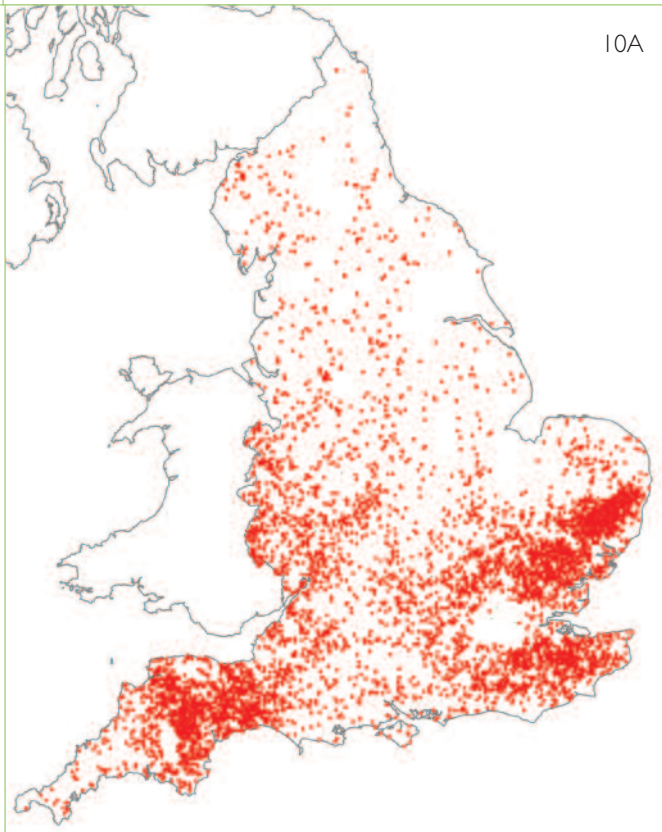
All survivals of this period are of great rarity and significance. The best-known survivals are the great barns of secular and especially ecclesiastical estates. These

comprised the foci of farmyards with ancillary buildings that have been almost completely swept away, for which documentary but very little archaeological evidence exists. The great cattle ranches (vaccaries) of the northern uplands have left no traces in terms of built fabric, although their impact on the landscape is still legible. Archaeological and documentary records – the latter particularly after 1350 – are similarly the main source of evidence for the farmsteads of peasant farmers, and for the emergence of a wealthier class of tenants and freehold farmers from the 13th century. In recent years evidence has brought to light farmhouses and occasionally barns of a wealthier class of farmers (both customary tenants and freeholders), providing the first evidence for wealth generated solely from local agriculture and of a class of farmers counted as among the wealthiest in Europe. These structures are concentrated in mid-Devon, the southern half of the West Midlands and in particular the South East and southern East Anglia.

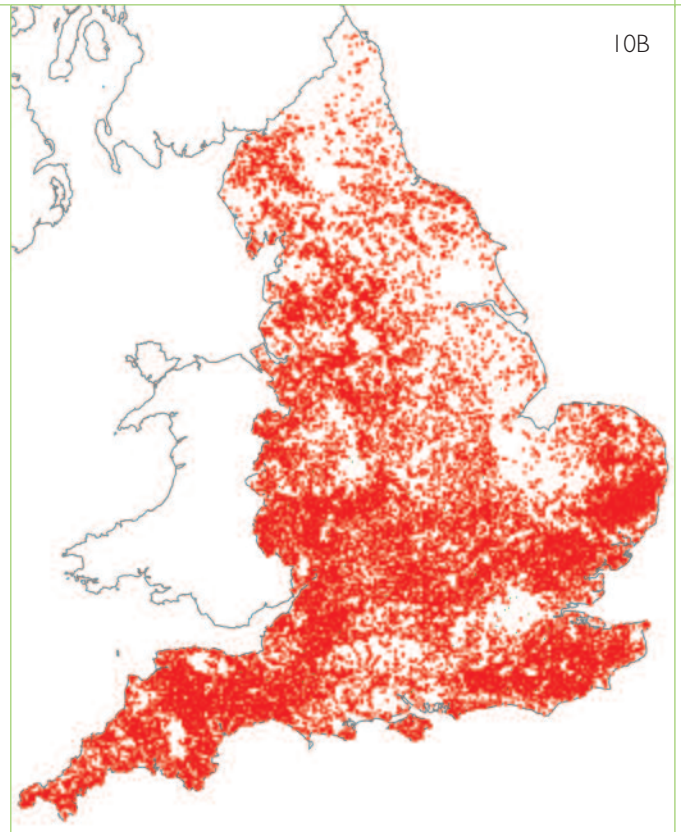
4.1.2 1550 TO 1750 (Figures 10 & 11)

Larger farmers and landowners initially benefited from the great land sales that followed the Dissolution of the Monasteries in the 1530s, while most farmers gained from rising prices and favourable leases. Agricultural productivity – particularly of grain – was spurred by a doubling of population from between 2.5 and 3 million to over 5 million by 1660, and an associated rise (by six times) in grain prices. After 1650, a fall in grain prices, a rise in cattle prices and demand from London and other growing urban markets, led to a rise in cattle rearing in the north of England, and of the dairy industry and specialised produce (such as hops and cider) in other areas. Improvements in transport, including the coastal and river trade, provided access to new markets. New rotations and crops, particularly clover, grasses and turnips, had become established by the end of this

10 Distribution of listed farmhouses in England, pre-1550 and 1550–1750. There is an obvious danger in making sweeping generalisations from such maps, but they do present valid questions for future analysis and research. Wealth derived from arable farming, including the proximity to the London market, dairying and fattening, wool and cloth production are obvious from the pre-1550 map. Here the distribution is thinnest for large parts of northern England, where rebuilding in stone – particularly from the late 17th century – had made its mark by 1750. Notable by their continuing thin distributions are the Lincolnshire and Yorkshire Wolds and Northumberland, where agricultural improvements and the re-planning of landscapes resulted in extensive rebuilding and re-siting of farmsteads after 1750. © Crown copyright. All rights reserved. English Heritage 100019088. 2005



10A



10B

period on the light soils of East Anglia and adopted with varying success in other parts of the country. This period is strongly marked by the continuing process of enclosure and the related process of exchange and consolidation of farm holdings, the growth of farm size (especially in corn-producing areas), large estates and the widespread development of a landlord–tenant system. Landowners, notably the county gentry, emerged as ‘influential pioneers of new crops and new systems of farming’ (Thirsk 1984, p.xxiii). The consolidation of estates and holdings are reflected in the continuing – and in more anciently enclosed areas often the final – phase of enclosure. The national market became more integrated from the later 17th century, in tandem with the emergence of specialised regional economies. This, and the development and strengthening of local building traditions, are also reflected in the layout and design of both farmhouses and more substantial farm buildings.

4.1.2.1 Survival and Value

Substantially complete farm buildings of this period are rare. They will often provide the first surviving evidence for the development and strengthening of regional traditions and building types: for example, the timber-framed West Midlands barns that replaced earlier small cruck barns; the linear farmsteads of the North Pennines; the development of bank barns in Cumbria; the growth of the southern English downland farmsteads with their

associated large barns. The smaller farms of anciently enclosed pastoral areas are the most likely to retain fabric dating from this period, although it is very rare for farmsteads to have more than a barn and house.

4.1.3 1750 TO 1880

Agricultural productivity sustained a massive increase in population, which had risen from around 6 million in 1750 to over 16.7 million by 1851 and 26 million in 1881. This was the most important period of farm building development, commonly divided by agricultural historians into two periods: before and after 1840. Probably under 25% of the land area of England remained unenclosed by 1750, and the majority of this was enclosed by 1815. This was a process at first concentrated on the Midland clays (for the management of land as pasture for fattening) and then – from the start of the Napoleonic Wars in the 1790s – on the expansion of the cultivated area onto poorer and lighter soils such as the northern moorlands and the southern downlands, and poorly-drained land such as the Fens and the Lancashire mosses.

In the ‘High Farming’ years of the 1840s to 1870s, high-input/high-output systems – based on the availability of imported artificial fertilisers and manures (superphosphates, nitrates, guano and bones) and feeds such as oilcake brought on to the farm – replaced the

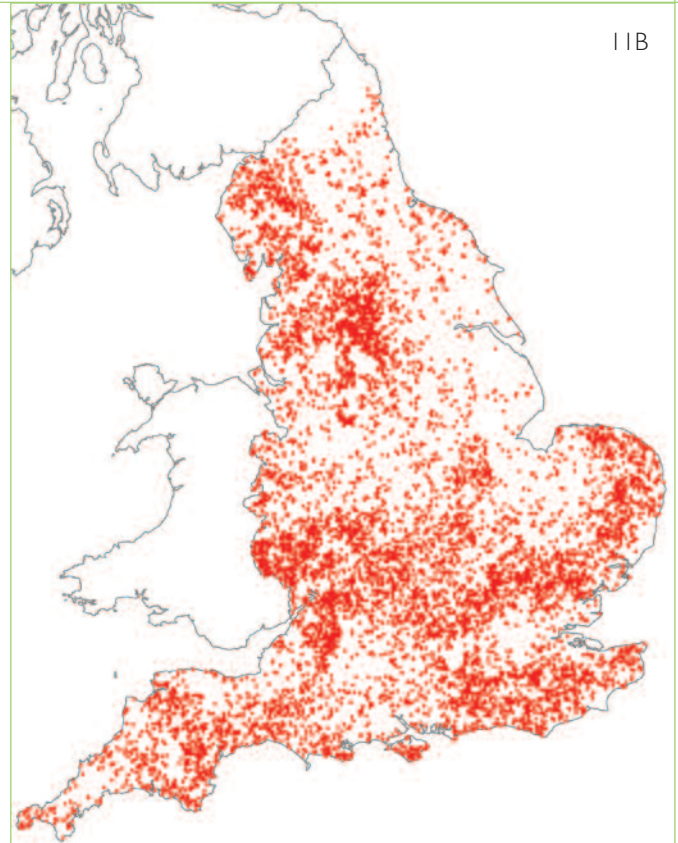
11 Distribution maps of listed barns in England, pre-1550 and 1550–1750

The great majority of substantially complete pre-1750 barns have been listed. These maps pose important questions for future research. In the pre-1550 map, the concentrations in a belt around London, the southern Pennines and from the Feldon of Warwickshire into mid Devon conceal a wide range of sizes and types of barn, stretching from large aisled barns to relatively modest barns, which have not been replaced in later centuries due to farm size and other factors. Many of the outliers, such as in Cornwall and Durham, represent the building of substantial barns on ecclesiastical estates in the medieval period. In the 1550–1750 period, regional patterns of building and survival emerge more strongly, such as the concentration stretching from the Lancashire Plain to the southern Pennines, and the relative absence of pre-1750 barns in the planned landscapes of eastern and central England most profoundly affected by the agricultural improvements of the post-1750 period. The distribution for threshing barns of the 1750–1880 period reinforces rather than adjusts this distribution. Such maps present an obvious invitation to future analysis and research.

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11A



11B

'closed circuit' methods that relied on farm-produced feeds and manure. A major development – as observed by the agricultural journalist James Caird writing in the 1850s – was an increased distinction between the intensively cropped landscapes of the eastern half of the country, and the wetter and more pastoral-based economies of the western half.

There were several key drivers behind this development:

- Higher grain prices from 1750, peaking during the Napoleonic Wars (1794–1815), were joined from around 1840 by a steady increase in meat and dairy prices, both the result of population growth and the demands of an increasingly affluent urban population.
- The strengthening of a national market, facilitated by the ever-expanding transport infrastructure (of canals, improved river and road communications and the railways) and the growing importance of middlemen, both of which facilitated the marketing of food.
- Marked increases in land prices from the 1760s. This increased the incentive especially of estates to invest, outgoings on repairs and improvements occupying an increasing share of gross rentals from this period to as much as 25% by the 1850s (Mingay 1989, pp.602–3).
- Increasing interest and involvement by government: for

example through the Board of Agriculture set up in 1793 (and which immediately set about the commissioning of its famous county studies in order to gather information on best practice); and from the late 1840s the establishment of loan companies for buildings and drainage, which added to the development of a national banking system.

- Literature such as *The Book of Farm Buildings* by Stephens & Scott Burn (1861), and the examples of best practice included in J Bailey Denton's *Farm Homesteads of England* (1863). Agricultural societies, from farmers' clubs to the Royal Agricultural Society of England (RASE) founded in 1837, played an important role through their shows and publications. The Royal Agricultural College was established at Cirencester in 1845, and – as seen in the founding of the Rothamstead experimental station in 1832 – the following two decades witnessed the development of agricultural chemistry and veterinary science.
- The accelerating trend towards larger farming units, both through purchase of smaller farms by more substantial tenants and freeholders, and through estate policy. This was especially pronounced on the poorer soils, which often required the highest levels of capital investment.

- The role of estates, through the development of the land agent profession, investment in infrastructure (especially buildings and drainage) and the encouragement through leases of improved husbandry techniques by their tenants. Estate polices were also a major factor in the rationalisation of holdings and the emergence of larger farms.
- Enclosure. This was often a major factor in increasing output, through facilitating new rotations of crops and the improvement of grassland and stock management. Expenses associated with enclosure – of fencing, hedging and ditching (as much as 50% of the cost), and occasionally the construction of new steadings and buildings (which could be 17%) – increased the incentive of small owners and occupiers with little capital to sell to larger landowners (Wade Martins 1995, p.83). An additional incentive to enclosure was the doubling of rents that could result.
- Improvements in livestock, for example the emergence by 1850 of the Shorthorn as the leading cattle breed and the replacement of the horned wool-producing varieties of sheep by sheep bred for their meat and manuring value.
- The widespread adoption of improved grasses such as sainfoin and winter feed-crops such as turnips, accompanied by the production of better seeds and farm machinery and the efficient distribution of good manure by livestock increasingly wintered in yards or buildings.
- Drainage through traditional techniques, such as bush drains and U-shaped tiles and from the 1840s tile pipes, the use of these being concentrated on the heavy soils of the Midland clays.
- The improvement of soils through liming and marling.

Farmstead design was being affected by the widespread introduction of new types of building and layout, and from the 1840s by the widespread extension of mechanisation (for preparing feed and threshing), the increasing availability of mass-produced fittings and materials, and the adoption of industrial and scientific principles to the accommodation and feeding of ever-increasing numbers of livestock. The building of planned steadings for some estates and wealthy farmers, in the period up to 1840 concentrated in the eastern lowlands, was accompanied by the rebuilding or adaptation of many thousands of existing steadings with cattle yards and buildings, and the replacement of the traditional threshing barn by the multi-functional and much smaller mixing barn (see Figure 22, bottom). In some areas, regional differences were beginning to disappear: for example, the removal of floors and walls for livestock and lofts in the combination barns in the wood pasture areas of Suffolk and the eastern Weald attest to the fact that they were becoming part of eastern England's arable region, as recognised by James Caird who conducted a

survey of British agriculture for *The Times* in 1850–51 (Caird 1852).

4.1.3.1 Survival and Value

Substantially complete examples of farm buildings of the 1750–1840 period are far less common than those of the post-1840 period, when many farmsteads matured into their present form and huge numbers of buildings were erected. Some, particularly the planned farmsteads of the period, represent new developments in farmstead planning or the architectural aspirations of landowners. Others continue to be strongly representative of both the variety and development of local and regional agricultural systems and local vernacular traditions, such as granite in west Cornwall or cob in mid-Devon, and even new materials such as clay lump (as developed in large parts of Suffolk and southern Norfolk).

4.1.4 1880 TO 1940

For over 100 years, agriculture had been increasingly subject to national and international fluctuations in commodity prices, to its considerable benefit in the Napoleonic Wars and the High Farming years. However, after a run of poor weather in the late 1870s, the income from arable crops that farmers had enjoyed in the 1860s collapsed (for example, by 40% in wheat between 1880 and 1900) and farming entered a severe depression. Britain, its urban economy prospering through free trade, became by the 1930s the world's greatest importer of agricultural produce, including animal fodder, from both neighbouring parts of Europe and the New World. This was the beginning of large-scale importation of grain from the American prairies, meat in refrigerated ships from New Zealand and Argentina, and cheese and bacon from Europe. More than in any preceding period, British domestic policy (the supply of cheap food) and the world market now directly affected regional variations and the supply of capital to British farmers. The result was the concentration of grain production on the drier soils of the eastern and southern counties, and in the areas that experienced the greatest contraction from the High Farming peak of grain production a focus on meat and dairy produce in order to meet urban demand. The growing demand for liquid milk and the importation of dairy produce also led to a decline in the farmhouse manufacture of butter and cheese.

The Government endeavoured to boost production through price support. Against the backdrop of the U-boat menace during the First World War it sought to reduce the country's dependency on imported grain and attempted to extend and co-ordinate both advice and legislation (over hygiene, for example) through the establishment in 1919–20 of the Ministry of Agriculture and Fisheries and county council committees and councils, in conjunction with organisations such as the National

Farmers' Union (founded 1908). However, despite an increase in net output, the rising costs of labour, feeds and other inputs, combined with the decline in prices and rising levels of imports, ensured that little was invested in fixed capital. Arrears in rent characterised the period, even in years of relative recovery (such as after 1936 in arable areas). The holdings farmed by the new class of owner-occupiers – numbering 147,000 in 1927, as against 56,000 in 1909, the biggest change in land ownership since the Dissolution of the Monasteries (Whetham 1978, pp.160–61) – were burdened with debt.

As a consequence there was little fresh investment in farm buildings other than repair and modification, and any buildings constructed tended to be of the cheapest materials. Many, such as Dutch barns, were prefabricated, and concrete and corrugated iron or asbestos sheet were being increasingly used for the refitting of cow and dairy units and the repair of traditional roofs. National and local surveys, such as the 1910 Land Valuation Survey, attest to the growing levels of disrepair, especially of pre-improvement farm buildings using traditional materials such as thatch and timber. Reduced rents and growing building costs meant that only the wealthiest farmers and landowners continued to invest in model or experimental farms, and many of these concentrated on the production of meat and dairy produce; most built very little, perhaps investing in dairy buildings or cattle sheds in an attempt to attract tenants or meet increased demand in some areas for meat and dairy produce.

The continued promotion of scientifically based agriculture was matched by the application of new ideas on ventilation and farm hygiene to farm buildings, such as the regulations for dairying introduced in 1885. This was brought into effect mostly through the conversion of existing buildings (especially stabling into dairies) and to a small degree through new-build, notably on the smallholdings owned by county councils. Milking machines, where introduced, brought considerable changes to building layout, but the spread of mechanisation was very varied. By the mid-1930s, the mobile horsepower of the growing tractor fleet exceeded that of the stationary engine; the latter form of power having itself witnessed the transition to oil engines (from the 1890s) and electric power (not widespread until the 1950s). However, horses 'remained the dominant source of power' in the western half of England, and tractors were mostly confined to holdings of 300 acres or upwards, and the arable eastern areas (Whetham 1978, p.210). In the inter-war period, cereal, poultry and dairy farmers, and pig producers using imported North American feed, were in the vanguard of cost-cutting innovation that had a strong impact on post-war developments. There were some examples of planned steadings that in their adaptation of modern industrial theory bucked the trend (Brigden 1992).

4.1.4.1 Survival and Value

Planned steadings and buildings in some areas reflected the increased importance of dairying, particularly of liquid milk – the steadings of the Tollemache and Westminster estates in south Cheshire being one such example. The inter-war period witnessed the development of more intense forms of housing for pigs and poultry, and the replacement, as a result of hygiene regulations, of earlier forms of dairy cattle housing with concrete floors and stalls, metal roofs and fittings. County councils began building new farmsteads, in mass-produced materials but in traditional form, in response to the Government's encouragement of smallholdings of up to 50 acres (20 hectares). Alongside the construction of new farm buildings, traditional farm buildings were adapted to new needs, and the use of corrugated iron (mostly for repair) has guaranteed the survival and reuse of earlier buildings, particularly the increasingly redundant threshing barn.

4.1.5 1940 TO THE PRESENT

The 1937 Agriculture Act anticipated the need to increase self-sufficiency, and the Second World War witnessed a 60% rise in productivity; this was the result of the growth in livestock numbers, increasing scientific and government control and guidance, more specialised systems of management and the conversion to arable of permanent pasture. The invention of artificial fertilizer (patented by Haber and Bosch in 1910) enabled otherwise uneconomic land to be brought into production, and finally made redundant earlier forms of fertilizer. The National Farm Survey of 1941–3 (Barnwell 1993) attested to the long years of neglect of the depression, less than half of the building stock being classed as in fair condition. The Agriculture Act of 1947 heralded the intensification and increased specialisation of farming in the post-war period, accompanied by the development of government and industry research and guidance. From the mid-1950s, strongly influenced by American models, there emerged a growing body of trade and advisory literature. The first of these, produced in 1956, highlighted the dilemma of 'old buildings too good to pull down but not suitable for their new purposes' (Benoy 1956). The Government provided grants to cover the capital cost of new building under the Farm Improvement Scheme (introduced 1957). The introduction of wide-span multi-purpose sheds in concrete, steel and asbestos met increasing requirements for machinery and for the environmental control of livestock and on-farm production, particularly of milk. The national stock of farm buildings grew by a quarter between 1945 and 1960 alone. The Agricultural Research Council's *Farm Buildings Survey of England* (published 1967) estimated that the average farmstead contained 6 pre-1914 buildings, 2.4 from 1918–45 and 2.5 built since 1945.

4.2 FARMING IN THE SOUTH EAST

Probably of greatest significance to the farming of the Region is its proximity to the London market. The navigability of the Thames and some other rivers reaching far into the heart of the Region, and the use of coastal shipping, meant that the capital provided a ready market for most goods, especially corn. The growing demands of London meant that much of the Region continued to specialise in corn production, even in the 15th century and the period 1650 to 1780, in contrast to the other parts of the country where arable significantly contracted in favour of pastoral farming.

Some areas of the Region that did not have access to water transport for arable produce or where corn was less profitable, such as the coastal marshes, began to specialise in stock that could be driven to market on the hoof, or in higher value goods that made land transport financially viable.

The demands of London also encouraged specialised production: Kent was already recognised for its fruit, vineyards and cider by the 13th century (Hallam 1988, p.316) and by the 17th century fruit growing to supply the London market was increasing in importance. Hop growing developed from the later 16th century and by the mid-17th century it was claimed that around 25% of the hop acreage in England was in Sussex (Martin & Martin 1982, p.14). At its maximum in the mid-19th century 45,000 acres were under hops in Kent alone (Everitt 1977, p.15). Hop production also spread into Surrey, Hampshire and parts of the Weald.

A feature of the landscape of the Region was the contrast between areas of open arable and wood pasture. The wood-pasture areas (see 4.2.9) consisted of smaller farms and a higher level of free tenure, affording a greater degree of diversity in agricultural practice, including woodland enterprises, fruit growing, dairying and fatstock. The coastal plains provided some of the most fertile, productive land in the Region. The chalk downlands of the Region were the prime sheep and corn farming areas from the medieval period at least, sheep enriching the soil through their manure and the process of folding the flock on the arable land. They generally supported large, manorial, capital-intensive farms that required a large labour force.

The reliance of a great part of the Region on corn and sheep meant that when the prices of both wheat and wool plummeted in the late 19th century the crisis in farming was acute. In some areas there was a shift away from arable: in Kent there was a decline of around one third in the extent of acreage under crop and a near 60% drop in the wheat acreage in the last quarter of the 19th century. In the same period rents fell by 37% (Holderness & Mingay 2000, p.374). Other parts of the

Region experienced similar trends and had to adapt their agriculture to the difficult times. For example, on the chalk of Berkshire there was a vast increase in dairying, the county supplying London with one-quarter of its rail-borne milk by 1870 and production continued to increase after that date (Barnwell & Giles 1997, p.11). Dairying also increased on the Hampshire Downs, although not to the same extent. Some farmers tried to intensify their corn production by utilising the artificial fertilisers that were becoming more widely available, which enabled them to decrease the size of the sheep flocks to bring yet more downland into production to survive. Even so, by the end of the 19th century there were large areas, particularly downland areas, where the land was of marginal quality and for which it was difficult to find tenants or to earn a living from the 'thousands of acres of derelict land that probably fetches no rent at all' (Haggard quoted in Holderness & Mingay 2000, p.375).

Areas where hops, fruit and vegetables were produced, such as Kent, were provided with some protection against the worst of the late 19th-century agricultural depression (Whitehead quoted in Everitt 1977, p.5) although even the hop industry was in decline in this period, with only the areas producing the highest quality hops managing to survive into the 20th century.

AREA SUMMARIES

These summaries have been compiled as preliminary statements on the agricultural development of the distinctive parts of the Region. Inevitably, these do not relate as strongly to county boundaries as distinct landscape zones. These are outlined below, either by including the Joint Character Area (JCA) title – see 2.1 – after the area heading or, if they approximate or relate to groups of JCAs, in the first line of the text. The sources for them are diverse, and include Historic Landscape Characterisation where completed, work in progress on developing historic profiles for the Joint Character Areas (see www.cqc.org.uk) and sources listed in the bibliography. They are generalised statements, within which there may again be important differences in farming practice, settlement and estate patterns and landscape character.

4.2.1 South Downs (JCA 125)

There were differences between the west and east parts of the area, the River Adur marking the boundary. Even from the 14th century there were more sheep in the eastern part of the South Downs and tithe values were higher. Common fields were largely unhedged and enclosure began early, particularly on the estates of the bishops of Chichester, where by the 14th century often only the land of lowest value was held in common. By the 16th century most manors had enclosed the demesne lands. In contrast, on the western downs common fields were often hedged and there was more

woodland in the landscape. Holding size was generally smaller and the sheepfold was of less importance. Enclosure began in piecemeal fashion from the 15th century, typically creating small fields for holdings of 15–20 acres. The small landholders often looked to diversify, with cattle rearing, dairying and timber production becoming important elements of the agricultural economy. Even in the 18th and 19th centuries the distinction between the two parts of the South Downs was evident in the sheep breeds encountered, with improved South Downs found to the east and the old downland variety to the west (Brandon 1999, pp.58–109).

4.2.2 Hampshire Downs, and Berkshire and Marlborough Downs (JCAs 130 and 116) (Figure 12) This area includes a small part of Salisbury Plain and West Wiltshire Downs (JCA 132: see South West).

On the Hampshire and Berkshire Downs the importance of the sheep and corn system can be assessed from the surviving records of the bishops of Winchester in the unrivalled series of Pipe Rolls dating from the early 13th century and stretching into the early 18th century. Chalkland manors could maintain flocks of around 2,000 sheep; for example, in 1301–2 there were 1,912 sheep on the manor of Twyford (Page 1996, p.275). The value of agriculture in Hampshire is attested to by the fact that during the medieval period the Bishopric of Winchester was one of the wealthiest sees in Europe, second only to Milan.

Throughout the medieval period these monastic estates tended to be directly managed (farmed in demesne). This began to change during the late 15th and 16th centuries when farms and manors started to grant long-term leases, often to industrious tenants willing to increase the amount of land they were able to farm. On the estates of the bishops of Winchester in Hampshire this process resulted in the development of new or larger manor farmhouses, in some cases financed by the lord, where previously a number of adjoining manors had been administered from one principal manor house within the group (Roberts 2003, p.211). The leasing-out of estates removed some of the uncertainties of farming and provided a guaranteed annual income for the monastic institutions. This process was sometimes associated with depopulation of settlements. Such depopulations are often considered as evidence of large landowners profiteering. The records of the bishopric of Winchester show that this was not always the case. Sometimes the demise of a settlement and the subsequent leasing-out of the land was at least partly due to a lack of demand for land, and throwing common fields into one farm, often associated with the enclosure of the fields, resulted in a considerable reduction in rental income (Hare 1994, p.166). The rise of the yeoman farmer on the Hampshire

Downs, working larger areas of land, could have only been possible with large numbers of wage labourers. The scale of farming on the chalk downs was more grand and ambitious than anywhere else (Thirsk 1967, p.65).

The Dissolution of the Monasteries also provided opportunities for some local families to increase their estates and gave some major political figures the opportunity to amass large land-holdings. These changes were often accompanied by the rebuilding of the farmhouse and the major farm buildings and, in some cases, the depopulation of settlements to leave a single farm. However, the largest ecclesiastical landowners in the Region had been the Archbishop of Canterbury and bishops of Winchester and Chichester whose estates largely remained intact, administered by the Dean and Chapter of the cathedrals.

The 17th and 18th centuries saw rapidly increasing population and in some areas considerable change in agriculture with a greater level of regional specialisation in farming practice. Although the sheep–corn system continued, it was often within these areas that the greatest level of agricultural change occurred. This period saw the continued growth of large estates and farms. Enclosure by agreement and the gradual conversion of downland to arable forced many small farmers into the class of landless labourers, as the loss of access to the sheep-fold over the common arable meant that the smallest farmers were unable to maintain flocks of sufficient size to manure their fields. However, the development and increase in the use of watermeadows, a reduction in the number of sheep in favour of increased arable and the introduction of new crops such as clover and sainfoin are also cited as evidence for 'agricultural revolution' on the chalk areas in the period 1640 to 1750 (Wordie 1984, p.332).

In the 1730s and 1740s there was agricultural depression across southern England due to falling cereal prices. However, the farmers of the Hampshire Downs and the South Downs were fortunate in having the ports of Southampton, Portsmouth and Rye close by and so were able to supply the export market as well as the local and London markets (Wordie 1984, p.335). The farmers of the Berkshire Downs also had access to the London market through the use of navigable rivers and, later, canals. The general response to these difficult times was to increase grain production as corn still produced the best return from the light chalkland soils. Only in some areas, such as the eastern part of the Hampshire Downs adjoining the Wealden Greensand, was an alternative crop, hops, introduced (Wordie 1984, p.336).

During the Napoleonic Wars the extent of arable was again increased in the downland areas to capitalise on the rise in cereal prices. After the war ended prices fell

12 Farmsteads in the landscape: Echchinswell & Sydmonton, Hampshire (Hampshire Downs)

The historic parishes of Echchinswell and Sydmonton are long, narrow land units stretching from chalk downland in the south, crossing an area of fertile greensand where the medieval open fields were located with wooded clay lands to the north. The chalk downs remained open until the late 18th century when they were enclosed and new farmsteads created with large fields with regular boundaries – the sinuous boundary dividing the farms is the parish boundary, recorded in an early 10th-century charter. The new Sydmonton Warren Farm was over 700 acres in size and was provided with a large regular courtyard farmstead with brick and flint ranges including a threshing barn. Ashley Warren Farm also had flint and brick farm buildings.

Based on OS 1st Edition 6" map 1853–1890.

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back, creating great distress amongst many farmers who had recently invested large sums in bringing extra land into arable. In Hampshire William Cobbett questioned the value of breaking poor downland: 'A man must be mad to...sow wheat upon such a spot. The down itself was poor; what then must it be like as corn land!' (Cobbett quoted in Dodd 1979, p.246). A period of rising grain prices between 1815 and 1836 brought prosperity again to the downland farmers but the repeal of the Corn Laws, allowing increasing imports of cheap grain, again pushed down grain prices. Lowering grain prices and a series of poor harvests combined to bring depression on much of the nation's agriculture, especially

those areas where arable had been the mainstay. Some farmers looked to other farming methods, such as stock rearing or dairying, whilst others concentrated their efforts on increasing their corn production, this time with the use of artificial fertilisers.

4.2.3 North Downs (JCA 119)

The North Downs has small areas of fertile brickearth soils to the east, but otherwise has a greater covering of clay with flints, which supported large areas of woodland and was difficult to farm. Commentators of the 19th century described the North Downs in wholly negative terms: 'a miserable and wretched country'; 'the face of

rustic poverty throughout'; 'a wild and dreary country' (Hasted quoted in Everitt, 1986). In common with the South Downs and Hampshire Downs farm sizes were generally large, focused on arable on the lower slopes and sheep grazing on the downland. Areas of downland were broken to increase the amount of arable, but the greater levels of woodland meant that a smaller proportion of the higher downs were converted to arable than in the Hampshire Downs.

4.2.4 Chilterns (JCA 11)

The Chilterns are also sometimes labelled as a sheep–corn area but the farming of this locality differs markedly from that of other chalk down areas in having smaller-scale and more ancient patterns of enclosure and farms. The clay capping the chalk meant that the area was heavily wooded and pig keeping was a speciality in the beech forests (Thirsk 1967, p.70). There was an emphasis on timber growing, especially in the south-west where coppice industries were important. There was more arable in the south-west part of the Chilterns than the north-east part. This difference may be explained by the reduction in woodland in the south-west from around one half to one third of the area between 1600 and 1800 (Hepple & Doggett 1994, p.181) whilst in the north-east the wheat acreage declined in the period 1640 to 1750 to be replaced by fodder crops enabling heavier stocking. This north-east/south-west split may be due to the easier access to the Thames and London enjoyed by the latter area. The north-east had no waterway to the capital and so concentrated on fattening stock that could be driven to market (Wordie 1987, pp.326–8).

4.2.5 South Coast Plain and South Hampshire Lowlands (JCAs 126 and 128)

Along the south coast of Hampshire and Sussex areas of brick earth provided excellent wheat lands, the farmers finding a convenient market at the royal naval dockyard at Portsmouth as well as the growing urban populations of Portsmouth and Southampton. These growing towns also stimulated market gardening and fatstock farming, especially from the mid-18th century. In return, the fertility of the area was boosted by the application of town refuse (Dodd 1979, p.250). Market gardening developed, serving these markets and, with the arrival of the railways, London. By the 19th century large arable fields were characteristic of the South Coast Plain, smaller-scale and more ancient patterns of enclosure being more typical of the South Hampshire Lowlands. The coastal marshes also provided grazing land for cattle. Although the South Coast Plain offered some of the best soils of the country, their proximity to the south coast conurbations has resulted in their large-scale loss to development and, in many cases, the total loss of farmsteads.

4.2.6 North Kent Plain (JCA 113)

The North Kent Plain was also a highly productive corn-producing area that has been densely settled from the Roman period at least; even in the 1st Century BC Caesar had described the large arable fields interspersed with woodland of this area. Large parts of the area were owned by the Church in the medieval period and the cathedrals of Canterbury and Rochester retained much of this land after the dissolution of the monasteries. The area experienced only minor contraction in the extent of arable in the 15th century (Miller 1991, p.132) when many other arable areas saw a shift to pastoral farming. It is probable that the perceived wealth of the Kentish yeoman farmer was largely derived from this area (Everitt 1977, p.5). There were also large brewing and malting industries established in the area by the 15th century (Miller 1991, p.132–4). By the end of the 19th century, much of the marshland that had been used for grazing dairy cattle and fatstock since at least the 16th century (Thirsk 1984, p.60) had been drained for arable cropping. During the Napoleonic Wars and later many hedgerows on Thanet and elsewhere in the area were grubbed up to increase arable production, leaving large fields.

Fruit growing was also a major element in the agriculture of this area from the 13th century, increasing from the 17th century with the establishment of larger orchards to supply the London market. The availability of water transport along the coast to London gave it a distinct advantage over other fruit-growing areas such as mid-Kent (Wooldridge & Goldring 1953, p.237). Market gardening became characteristic of Thanet from the 17th century, where the exposure to wind limits fruit growing, and in the area around Sandwich.

4.2.7 The New Forest (JCA 131) (Figure 13)

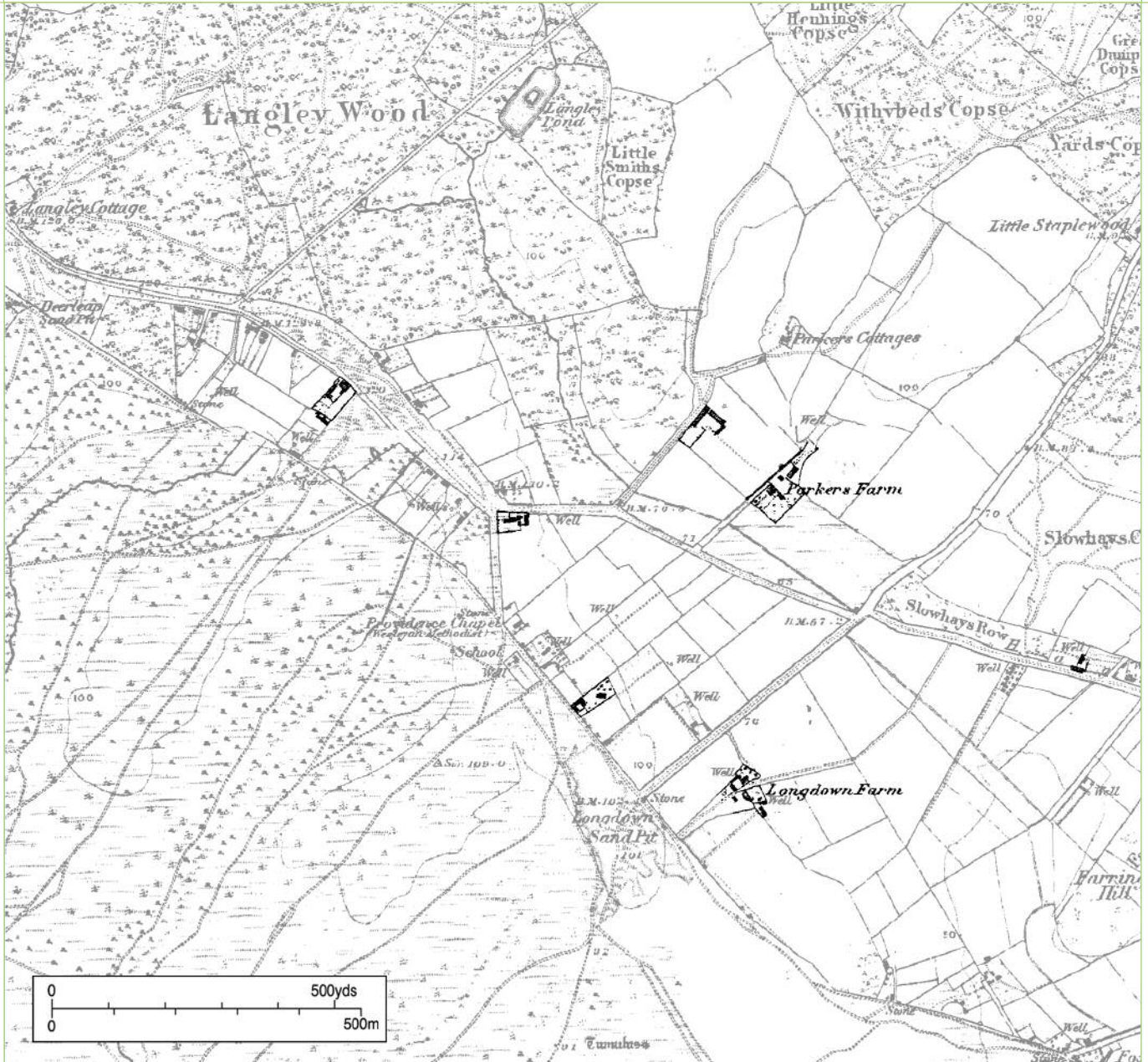
The heart of the New Forest is mainly barren heath with soils often too poor even for forest. Within and around the heath smallholders practised a wood–pasture economy, sometimes with as little as one acre of enclosed land. Through the pasturing of pigs on beech mast, the keeping of a few milk cows and the breeding of horses the New Forest commoner managed to earn a living from a relatively inhospitable landscape for agriculture. Small rectilinear enclosures are characteristic of much of this area, dating from the medieval period.

The southern coastal fringe comprises areas of relatively productive soils. The foundation of the Cistercian monastery at Beaulieu suggests the area was thinly populated in the 13th century. The monks of Beaulieu developed a large estate including a number of grange farms, at least some of which were provided with large barns indicating that arable accompanied sheep farming. After the Dissolution much of the coastal fringe remained in the hands of large estates. The result is a

13 Farmsteads in the landscape: New Forest, Hampshire (New Forest)

The poor soils of the heathland of the New Forest dictated a largely pastoral farming economy with commoning, the grazing of animals on the heathland being an important characteristic of the area. Commoners often had very small enclosed holdings – sometimes as little as one acre – and required few farm buildings. Any farm buildings were likely to be small and poorly built. Consequently there are relatively few historic farm buildings associated with the holdings of commoners and these farmsteads are difficult to identify from historic mapping. Encroachment onto the Forest creating small enclosures is recorded from the 13th century. Most of these new enclosures probably occurred around the fringes of the open heath and created irregular fields such as those in the north-west part of the area. Further episodes of enclosure in the 19th century produced the regular blocks of small fields and in some cases resulted in the creation of new farmsteads that – as seen here – were provided with small, brick-built farmsteads occasionally having a regular L- or U-plan. Based on OS 1st Edition 6" map 1853–1890.

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landscape of relatively large fields – mostly enclosed by the 18th century – and farmsteads, including a number of model and planned farmsteads. On the northern edge of this area, approaching the New Forest heaths, farms became increasingly small and were often associated with commoning. As with the holdings of commoners within the New Forest heathlands, some of these farms had only a few acres of enclosed land, relying on the Forest to feed the stock through most of the year.

Between the New Forest heaths to the east and the Dorset Heaths to the west (JCA 134, see South West) is

another area that was fertile, supporting both arable and pastoral farming. The flood plain of the river Avon is between one and two miles in width, with deep alluvial soils. The upper part of the valley within the South East Region adjoins the chalk downland of the Dorset Downs and Cranborne Chase, a small part of which lies within the Region.

4.2.8 Coastal Marshes – Pevensey Levels, Romney Marshes and Greater Thames Estuary (JCAs 124, 123 and 81)

Around the coast of the Region there are several

extensive areas of marsh. In the Romney Marshes and the Pevensey Levels, natural coastal change and reclamation from the sea – underway since at least the 8th century – led to the creation of a low-lying area that was utilised for grazing and crops. Small farms and villages were located next to trackways that followed the slightly higher gravel ridges, and fields – predominantly irregular in shape – were divided by artificial drainage systems. This process of piecemeal enclosure was known as ‘inning’. Flooding in the 13th and 14th centuries resulted in the shrinkage and abandonment of some settlements in the marshes, leaving the now isolated churches that are a characteristic feature of the marshland landscape, and creating a greater emphasis on grazing. Whilst communities living in the marshes farmed parts of the area, much was farmed from communities beyond the edges of the marsh (Everitt 1986, pp.58–61) and the relationships between the marsh and distant settlements persisted until the early 19th century.

These flat, open areas provided rich grazing land, particularly for sheep, and it was considered that there were more sheep per acre on the Romney Marshes than anywhere else in England. Cattle, brought in from surrounding areas, were also fattened on the marshes (Boys 1805, p.169). Even during the Napoleonic Wars, when high grain prices encouraged downland farmers to increase their arable at the expense of grazing, there appears to have been little increase in ploughland in the marshes (Everitt 1986, p.61). The agriculture of the area was also supplemented by the rich coastal resources available.

The marshlands of the Thames followed a broadly similar path of development, some of the area being left open for grazing sheep and cattle and other parts being subject to drainage and enclosure in the 18th and 19th centuries.

4.2.9 Thames Valley and Basin

This area of varied soils and farming practice includes Northern Thames Basin (JCA 111, for which see East of England Region), Inner London (JCA 112), Thames Basin Lowlands (JCA 114), Thames Valley (JCA 115) and Thames Basin Heaths (JCA 129).

Although of a markedly different character in terms of landscape to the chalklands to the north, west and south, considerable parts of the Thames Basin Heaths also supported a sheep–corn system of agriculture although there was also a greater level of fattening and dairying than found on the chalk, especially along the Kennet Valley. In eastern parts of Berkshire sheep were important, though they were kept more for lambs and mutton to supply the London market than for their wool. Along the south Berkshire and north Hampshire

border (Thames Basin Heaths) there are large areas of hungry, sandy soils, only providing rough grazing, broken by small areas of better soils in the Loddon valley and Foundry Brook that supported arable farming. Even in these areas the quality of the soils was variable (Wordie 1987, p.340). Large parks and estates developed on the poor, heathy soils.

Elsewhere – especially in the Thames Basin Lowlands, a narrow band running between Croydon in the east and Aldershot in the west – there were areas of clay soils which supported predominantly pastoral farming, with marginally better soils that could support arable production. The clay soils also had significant areas of woodland. There are some areas of 18th- and 19th-century enclosure, but the predominant pattern of small and irregular fields results from the clearance, or assarting, of woodland, a process generally complete by the 14th century. In these areas, where farms were smaller and, generally, a less rigid manorial system existed, farmers employed a wood–pasture economy similar to that of the New Forest, and often had involvement in other industries such as coppicing or brick making. By the 17th century, there were also areas of substantial arable production.

The Thames Valley was very well placed for the export of corn to London. Sheep–corn systems of agriculture developed on good soils in the eastern parts of Berkshire, though sheep were kept more for lambs and mutton to supply the London market than for their wool. Dairying and by the mid-19th century the supply of liquid milk to London developed on some areas of heavier soils. South of the Chilterns, the area of Burnham Beeches was suitable for little but forestry, but at the southern edge of Buckinghamshire there was a fertile area where market gardening flourished (Wordie 1987, pp.341–2).

4.2.10 The Weald (Figure 14)

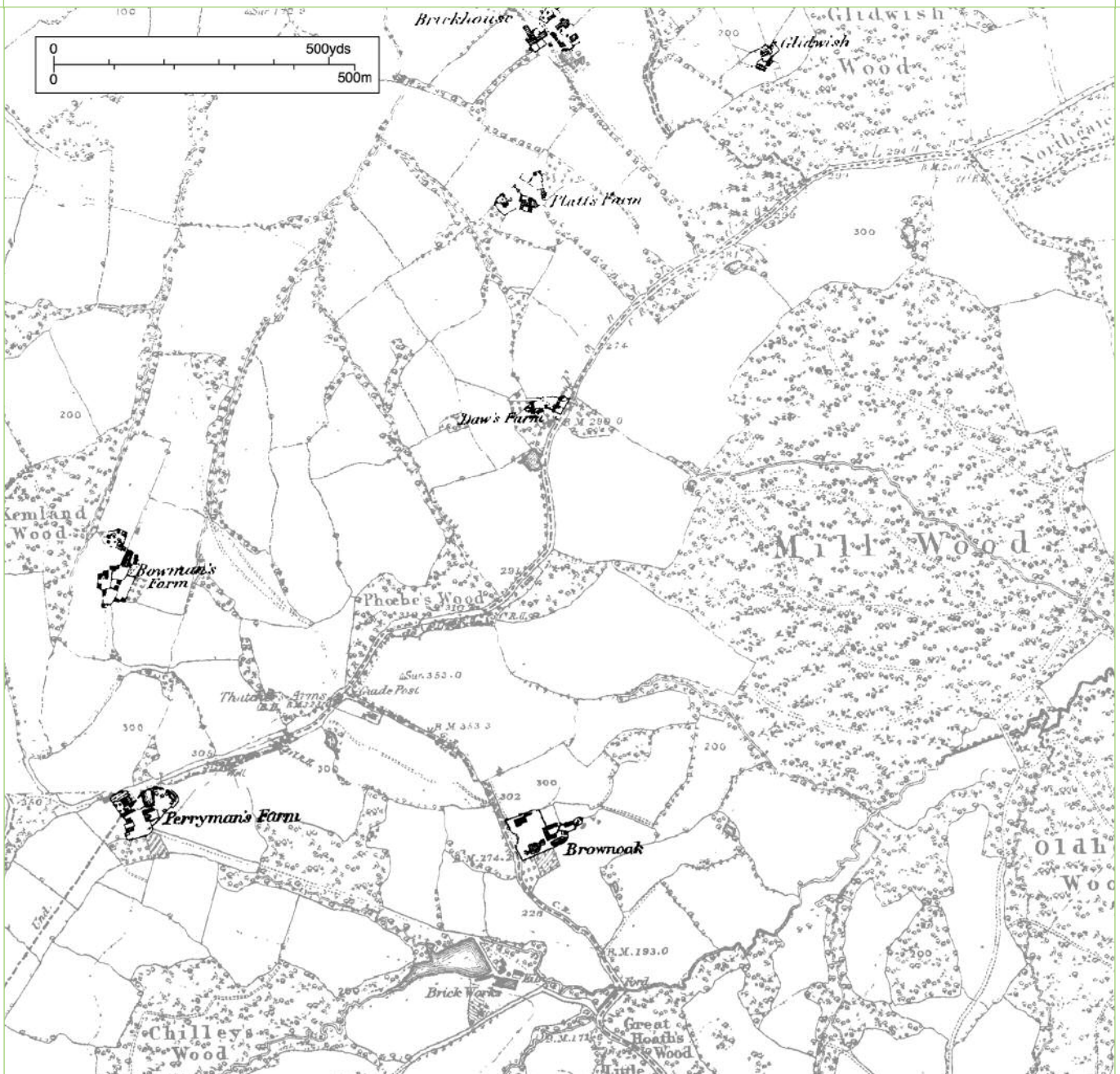
The Weald is formed by the central High Weald (JCA 122) with its lighter soils on sandstone, the surrounding Low Weald (JCA 121) with predominantly clay soils, and fringing the northern and western parts of the Low Weald the Wealden Greensand (JCA 120), characterised by heavily wooded hangars on the scarp slopes of East Hampshire and West Sussex and open heath on the relatively flat areas of sandy soil in Surrey.

A striking characteristic of the Weald is the variability of the soils within relatively short distances, a feature noted by both Gilbert White and William Cobbett (Brandon 2003, p.25). The Weald was a heavily forested area used as common pasture by communities, which began to be converted to permanent occupation from the 10th century. From the later 11th century there appears to have been a growth in the number of new farms created

14 Farmsteads in the landscape: Brighton, East Sussex (High Weald)

Settlement in the High Weald is predominantly dispersed with many small, scattered farmsteads that largely developed during the medieval period when the characteristic small, irregular fields were carved out of woodland. In this area the smallest farmsteads could consist of a farmhouse and a timber-framed multi-functional barn, which provided crop storage and animal housing. Often there was no planning in the layout of farmsteads resulting in dispersed plans, larger examples of which sometimes had several detached buildings each with a yard area attached. Regular courtyard plans are relatively uncommon. Based on OS 1st Edition 6" map 1853–1890.

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out of the woodland. By the late 13th century the Wealden landscape comprised a scattering of economically viable gentry properties intermingled with a mass of small peasant holdings of up to 30 acres – although many new assarts of the period were as small as 3–5 acres – practising subsistence-level farming (Hallam 1988, pp.625–34). During the 14th century there was some depopulation, with holdings abandoned or merged and some farmers accumulating holdings of a reasonable size. Some colonisation of the woodland continued in the 15th and 16th centuries, at which time there was a considerable growth in population (Martin & Martin 1982, pp.8–9; Everitt 1986, p.54).

The result of this gradual clearance of the forest is many small farms with small, irregular, enclosed fields, often with wide field margins and heavily wooded hedges. Research into farmsteads in the Rape of Hastings in the eastern Weald has estimated that, excluding holdings of less than 15 acres, over half of farms were of between 15 and 50 acres and one third were between 50 and 150 acres. Around 10% of farms were over 150 acres but rarely were they larger than 250 acres. Small farms tended to have small fields, typically less than 5 acres in size (Martin & Martin 1982, pp.4, 9).

Up to the 14th century Wealden farming had a greater bias towards arable. The balance between arable and pastoral farming shifted as a result of depopulation in the 14th and 15th centuries when much of the arable became pasture or rough grazing. By the mid-16th century arable was rarely mentioned in surveys although the survival of barns shows that crops were grown. The Port Books of Rye also suggest that the area could grow sufficient for its needs and also export oats. Inflation in food prices in the late 16th and early 17th centuries stimulated an increase in arable to around one third of farmland, but the average Wealden farm had only around 10 acres of arable (Thirsk 1967, p.58; Martin & Martin 1982, p.11). By the mid-19th century there had been an increase in arable land. In the Rape of Hastings between two thirds and three quarters of farmland was classified as arable by 1840, whilst in the Surrey Weald over 90% of the soils on the Bargate outcrop were arable in 1870. By 1939 this figure had dropped to less than 30%. Before the late 18th century most of the arable was devoted to the production of animal feeds (Wooldridge & Goldring 1953, p.235; Martin & Martin 1982, p.13).

Cattle were the most important element of Wealden farming. In the eastern Weald it has been shown that farms of less than 50 acres had between one and 12 head of cattle, and that farms of 50–99 acres typically had 10–32 head of cattle. These animals were primarily fatstock but there was also some dairying, primarily for local use although in the Rother Valley cheese making was clearly a subsidiary enterprise for the market. In areas where the cloth industry was strong, around Tenterden and Marden for example, cheese production appears to have been carried out on a semi-commercial scale at least, with clothiers also dealing in cheese (Thirsk 1967, p.58). Few sheep were bred except for a small number to provide early fat lambs (Boys 1805, p.176; Wooldridge & Goldring 1953, p.234) although sheep-folds are shown in many fields in the Isle of Oxney on 1st Edition Ordnance Survey maps, suggesting that by the mid-19th century sheep were an important feature of the valley. In the Weald oxen continued as draught animals, often worked in teams with horses, into the late 19th century (Bosworth 1909a, p.54).

Accompanying these agricultural enterprises were two other activities of immense importance in the Weald: timber and iron. Timber and firewood were the major exports from Sussex ports in the later 15th century (Miller 1991, p.135) whilst the iron industry, the centre of British iron making in the 16th century, also consumed massive quantities of coppice wood. These industries provided additional employment opportunities for many Wealden farmers, until the decline of the industry towards the end of the 17th century caused by cheaper imports, the rising price of fuel, the

successful development of the use of coke by Abraham Darby at Coalbrookdale in Shropshire, and the loss of naval contracts to provide cannon (Brandon 2003, pp.129–40).

The arrival of the railways in the mid-19th century made a significant impact on the agriculture of the Weald, opening up the London market for hops, fruit and poultry (Everitt 1986, p.53; Brandon 2003, pp.226–7). The Weald did not experience agricultural depression to the extent of the downland areas. Fruit and hop growing across the Low Weald and the Wealden Greensand on the northern side of the High Weald insulated these areas from the worst of the depression, whilst poultry rearing and fattening often provided a better income than any other form of farming.

4.2.11 Isle of Wight (JCA 127)

Although a relatively small area, the Isle of Wight could be divided into as many as five agricultural regions, although, historically, there has been disagreement on how to divide the island. By the mid-19th century farm size averaged around 60 acres and most farms were mixed (Dodd 1979, p.251) but the good fertility of the soils encouraged a focus on arable crops, principally wheat. Most of the island was enclosed by the mid-18th century and there was very little common grazing land (Wordie 1987, p.346). Only the downland of the chalk ridge running across the island remained largely unenclosed and these areas carried large flocks of sheep.

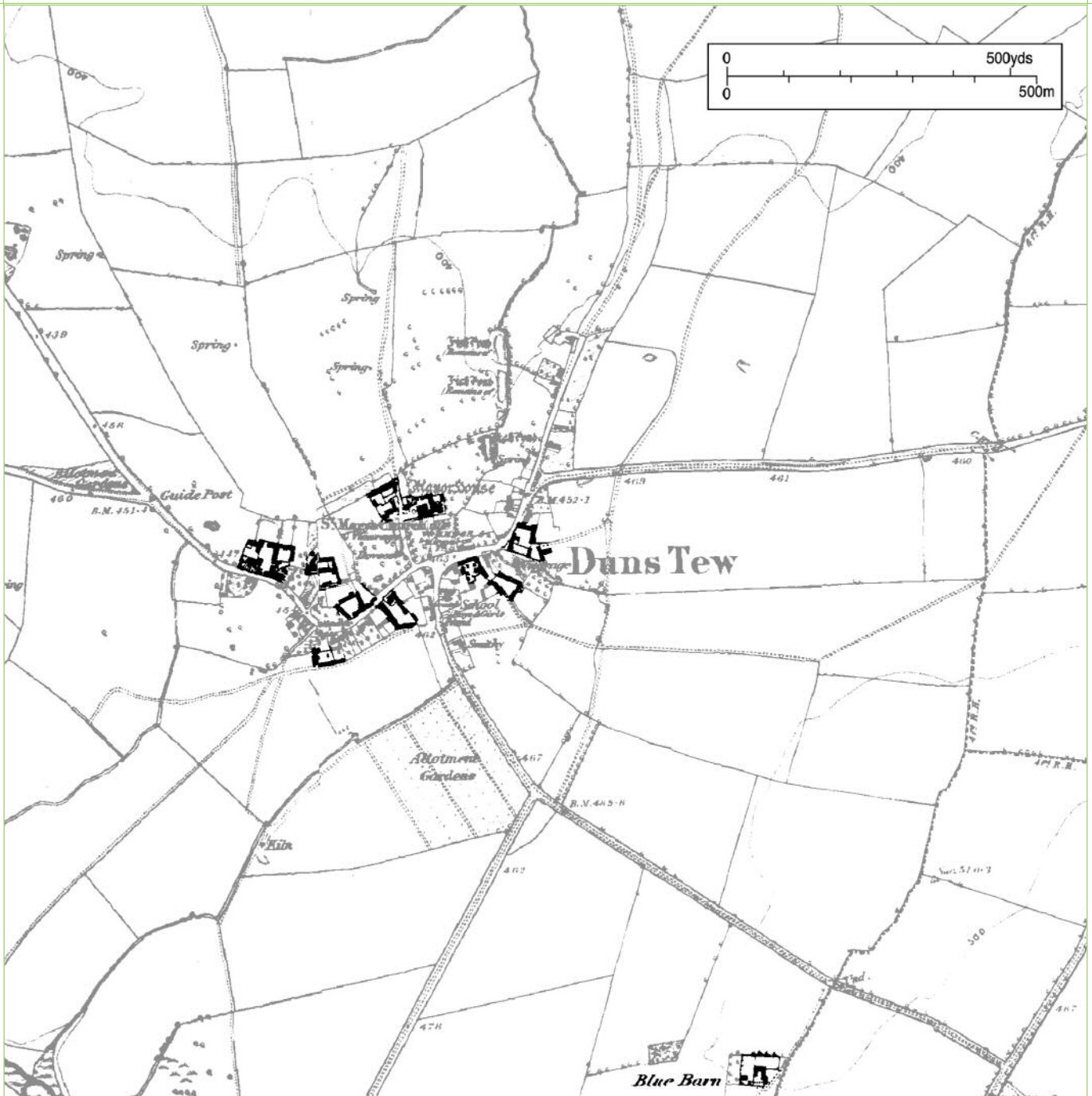
4.2.12 Upper Thames Clay Vales and Midvale Ridge (JCAs 108 and 109)

These areas cover the heavy soils of Oxford Clay Vale, the Vale of Aylesbury and the Corallian limestone ridge that runs along the centre of the clay vales. Generally this was an area of mixed farming and common fields working on a three-course system, most of the present fieldscapes – with the exception of areas around settlements and in dry valleys – being the result of 18th- and early 19th-century enclosure. Dairying was a significant element of the farming throughout the vales although it was of particular importance in the western part of the area (Thirsk 1967, p.49; Wordie 1984, pp.323–4). In the Buckinghamshire vales butter for the London market was the primary product (James & Malcolm 1794, p.15).

In contrast to the chalk valleys of Hampshire, there were hardly any watermeadows, the meadows being considered sufficiently rich without watering; in fact, the Vale of Aylesbury was described as one of the best grazing areas of the country (James & Malcolm 1794, pp.15, 44). Suckling was also carried out on an extensive scale although it was declining by the early 19th century (Priest 1810, p.303).

15 Farms in the landscape: Duns Tew, Oxfordshire (Cotswolds)

This north-western part of the Region extends into Roberts and Wrathmell's Central Province where settlement predominantly consists of nucleated villages. Duns Tew is a small village with a cluster of farmsteads, four of which are still working farms, lying close to the junction between clay vales to the north and limestone to the south. All the listed farmhouses and barns date from between the early 18th and 19th centuries, probably reflecting reorganisation of holdings after enclosure of the open fields. It is noteworthy that so many farms remained in the village rather than moving out to their newly enclosed holdings. The only earlier farm building in the village is a 16th-century dovecote at Manor Farm. Based on OS 1st Edition 6" map 1853–1890. © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2005) Licence numbers 000394 and TP0024



4.2.13 Northamptonshire Uplands and The Cotswolds (JCA 95 and 107) (Figure 15)

The northern tip of Oxfordshire – within the Northamptonshire Uplands character area – was known as the Marlstone Uplands or the Redland District on account of its red loam soils, and was called 'the glory of the county'. It was a fertile area that was densely settled and had many small farms of around 20–30 acres working the open fields from nucleated villages. The widespread survival of ridge and furrow, and of settlement earthworks, bear testament to the

replacement from the 14th century of arable farming by sheep pastures. Patterns of enclosure are closely linked to the development of gentry and aristocratic estates, and range from at least the 16th century to the 19th-century enclosure of common fields. Although soil fertility was high, making it an ideal corn-growing area, most crops grown were fodder crops supporting dairying and beef, with some sheep and pigs (Thirsk 1967, p.67). It is considered that this reflects the transport difficulties the area faced in getting its products to market, as there were no navigable rivers.

Therefore, it was easier to get livestock to market at Oxford than it was corn. Wool and cheese, however, had a higher value-to-weight ratio and so land transport was financially viable. Even so, compared to most of the Region, this area retained a peasant economy aimed more at self-sufficiency than supplying the national market until the mid-18th century (Wordie 1984, pp.319–20).

To the south of the Marlstone Uplands – and located within the Cotswolds character area – is the Limestone Uplands, an area that more closely resembles the Gloucestershire Cotswolds. Agriculturally, the area was much more dynamic than the Marlstone Uplands. The

area retained some of its open fields but improvements to the systems were made; the two or three arable fields were divided into four or six fields to allow greater flexibility of rotations and to reduce the area of fallow. Additionally the use of leys for producing fodder crops, especially sainfoin, and the consolidation of strips whilst retaining common rights meant that heavier stocking levels were possible. Although common fields persisted, there was also more early enclosure in this area than in the Marlstone Uplands, possibly as there were fewer landowners with larger farms and large estates were conspicuous, so making it easier to arrive at an agreement to enclose than areas where there were many small farmers (Wordie 1984, pp.321–2).

5.0 Farmstead Types

5.1 NATIONAL OVERVIEW

Farmsteads perform several basic functions: providing shelter for farmers and their families; the housing and processing of crops; the storage of vehicles, implements and fodder; the management and accommodation of livestock. Building functions can be usefully distinguished between crop processing and storage (barns, hay barns, cider houses, oast houses and farm maltings, granaries) and the accommodation of animals (cow houses and shelter sheds, ox houses, stables, pigsties) and birds (dovecots and poultry houses). These functions can either be accommodated within individual specialist structures or combined with others into multi-functional ranges.

The great diversity of farmstead plans (Figure 16) provides a very direct reflection of the degree to which these farm-based functions are located in specialist or combination structures and ranges. The resulting diversity of form and scale is the direct outcome of the significant variation in farming practice and size that occurs both over time and from place to place. Individual farm buildings, for example, could be:

- Small-scale and highly dispersed, as in the wood–pasture landscapes of the Kentish Weald and the Suffolk clays;
- Set out in strong linear groupings, especially in northern pastoral areas with little corn and longer winters and where there was an obvious advantage in having cattle and their fodder (primarily hay) under one roof;
- Arranged around yards, examples being the large aisled barn groupings of the southern English downlands and the large planned layouts built in accordance with ideas being spread through national literature and contacts.

A critical factor in farmstead planning is also the relationship of the farm buildings to the working areas within and around the farmstead and the farmhouse. The major working areas were trackways to surrounding fields and local markets, ponds and cart washes, the areas for the movement of vehicles and animals, the accommodation of animals and the platforms where hay and corn would be stacked, the latter prior to threshing in the barn. The size of the areas for stacking corn (known as rickyards in most of the country) varied according to local custom and the extent of arable crops kept on the farm.

Local tradition and status were the principal reasons for whether the house was accessed through the yard and buildings were attached, or whether the house

looked toward or away from the yard. Internal access between dwelling house and farm buildings was a feature of farmyard architecture in much of Europe. However, in England from the 13th century it became much more common to have separate entrances, even where buildings and houses were joined. The role of women in the farmyard was commonly restricted to 'milking cows, feeding pigs and calves, making butter and cheese, tending poultry, and occasionally tending with the hay and corn harvests' (Whetham 1978, p.81). This led to the integration into the house of processes such as brewing and dairying, and a formal separation of the house and gardens from the farmyard, especially in the case of post-1750 remodellings and larger farms typically over 150 acres. In such instances, the house could face toward its own home close or garden.

The development of the farmhouse has been the subject of regional and national studies (Barley 1961, for example). Farmhouses can tell us much about the former prosperity and development of steadings, such as the major phases of rebuilding that affected parts of southern England in the 15th to early 17th centuries and the wealth introduced through cattle rearing in parts of northern England in the century or so after 1660. In summary, the most common farmhouse plan of the medieval period, traceable to the 12th century, has the main entrance in one side wall to an entrance passage (usually with a door opposite) that separated an open hall (to allow smoke from the fire to escape through the roof) from a lower end, which could house a kitchen, services and in some areas livestock. The hall served as the main living and eating room, status and space determining whether there would be an inner chamber (for sleeping or a private area) beyond. By the end of the 16th century, farmhouses in most areas of England (except in the extreme south-west and the north) had been built or adapted into storeyed houses with chimneystacks. There was a strong degree of regional variation, for example in the positioning of the chimneystacks and their relationship to the main entrance. From the later 17th century, services in some areas were being accommodated in lean-tos (outshots) or rear wings. From the mid-18th century houses that were more symmetrically designed (with central entrances, chimneystacks on the end walls and services placed to the rear of the front reception rooms) became standard across the country. As a general rule, farms over 70 acres needed to look beyond the family for additional labour, and so rooms for live-in farm labourers – usually in the attic or back wing of the house – became a feature of many farmhouses.

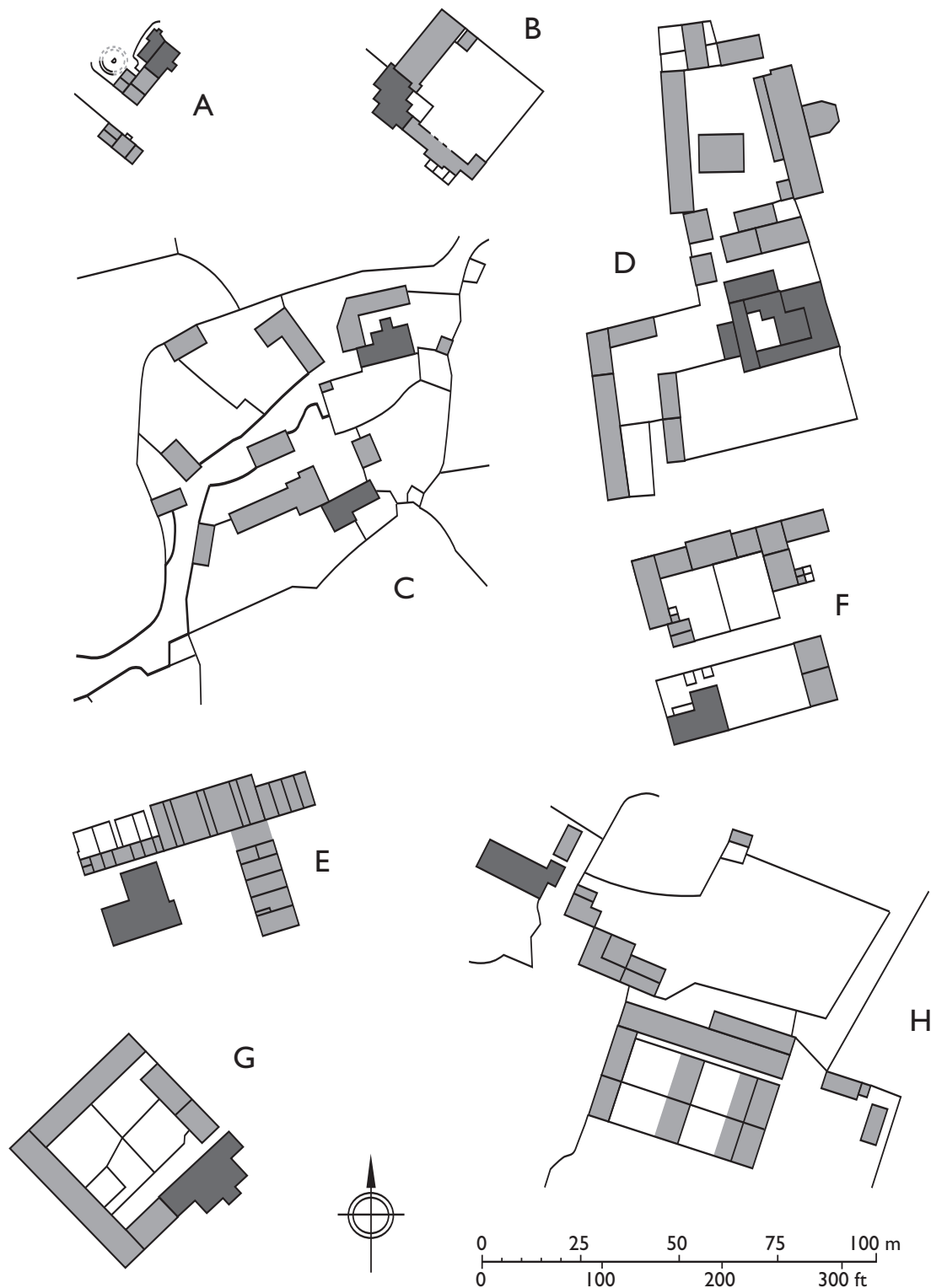
16 Farmstead plan types (Farmhouses are shaded darker)

- A Linear plan. House and farm building attached and in line. This is the plan form of the medieval longhouse but in upland areas of the country in particular it was used on small farmsteads up to the 19th century.
- B L-plan including the farmhouse. Such plans can be a development of a linear plan or can represent a small regular courtyard plan (see E-G, below).
- C Dispersed plan. Within this small hamlet the farm buildings of the two farmsteads are intermixed, with no evidence of planning in their layout or relationship to the farmhouses. Dispersed plans are also found on single farmsteads where the farm buildings are haphazardly arranged around the farmhouse.
- D Loose courtyard. Detached buildings arranged around a yard. In this example the yard is enclosed by agricultural buildings on all four sides with the farmhouse set to one side. On smaller farms the farmhouse may form one side of the yard, which may have agricultural buildings to

only one or two of the remaining sides.

- E Regular courtyard L-plan. Two attached ranges form a regular L-shape. The farmhouse is detached from the agricultural buildings.
- F Regular courtyard U-plan. The yard, in this example divided into two parts, is framed by three connected ranges. Again, the farmhouse is detached.
- G Full regular courtyard. The yard is enclosed on all sides by buildings including, in this example, the farmhouse. Other examples are formed by agricultural buildings on all sides with the farmhouse built to one side.
- H Regular courtyard E-plan. This plan form (and variations of it with additional ranges) may be found on some of the larger planned farmsteads where livestock were a major part of the agricultural system. Cattle were housed in the arms of E the 'back' of which provided space for fodder storage and processing.

Drawn by Stephen Dent © English Heritage



The predominant farmstead plan types, which are closely related to farm size, terrain and land use, are listed below. There are many variations on these themes, particularly in the manner in which fully evolved plan groups can, as a result of successive rebuilding, contain elements of more than one plan type.

5.1.1 LINEAR PLANS

This group comprises farmsteads with farm buildings attached to, and in line with, the house. It includes some of the earliest intact farmsteads in the country.

The earliest examples of linear plans are *longhouses*, which served as dwellings for farmers' families and housing for cattle. Each longhouse had a common entrance for the farmer's family (accommodated at the up-slope end of the building) and livestock, the cow house being marked usually by a central drain and a manure outlet at the lower gable end. Longhouses were often found grouped together and associated with strip farming of the surrounding fields. Documents and archaeological excavation indicate that they had a widespread distribution in the north and west of the British Isles in the medieval period, but that in much of lowland England they were either absent or being replaced by yard layouts with detached houses, barns and cow houses from the 14th century (see, for example, Gardiner 2000 and Figure 17). Such re-buildings are commonly believed to be associated with the decline of smaller peasant farmers and the emergence of a wealthier peasant class. Longhouses, and their variant types with separate entrances for livestock and farmers, continued in use in parts of the South West, the Welsh borders and the northern uplands and vales into the 18th and 19th centuries. Those built in or before the 17th century were originally entered from a passage, which also served as the entrance to the house. However, during the 18th century social pressures led to the provision of a separate dividing wall and byre door, and to the demolition of some byres and the conversion or rebuilding of others to domestic or new agricultural use (barns, for example). The piecemeal rebuilding and conversion of both lower end and house-part that this permitted tended to discourage total reconstruction, inevitably limiting the ability to respond effectively to changing requirements. These later changes are clearly visible in the buildings, as is evidence about the size and layout of the original byres, and of the arrangement of the passage (against which the stack heating the main part of the house was positioned) that once formed the common entrance to these longhouses as a whole. The initial dominance of the longhouse in some areas is significant, since, as a house type capable of almost infinite adaptation, it exerted considerable influence on the subsequent evolution of farmsteads.

Linear layouts (including the *laithe house* of the Pennines) are now most strongly associated with the hill farms of northern England (North East, North West and Yorkshire and the Humber). A major reason for the persistence of the layout in northern England was that it was suited to smaller farms (of 50 acres or less) needing fewer buildings – other than for the storage of subsistence levels of corn for the household and livestock, and the housing of some milk cattle, poultry and pigs. The close proximity of farmer and livestock during the winter months was another factor, cattle being stalled indoors from October to May. It was also a layout ideally suited to building along the contours of a hillside and so this farmstead plan remained in use in upland areas of England into the 19th century.

Linear plans have often evolved as a result of gradual development, for example in the rebuilding of a lower end for the cattle as service area for the house, and the addition of new cow houses, stabling and barns in line. Linear layouts will often be associated with loose scatters or even yard arrangements of other farm buildings.

5.1.2 PARALLEL PLANS AND L-SHAPED PLANS

These invariably enclose two sides of a yard, and often represent developments from earlier linear plans, if they have not been constructed in a single phase. L-shapes often evolve from the addition of a barn or byre to an original linear farm, or can represent the partial re-organisation of a dispersed plan. They are typically found on farms in the 50- to 150-acre bracket, and can be formal or highly irregular in appearance, with or without scatters of other farm buildings.

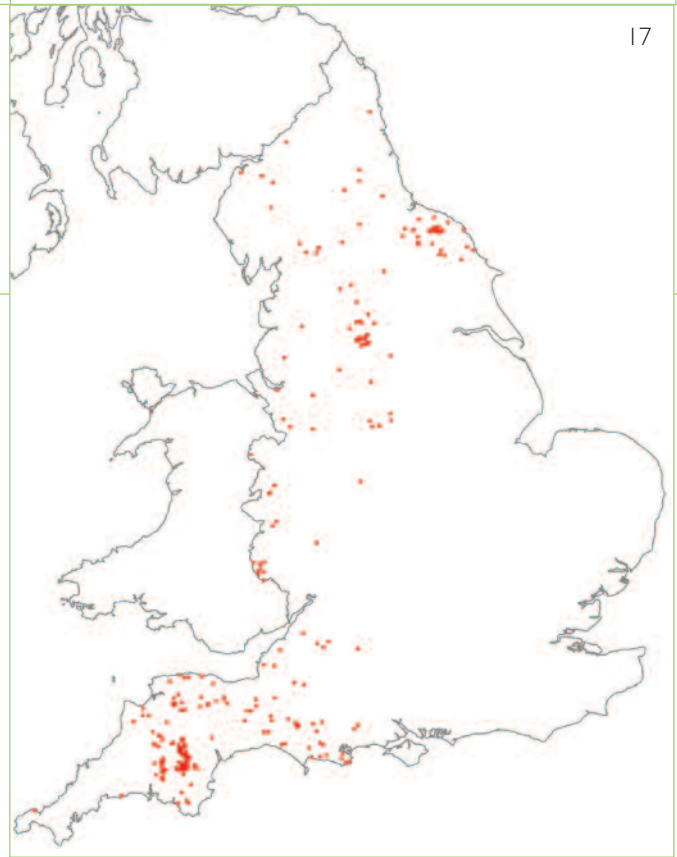
5.1.3 DISPERSED PLANS

The buildings of this group appear to be arranged haphazardly around the farmstead. Dispersed plans are typically found on smaller farms in stock-rearing or dairying areas, where a large straw yard for cattle was not required. They can range in size from the very small – for example a farmhouse and combination barn – to large groups of two or more blocks or individual structures, some or all of which may combine a variety of functions.

5.1.4 LOOSE COURTYARD PLANS

This group is characterised by single or double yards flanked by buildings on three or four sides, with or without scatters of other farm buildings close by. There are excavated and documented examples of this layout dating from the 13th century (in Hallam 1988, pp.860, 889) associated with: the base courts of large baronial and episcopal establishments; with moated manorial sites (where the farm buildings were arranged either within or outside the moat); and with the farms of an emerging wealthier class of peasant, the latter often replacing two or more previous steadings with

17 Distribution of listed longhouses in England. Surviving longhouses – a proportion of which have been recognised as such in listing descriptions – represent only a small proportion of a building type that was once prevalent across large parts of western and northern England. The concentration of a fine group of surviving longhouses on the eastern fringes of Dartmoor is particularly prominent. Recent research has shown that in some areas such as north Yorkshire many village-based farmhouses have longhouse origins that have previously not been recognised. There are no known longhouses in the South East Region.
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longhouses (Le Patourel in Miller 1991, pp.843–65). This plan became most strongly associated with large arable farms: for example, many farmsteads on the downlands of southern England have one or more barns providing shelter to a south-facing yard (as recommended but not always followed), typically bordered by a stable, granary and later shelter sheds.

5.1.5 REGULAR COURTYARD PLANS

Formal courtyard layouts, where the barns, stables, feed stores and cattle shelters were ranged around a yard and carefully placed in relation to one another in order to minimise the waste of labour, and where the manure could be conserved, were recommended from the mid-18th century and many are documented from this period, although no surviving groups can be dated before the 1790s. The earlier examples are courtyard or U-plan with the barn forming the central block, and shelter sheds, stables and enclosed cow houses the two side wings. The fourth side could be no more than a wall with a gateway, or contain further sheds or smaller buildings such as pigsties, or be distinguished by a house (usually looking away from the yard). From the 1820s and 1830s, extra yards made E or even double-E plans.

The ultimate examples of courtyard farmsteads are the planned and model farms of the late 18th- and 19th-century estates (Figure 18), the ideas for which were widely disseminated in textbooks and journals (Wade Martins 2002). They are generally associated with holdings over 150 acres, and are far less likely than the other plan types to be associated with other loose scatters of buildings.

5.2 FACTORS INFLUENCING FARMSTEAD CHARACTER

The occasional merging of plan types can make the variations on these principal themes seem almost infinite. The identification and analysis of the broad patterns of plan types can reveal much about the impact of the factors that influence farmstead character.

5.2.1 FARM SIZE

Generally, larger holdings were more likely to be provided with larger and/or more buildings. In the 18th and 19th centuries, the 'contemporary rule of thumb was that a man was needed for every 25 or 30 acres of arable and every 50 or 60 of pasture' (Mingay 1989,

p.953). Statistics on the numbers of farms by size can be misleading: although 71% of holdings were under 50 acres as late as 1880 (Howkins 1994, p.53), the proportion of land area taken up by small farms was much smaller and regionally very varied. By the 1850s, medium-size farms – typically mixed arable holdings – were between 100 and 299 acres, and occupied nearly half of England's acreage; as much as one third was taken up by large farms of over 300 acres, these being best placed to invest in 'High Farming' (Mingay 1989, p.950). Farms of 500 acres and above were found on the chalk downlands of southern England, and in the Lincolnshire and Yorkshire Wolds: 1000 acres was not uncommon in these areas (Prince in Mingay 1989, p.82). These farms had greater access to capital and were usually associated with corn production, which typically demanded more labour for carting, harvesting and threshing and increasingly for yard and stock management: strawing-down yards, lifting the heavy manure-laden straw into middens and carts and spreading it on the fields. Smaller farms, typically found in dairying and stock-rearing and fattening areas, required fewer large buildings and were less likely to have the capital to expend on rebuilding farmsteads to fit with developing agricultural practice. The very smallest (of under 50 acres) thrived in fruit-growing and market-gardening areas (often clustered around urban sites), and in locations such as west Cornwall and the Pennines where there was gainful by-employment in industry – for example the weaver-farmers of the West Riding linear-plan farms, noted by Caird (1852), who kept dairy cattle on holdings of around 20 acres, supplying nearby towns with milk (Mingay 1989, p.940).

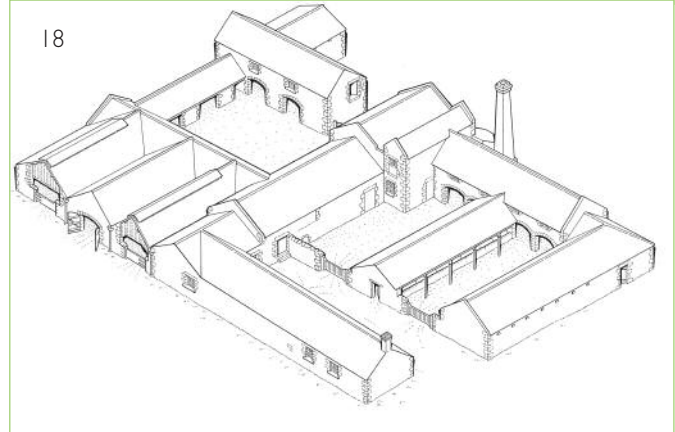
5.2.2 ESTATE POLICY

Estates, and thus landlords and their agents, have been massively important in English rural history, with tenants occupying some 85% of the farm area until the land transfers of the early 20th century mentioned in 4.1.4 above (Mingay 1989, pp.943–4). The character of an area thus can be strongly influenced by the estate of which it was part. Family insignia, estate-made bricks and the styling of cast-iron windows or ventilation grills can all give a unity to buildings over several parishes and this is as true of farm buildings as of cottages and village schools. Typically, and observable from 1350 onwards (Le Patourel in Miller 1991, p.846), improvements by landlords were aimed at attracting good tenants in either times of plenty (when capital expenditure could secure an increase in rent) or depression (when it could forestall a decrease). By the mid-17th century, home farms were being developed as examples of best practice for tenants. Between 1650 and 1750 landlords assumed increasing responsibility – in comprehensive lease agreements – for fixed capital works (particularly barns and houses) and after 1750 the influence of estates can be seen in the planning and design of buildings and entire complexes for home farms and tenant farms (Thirsk 1985, pp.72, 235; Thirsk 1967, pp.680–81; Wade Martins 2001). Estates often erected new buildings in order to attract tenants with the working capital to invest in their land and thus, through increased productivity, maintain rents at a high level. The policies of larger estates often discriminated against smaller holdings and the maintenance of their buildings. County studies (for example, Wade Martins 1991) have demonstrated how varied estate policy in similar areas could be, despite the rise of the land agent as a professional class, increasing access to farming literature and the ironing out of many glaring inconsistencies in estate practice by around 1850. The small estate is less well understood (e.g., Collins et al 1989).

5.2.3 LOCAL VARIATION OF FARMING SYSTEMS

The type and form of built fabric display regional variations that are more firmly linked to the broad pattern of land use and its landscape context (whether wood pasture, enclosed or open landscapes). In East Anglia the older timber-framed, evolved farmstead groups with ample barn provision and multi-functional buildings are associated with the small, well-hedged fields typical of the wood-pasture regions, while the large planned farms of brick or brick and flint are found on the later enclosed areas of heath (Wade Martins 1991; Wade Martins & Williamson 1999). The differences within Wiltshire are also clearly demonstrated by the farm buildings: the chalkland typically has loose courtyard plan steadings with their large-scale barns serving specialist corn and sheep husbandry; the smaller farms associated with dairying and cheese production in the

18 A large regular courtyard plan (North Northumberland Coastal Plain Character Area), dating from the early to mid-19th century and placed within a landscape affected by large-scale reorganisation and enclosure from the 18th century. This large farmstead was devoted to fatstock housing and incorporates three open yards lined with hemmels and a covered yard with a root store (left, with open doors). The farmstead also incorporated a stationary steam engine, which would have powered threshing machines, as well as fodder preparation machines such as chaff cutters and cake breakers. © *English Heritage*



northern wood-pasture area are of a more dispersed plan (Slocombe 1989). The yard management of stock also displayed a strong variation dependent on regional or estate practice. Thus the long-established practice of buying store cattle in spring and selling them on in the autumn survived longest in areas with rich grasslands, such as the Somerset Levels and the east Midlands, in contrast to Norfolk and the eastern lowlands where yards were filled over winter, even during the lean years for the beef industry in the 1930s (Whetham 1978, pp.290–91).

5.2.4 INTERNAL WORKINGS OF THE FARMYARD

The layout of the farmyard should firstly be seen in relationship to its immediate setting: of crop storage and processing buildings to the fields; of yards, platforms for corn, haystacks and cart sheds to trackways. Secondly, an important characteristic is the degree to which the layout of the farmstead was related to function. The planning of farmsteads to maximise efficiency engaged an increasing number of writers from the 1740s, who generally rated traditional layouts poorly against the perceived benefits of ordered and ideally planned layouts that minimised, for example, the time it took to process a stack of corn, transport the straw to the cattle yard and grain to the granary or mixing room. Many such writers, however, did not display sufficient understanding of the other factors – land use, terrain, weather, farm size, location in village or open countryside – that dictated layout. The most comprehensive analyses of local farming systems in relationship to farmstead layout are contained in Barnwell & Giles (1997).

5.2.5 DEVELOPMENT OF FARMING SYSTEMS

Archaeological evidence from deserted medieval settlements has shown how linear plans, including longhouses, were replaced by loose courtyard

arrangements as owners prospered and their holdings grew larger (Lake 1989, pp.81–2; Gardiner 2000). Evidence from the tithe maps and first-edition 25-inch maps for sample Norfolk parishes showed that nearly half the farms were of an irregular layout in 1840 with very few regular E- or U-shaped courtyard plans. By 1880 dispersed layouts had reduced to an eighth, with E- and U-plans accounting for about a quarter of farms (Wade Martins 1991, p.199).

5.3 FARMSTEAD PLANS IN THE SOUTH EAST REGION

Sheds for livestock and implements as well as stables are clearly indicated in medieval documents (e.g. Harvey 1970; Page 1996; Page 1999). However, despite the relatively good survival of early buildings – overwhelmingly barns – surviving large medieval farmsteads are rare. One of the few examples is Abbey Farm, Faversham, where two medieval barns and a stable survive. However, there are many smaller farmsteads that retain a house and barn (which often incorporated other functions such as stabling or cattle housing) of 15th- to 17th-century date.

5.3.1 LINEAR, L-PLAN AND PARALLEL PLANS

The longhouse is unknown in the South East Region. Linear plans are found in the Cotswolds and Northamptonshire Uplands areas but are otherwise uncommon. L-plans, with the house fronting the village street and the barn at right angles, are also found dating from the 17th century in these areas. There are some medieval houses with a barn attached in-line with the house but without any internal access from the house to the agricultural part of the range. It may be that these few examples represent what was once a far more common plan form for small farmsteads that have long been removed from agriculture, but there is little evidence in the form of void mortices in the timber-framed gables of houses across the Region to support this.

5.3.2 DISPERSED PLANS

In some areas, such as the Weald, cartographic evidence shows that there was often no attempt at planning or creating a formal yard area. Instead the house and barn (often the only buildings of the farmstead) were set fairly close together but in many instances there is no clear relationship. This unplanned nature of farmsteads in the Weald persisted until the mid-19th century, from which time there is increasing evidence of more formal layouts, usually on estate-owned farms. It is common, however, to find that the earlier barn was retained to form one side of the yard (Martin & Martin 1982, pp.23–4, 30). In other parts of the Region, where small farms with few buildings were usual, such as on the heathland fringes, there is a similar lack of evidence for planning.

Within the Weald larger dispersed plans are found where the farmstead consists of a number of buildings with individual yards, sometimes including small regular L- and U-plan groups, scattered around the farmhouse. Individual building ranged alongside a wide trackway leading to the farm were also commonplace.

5.3.3 LOOSE COURTYARD PLANS

The South East Region has one of the major concentrations of early (pre-1550) buildings and pre-1750 layouts in England. The loose courtyard plan, formed by a collection of detached structures arranged around a yard, usually with the farmhouse located on one side of the yard, is the predominant farmstead type in the Region.

Over time these loose courtyard plans evolved with the alteration and addition of buildings. The earlier barn could be extended or an integral stable opened up to increase barn space, and a porch was often added as grain output increased at the end of the 18th century. A second barn might also be built. A separate cow house and stable block to replace the stable originally in the barn are typical additions. From the 17th century, but increasingly from the 18th and 19th centuries, free-standing granaries could be added to the plan. These individual buildings were sometimes connected by temporary hurdles or brick walls to create yards for the winter sheltering of animals. There are a number of 17th-century gentry farmsteads in Hampshire that have detached buildings to all four sides of the yard.

A common addition to farmsteads across the Region from the later 18th century to the late 19th century was a livestock shed, reflecting the increased awareness of the need to provide accommodation for fatstock. In some areas, such as the Berkshire Downs, these new shelter sheds were intended to house animals whose primary role was to produce manure to maintain soil fertility for cereal production (Barnwell & Giles 1997, p.15–16).

5.3.4 REGULAR COURTYARD PLANS

Although large estates were present in many parts of the Region the South East does not contain high numbers of model farms. New integrated plans are uncommon, individual examples of barns, granaries and cattle housing – for example, on the Dukes' of Norfolk Arundel Estate (Banister 1994) – commonly representing the activities of estates in the Region. There are some important examples of the High Farming ideals made manifest in farm buildings, such as the farmsteads of Prince Albert in Windsor Great Park and at Osborne on the Isle of Wight (Wade Martins 2002, pp.214, 217), the Earl of Radnor's model farm at Coleshill, now in Oxfordshire (Downing, 2001) and the early 19th-century farmsteads at Sheffield Park and Petworth, West Sussex. Where later

planned and model farms were built they were often financed from sources other than agriculture: for example, the Nicholsons in Hampshire, who derived their wealth from gin, or Lord Portal at Laverstoke in Hampshire whose family's wealth was based on paper making and bank-note printing. Across Hampshire the smaller U- and L-plan regular courtyards are more typical than the larger E-plan farmsteads (Edwards, forthcoming).

In some areas, for example East Hampshire, many farmsteads were provided with L-plan yards providing

enclosed cow houses and fodder storage (Edwards 2005, p.75). These new yards often replaced earlier buildings and were sometimes accompanied by an earlier, often late medieval, farmhouse.

5.3.5 ROW PLANS

Work in progress on mapping farmstead plans in the High Weald has identified farmsteads which have plans that consist of a long row or rows of buildings, usually lying parallel to each other. These row plans often seem to incorporate buildings of varying function and may have a number of yards attached to one or both sides.

6.0 Key Building Types: Crop Storage and Processing

The analysis of key building types presented here could be presented by function rather than building type, as many functions relate to parts of buildings or parts of entire ranges or farmstead types. As the relationship between farmstead form and function has been outlined in Section 5, Section 6 will comprise a conventional overview of the key functional types. It will be noted in some regions that so many of these functions are combined in one combination barn or farmstead type that they cannot be easily teased out as a separate theme. Nevertheless, the national framework sections do present an overview of on-farm functions, and where relevant their rarity and survival, that are applicable nationally.

6.1 BARNES

6.1.1 NATIONAL OVERVIEW

In the British Isles and other parts of northern Europe, the harvested corn was often stored and processed inside a barn. After threshing – typically a process that occurred gradually over the winter months – the straw usually remained in the barn awaiting its use as bedding for livestock, while the grain destined for market or next year's seed would be stored either in the farmhouse or in a purpose-built granary.

Barns are often the oldest and most impressive buildings on the farm and are characterised by:

- Internal space for the storage of the unthreshed crop and an area (the threshing floor) for beating by flail the grain from the crop and for winnowing the grain from the chaff in a cross draught. This was also an area for the storage of straw after threshing.
- Externally, typically large opposing doors on the side walls to the threshing floor, although the size of openings is subject to much regional variation. Barns on large arable farms commonly had large threshing doors, sometimes with porches, into which a laden wagon would draw up and unload the crop. In some parts of the country the crop would be forked into the barn through pitching holes, and the threshing doors would be much smaller. Small winnowing doors sufficed in many pastoral-farming areas.
- Blank external walls, in mass-walled buildings often strengthened by buttresses or pilasters. Mass-walled barns usually had ventilation slits or patterned ventilation openings, and the wattle or lath infill to

timber-framed barns was often left exposed. In some areas, the crop would be unloaded from a cart or wagon into the barn through pitching holes.

The distinctive form and plan of barns remained comparatively little altered between the 13th and 19th centuries. Surviving pre-1750 barns represent only a small proportion of the original population, their date, scale and landscape context being major factors in determining their survival. There is only one complete survivor of the 2–2,900 tithe barns that existed on Cistercian estates in the pre-1550 period (Brunskill 1982, p.35). Local studies have indicated that small and pre-18th-century barns are most likely to survive on farm holdings of less than 150 acres that have not experienced major growth in subsequent centuries (Wade Martins 1991, p.160). These are concentrated in landscapes of ancient enclosure, improving estates and the process of enclosure in the post-1750 being linked to often wholesale rebuilding.

Major variations were in the five following areas.

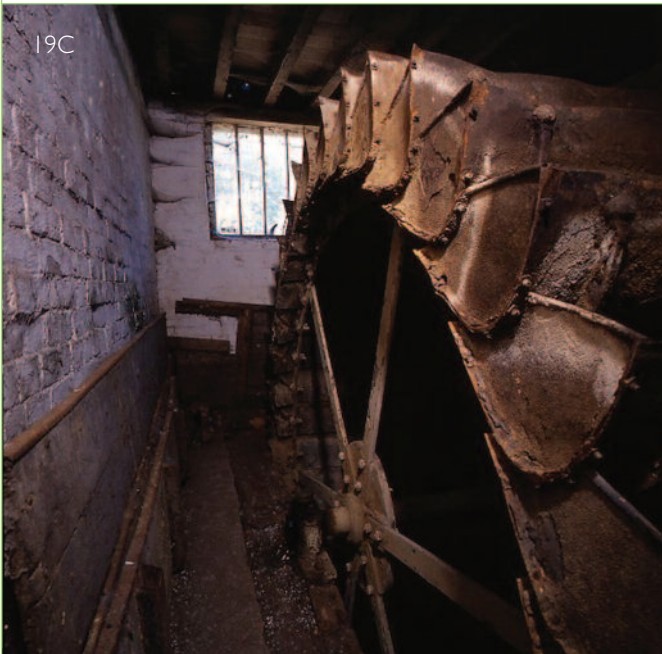
6.1.1.1 Plan form

In the most common form of plan the threshing floor was in the centre, although it could be sited off-centre or at one end. A greater span was enabled by aisled barn construction, either in single or double aisles. This was common in East Anglia and the South East (Rigold 1971 and 1973), and for high-status buildings outside that area, including a group mostly dating from between 1570 and 1650 in the Pennines (Clarke 1972 and 1974).

Outshots or projecting lean-tos were commonly added to barns, for housing carts, livestock and other functions. The number of additional external openings indicates accommodation for other functions, ranging from minor

19 Power in barns: national examples

- A & B A projecting horse engine house that contains a rare example of an in situ horse gin. (North West Norfolk)
 - C A water wheel, providing power to the feed-processing machinery in a home dairy farm, remodelled in the 1890s. (Breckland)
 - D A farmstead that incorporated a fixed steam engine to drive threshing and other crop- and fodder-processing equipment. (Bedfordshire and Cambridgeshire Claylands)
 - E The use of portable steam engines often left no physical evidence within the barn structure but in some cases drive shafts and fly wheels survive in-situ. (Dorset Downs and Cranborne Chase)
- All © English Heritage / Michael Williams except E © Bob Edwards



doors enabling the barn to house functions such as clipping sheep when empty, to lofts and stabling,

6.1.1.2 Size

Barn size can be strongly indicative of the former extent of arable and holding size, ranging from very small in dairying or stock-rearing areas, to very large on the much larger holdings of arable areas. The practice

of mowing rather than cutting by sickle the corn crop, widespread by the 19th century, also had an impact on barn size, as large quantities of straw – ready for feeding cattle in the yard – would need to be accommodated.

In the medieval period it was common practice to house all the crop in the barn, but in later centuries the

unthreshed crop could be raised off the ground by a platform or by staddle stones (see 6.2 and Figure 22), and stored in an open yard (rickyard) or a staddle barn. Examples of the latter, typically of late 18th- to early 19th-century date, survive on the downland farms of Hampshire, south Wiltshire and east Dorset. Ricking was not a common practice in southern England until the 19th century, but was noted by observers as being common in northern England and Staffordshire in the 17th century (Colvin & Newman 1981, p.97; Peters 1969, p.65).

6.1.1.3 Combination Barns

There is increasing evidence in many parts of the country for threshing barns to have originated from at least the 17th century as combination barns, which incorporated other functions in the main body of the barn such as the housing of livestock. These ranged from the end bays of the barn to the aisles of Pennine barns or the ground floors of split-level buildings. Multi-functional two-level barns, including bank barns and their variants, were increasingly adopted from the late 18th century (and noted by the writers of the county reports for the Board of Agriculture) – often along with the introduction of mechanisation – in many areas of England (Barnwell & Giles 1997, p.156).

6.1.1.4 Evidence for mechanisation

The introduction of machine threshing after its invention in 1786 led to the erection in existing barns of additions to house machinery, for chopping and crushing fodder as well as threshing grain. Early machines were powered by horse engines in special-purpose semi-circular buildings, which projected from the barn and were commonly known as 'gin gangs' in the north of England. Steam, water and wind power were also used (Figure 19). The uptake of machinery varied across the country. In areas where labour was expensive mechanisation found favour; horse engine houses and evidence for water power being most common in the lowlands of Yorkshire and the Humber and the North East, in parts of the West Midlands and in the South West peninsula (especially Cornwall). In the southern counties, where labour was cheap and abundant until the 1850s or later, few barns bear evidence for the introduction of machinery (Hutton 1976).

From the early 19th century the traditional barn began to be replaced by large multi-functional buildings with threshing and fodder-processing areas linked to granaries, straw storage and cattle housing. These could project from the north of courtyard plans (as was common in Northumberland) or be integrated into other types of plan. In some areas, such as the eastern lowlands from Nottinghamshire northwards, the barn was from the 1850s reduced to a small feed-processing room (Figure 22, bottom).

The introduction of the portable steam engine and threshing machine meant that tackle could be taken to the stack. This was widespread by the 1850s, and heralded the end of the traditional barn as a processing building.

Features relating to the use of power are highly vulnerable and rare, particularly horse wheels.

6.1.1.5 Evidence for reuse and adaptation

Careful inspection of barn interiors may reveal evidence for reused timbers (a common practice), in addition to former floors, partitions, doors and windows. This may well indicate that a present open space was divided off at one end or even provided with an additional floor. The high point of barn building occurred during the 18th and early 19th centuries, as grain yields rose and new land came into cultivation. Additions were commonly made to existing barns or additional barns built. It is also likely that where a barn was originally multi-purpose, the animal housing was removed and a separate barn or cow house built.

Mechanical threshing had removed the need for a threshing floor and the uses to which the barn was put changed. As cattle gained in importance at the end of the 19th century barns were converted into mixing houses for fodder. The introduction of steam-powered machinery (whether fixed or mobile) usually involved the cutting of a hatch in the barn wall in order to allow belting to enter. Alterations might well involve the dividing of the building with partition walls and floors.

6.1.2 BARNs IN THE SOUTH EAST (Figure 20)

6.1.2.1 Threshing barns and Aisled barns

The South East Region is, together with the southern part of the East of England Region and Devon in the South West Region, the area where early (pre-1550) barns are concentrated. The evidence from these buildings shows that they were often large buildings (a major factor in their survival as they were able to continue to serve their purpose) and that they were being built in the 14th and 15th centuries when many other regions were experiencing a contraction in arable (Miller 1991, pp.267–8, 277). Many farmsteads across the Region were dominated by one or two barns, whilst some large farms were provided with three barns, even by the 14th and 15th centuries (Page 1996; Page 1999). At least one Berkshire farm had as many as five barns (Barnwell & Giles 1997, p.22). It is not uncommon to find two barns of different dates interconnected and forming an L-plan.

The barns of the chalk downlands could be ten or eleven bays in length with two threshing floors, whilst barns of three bays were most numerous in the Weald

20 Barns and Crop Storage in the South East Region

- A An aisled barn attached in-line to the farmhouse. Linear plan farmsteads are unusual in the South East Region. (High Weald)
- B Although aisled barns are highly characteristic of the Region, most of the earliest barns are unaisled, such as this 14th-century barn in West Sussex, partly roofed in Horsham stone slate. (Low Weald)
- C A pair of linked aisled timber-framed and thatched barns located in a village set in a chalk stream valley in Hampshire. The size of these barns indicates the importance of corn in this area. (Hampshire Downs)
- D Many barns in the region dating from between 1500 and 1700 have evidence that they were once multi-functional buildings providing not only threshing and crop-storage space but also included animal housing and sometimes included floored bays serving as hay lofts or granaries. (Thames Basin Heaths)
- E Typical of many Cotswold farmsteads is this five-bay barn built in limestone with a central porch and coped gables. Built along one side are animal sheds, probably cow houses. (Cotswolds)
- F A five-bay unaisled barn built in chalk with an attached building under the same roof to the left. (Isle of Wight)
- G A 19th-century staddle barn. This example has staddle stones along one side only – the side facing the yard has a conventional plinth wall. (Hampshire Downs) All © Bob Edwards except G © Marion Brinton

20D



20A



20E



20B



20F



20C



20G

(Martin & Martin 1982, p.47). Barns of five or six bays with a central threshing floor were more typical across the whole of the Region. Most barns had large, opposed floors to the threshing bay, commonly believed to enable the wagons to drive through the barn when unloading the harvest. Some surviving pre-1600 barns suggest that this plan was not always adopted, the alternative being a single doorway for winnowing opposite the main double doors. In the Sussex High Weald it has been noted that even where there are double doors to both sides, there are many barns that have a large drop in ground level preventing the through passage of vehicles (Martin & Martin 1982, pp.53–4). Another feature often considered typical is the porch over the main entrance. Medieval manorial records of the bishops of Winchester show that porches were common features on their Hampshire barns but study of some smaller barns in the county suggests that porches were often later additions. This observation is also borne out by survey work in the Sussex High Weald where few pre-18th-century barns were originally provided with a porch but porches were commonly added in the 18th century (Martin & Martin 1982, p.55). Across most of the southern counties of the Region barns were usually timber framed although in the downlands and coastal plain of West Sussex solid walling was common, using flint or cobbles collected from the coast. In the clay areas brick was widely, although not exclusively, used from the 18th century and on the chalk downland brick and flint became the common building materials for barns from the late 18th century.

Aisled barns, dating from the medieval period to the early 19th century, are often considered to be a characteristic feature of the Region (Brunskill, 1987, p.168). They were particularly concentrated in northern Hampshire, Berkshire and Kent, where all the earliest barns are of aisled construction (Rigold 1966, p.28) (Figure 3). However, in other parts of the Region unaisled barns were more common; for example, studies in the Rape of Hastings in the High Weald of eastern Sussex have shown that only approximately 25% of recorded barns were aisled and that the aisled barns were concentrated along the coastal fringe, whereas unaisled barns were typical of the northern part of the Rape (Martin & Martin 1982, p.50). Cruck barns are rarely found in the Region. The better survival or popularity of the aisled and box-framed barns over the cruck barn may have been due to the increased capacity for grain storage allowed by these forms of construction. In the arable areas of Oxfordshire and Buckinghamshire (concentrated in the Chilterns and the eastern part of the Upper Thames Clay Vales) some barns were constructed so as to enable corn to be moved about at a high level in the barn (Clark 2004) a technique not seen elsewhere in these counties.

Increased arable production from the 17th century to

the mid-18th century, a specifically regional response to increases in food prices and population, required greater capacity for the processing and storage of corn crops in most parts. This period saw substantial building of new barns and the modification of existing barns through the addition of bays and the removal of earlier partitions and lofts. From studies of surviving barns it appears that in some areas, such as the valleys draining the Hampshire Downs like the River Test, the majority of medieval barns were replaced at around this time. This large-scale investment in new buildings indicates the wealth being generated by the sheep and corn farmers of the chalk downlands at that time and may also be associated with enclosure by agreement of the common fields and downland. Barns in areas of the chalk downlands enclosed from the later 18th century are either large, usually unaisled, timber framed buildings with slate half-hipped roofs, or brick and flint combination barns. In the Weald large barns were also being built in the 18th century, usually with gabled roofs or hiplets rather than fully hipped roofs, possibly to increase the storage capacity (Martin & Martin 1982, p.45). In the Vale of Aylesbury (east of Upper Thames Clay Vales) timber-framed barns with either brick or rendered panels or weatherboarded walls predominate. The use of limestone in north Oxfordshire and parts of Buckinghamshire gives the predominantly five-bay barns the characteristics of barns of the Gloucestershire Cotswolds (South West Region).

6.1.2.2 Combination barns

There is evidence from some of the barns of the Region, especially in pastoral areas, that they originally served as combination barns. In Hampshire structural evidence indicates that some of the earlier barns were built as multi-functional buildings, possibly accommodating a stable or cow shed in an end bay that was divided from the remainder of the barn and sometimes lofted. Documentary evidence also records the partitioning of barns; for example, at Ashmansworth in Hampshire, a partition was built in the barn between the corn and the seed in the early 14th century (Page 1996, p.130). At Morton in Buckinghamshire, a new barn built on a Winchester estate in 1409–10 was also provided with an annexe at one end (Page 1997, p.149). A study of barns in the eastern part of the High Weald has also shown that up to 75% of pre-1750 barns were combination buildings, housing both the crop and stock with one or two bays divided off and often lofted (Martin & Martin 1982, p.59).

6.1.2.3 Staddle barns

An unusual type of barn that appears to have developed in the chalk downland areas of Hampshire and Berkshire (and also Wiltshire in the South West Region) is the staddle barn, which has an unaisled timber frame raised on staddles as for a granary. Staddle

21A Interior of a granary over a cart shed showing the grain bins, which allowed different grains, and even the crop from different years, to be kept separate. (North West Norfolk) © *English Heritage / Michael Williams*

B Ventilation was important to keep the stored grain dry. Air circulation could be achieved through small windows with shutters, hit-and-miss ventilation grilles, windows with fixed louvered or, in this example, adjustable louvers. (Hampshire Downs) © *Bob Edwards*



barns range in size from two to five bays, standing on as many as 64 staddle stones, and most appear to date from the mid- to late 18th century. This barn type was probably an attempt to solve problems of damp and vermin (particularly after the introduction of the brown rat in the early 18th century) but the difficulties of access made it inconvenient and it was not widely adopted (Barnwell & Giles 1997, pp.22–3; McCann 1996, pp. 16-17).

6.1.2.4 Mechanisation

The use of fixed mechanisation for threshing in the South East Region was not widespread, with most parts of the Region being slow to adopt mechanised processing and largely omitting the phase of fixed-power altogether. Relatively cheap and plentiful labour, and possibly the effect of popular resistance to new technology (for example, the Swing Riots in the late 1820s), meant that hand threshing continued well into the later 19th century. In the Berkshire Downs a small number of barns are known to have had horse-engine houses built against the barn but few have survived (Barnwell & Giles 1997, p.25). After 1850 where mechanisation was used it was more often in the form of portable threshing machines powered by horses or mobile steam engines. The use of fixed steam power was limited to a small number of model and planned estate farms, such as the home farm of Laverstoke Park, Hampshire. In parts of the East Sussex Low Weald, where the emphasis was on cattle, some barns incorporate late 19th-century fodder mills powered by horse engines (Caffyn 1983, p.157).

6.2 GRANARIES

6.2.1 NATIONAL OVERVIEW (Figures 21 & 22)

Once threshed, grain needed to be stored away from damp and vermin. It would be sold off the farm or retained for animal feed. A small number of specialist granaries built by large landowners, in particular the monastic institutions, survive from the 14th century. Most granaries are of late 18th- and 19th-century date, the need for more storage for grain often coinciding with the necessity for more cart and implement space at a time when commercial farming and markets were expanding and more implements introduced on farms. The construction of detached granaries raised off the ground, along with the heightening of plinth walls to timber-framed barns, was also a reaction to the threat posed by the rapid spread of the brown rat from the early 18th century (McCann 1996).

Internally granary walls were usually close-boarded or plastered and limewashed, and the floor made of tight-fitting lapped boards to prevent loss of grain. Grain bins, or the slots in vertical timbers for horizontal planking used to make them, are another characteristic feature: close-boarded partitions allowed different crops to be kept separate (Figure 21). Window openings were typically small, and, with ventilation being the main objective, the openings were generally either louvers, sliding vents or grilles.

Grain was typically accommodated in:

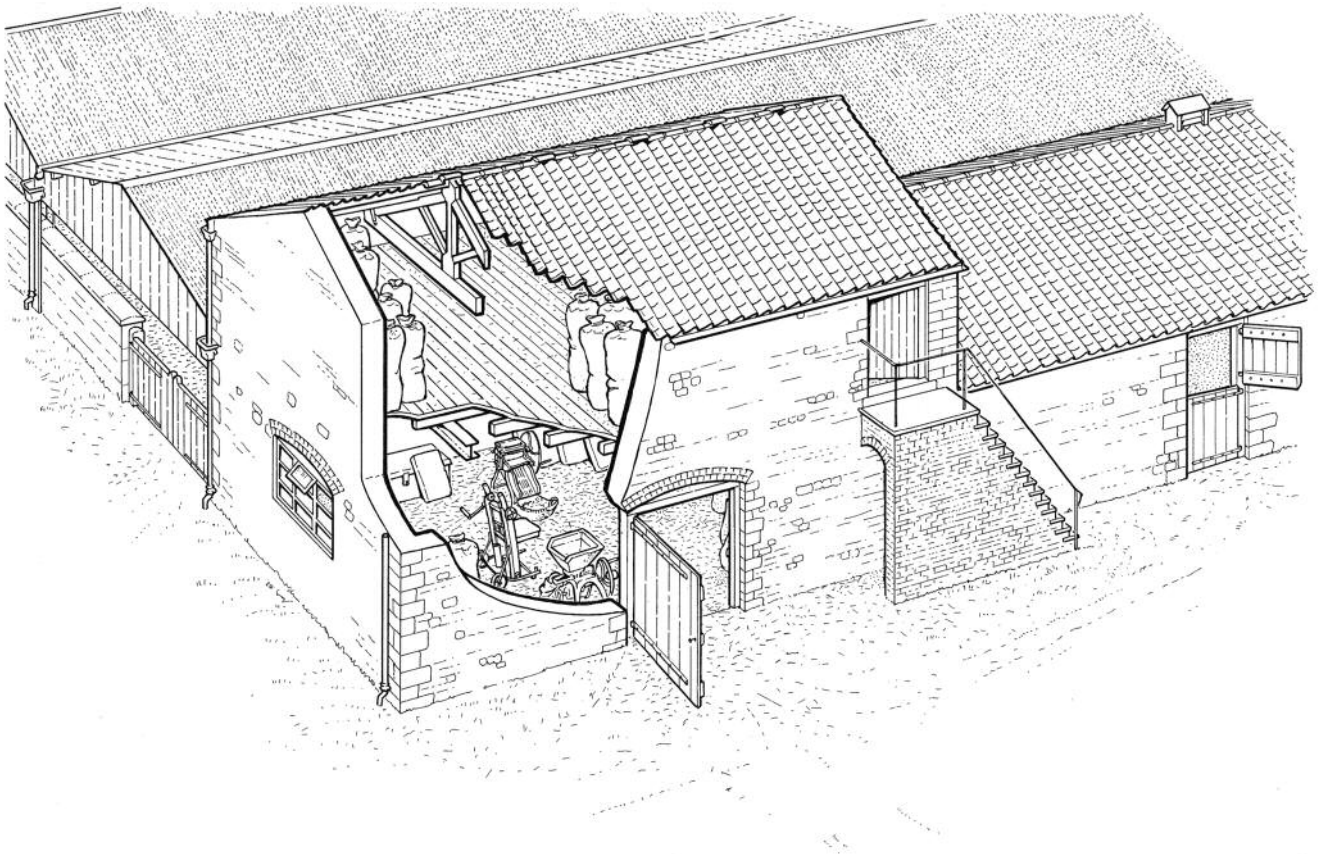
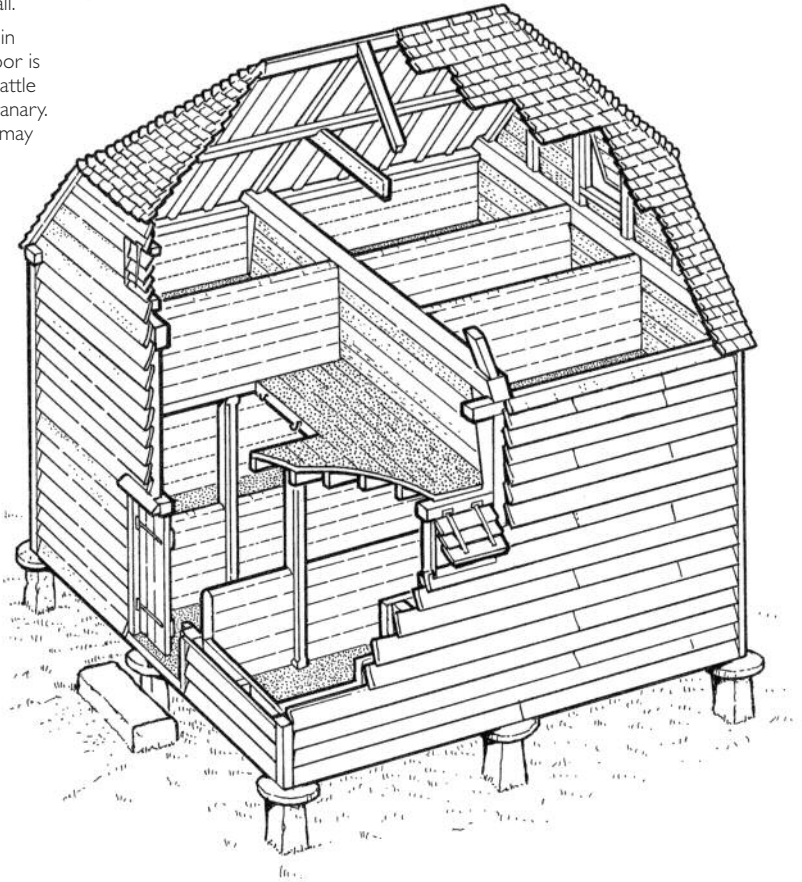
- The lofts of farmhouses, a practice common before 1750.
- Small, square or rectangular structures raised above ground level on mushroom-shaped staddle stones or brick arches and accessed by moveable wooden steps. Internally, they may have been fitted with wooden partitions to create grain bins. They were clearly related to the helm, which, according to documents from the 15th to 17th centuries, comprised timber platforms on staddle stones and were concentrated in the Midland counties (Dyer 1984; Needham 1984; Ains 1987; Barley 1990, pp.165–7): none have survived or

22 Granaries

Top: A free-standing timber-framed granary on staddle stones. This example has two floors and is fitted with grain bins on both levels. Staddle-stone granaries are concentrated in a band from Wiltshire to Essex and in South East England with occasional examples being found as far west as Cornwall.

Bottom: Granary occupying the first floor of a mixing barn in Lincolnshire. In this 19th-century building the ground floor is devoted to the preparation and storage of fodder for cattle whilst the first floor, reached by external steps, was a granary. In similar buildings in this area only part of the building may have a loft for grain storage.

© English Heritage



23A



23 Granaries in the South East Region

- A Free-standing timber-framed granary on staddle stones. This example is of two storeys with fitted grain bins but smaller; single-storey granaries that probably held seed corn are common. Such granaries are characteristic of the south-east of England and southern East Anglia where the timber framing is typically weatherboarded although examples are found as far west as Cornwall where the framing is often slate hung. (Thames Basin Heaths)
- B Cart shed and granary typical of the later 19th century. (Thames Basin Heaths) © Bob Edwards

23B



been excavated. Most are of late 18th- or 19th-century date. Examples abound in Cambridgeshire, Berkshire, Sussex, Hampshire and Wiltshire, but extend into Dorset, Devon and Cornwall. Free-standing granaries are commonly timber-framed, clad in weatherboard or infilled with brick, but brick or stone examples have been found, particularly at the western edge of their distribution. The larger free-standing granaries were of two or even three floors (Figure 22).

- The upper floors of farm buildings, most commonly barns – observable from the 14th century (Le Patourel in Miller 1991, p.872) – and from the 17th century in the South East and East Anglia, much later further north and west, above cart sheds (see 6.3.1). Exteriors are usually marked by shuttered windows for ventilation. The side walls are sometimes weatherboarded, even in regions where weatherboarding is unusual, again to help ventilation. Examples date from the 17th century in arable areas. A separate external stair often gave access to the granary door (Figure 25). There was often a trap door into the cart shed below with a hoist beside it to allow for the loading of sacks. The granary floor had to withstand heavy weights so was stoutly built. In a few instances the granary was situated over cowsheds or stables, but generally this was frowned upon because the damp and smells from the animals below could taint the grain. Because of the value of the crop, granaries were often the only farm building to be locked, sometimes with a dog kennel or goose house under the steps to deter thieves.

A very small number of pre-18th-century detached granaries have survived, and timber-framed granaries –

detached or located over cart sheds or stables – are clearly far less likely to have survived to the present day than examples in stone or brick. Interior fittings such as grain bins and features such as louvered windows are particularly vulnerable when a change of use is contemplated.

6.2.2 GRANARIES IN THE SOUTH EAST (Figure 23)

Many granaries are found located over cart sheds or other buildings but the free-standing timber-framed granary set on staddle stones (or cast-iron staddles in some later 19th-century examples) is more commonly encountered in the South East Region than in any other part of the country. In areas such as Hampshire, the staddle stone granary was predominant over other forms of granary building. These buildings are usually weatherboarded but some, usually earlier examples, have brick panels in the timber framing. In addition to timber-framed granaries, there are also examples of brick granaries built on arches rather than staddle stones. The free-standing granaries of the Region range in size from relatively small single-storey buildings that may have held no more than the seed corn, to large two-storey buildings capable of holding considerable amounts of grain.

The majority of granary buildings date from the 18th and early 19th centuries although there are some that date from the 17th century, but documentary evidence suggests that the free-standing granary was often found in farmsteads of large estates at least. In 1301–2 accounts record that boards and timber were supplied for ‘making the walls of the granary nearly anew’ on the Bishop of Winchester’s manor of Bishop’s Sutton (Page 1996, p.307). Other references suggest, however, that these early

24 Cart sheds in the South East

- A A three-bay brick-built cart shed located outside the entrance to the farmyard. (Thames Basin Heaths)
- B Cart sheds forming part of a regular courtyard range. The cart sheds face outwards to the road passing the farmyard. (Cotswolds)
- C Cart shed with a gable entry and granary above built in malmstone, a relatively soft sandstone. (Wealden Greensand)

- D A single-storey brick cart shed of mid-19th-century date. One bay has been divided off and has doors to provide a secure storage area for smaller, easily portable implements. This cart shed stands almost outside of the farmstead, adjacent to the passing road. (Salisbury Plain and West Wiltshire Downs)
- © Bob Edwards



granaries were built on plinth walls rather than being set on staddles. Brick-built granaries supported on arches are occasionally found in the South East although they are more commonly encountered in the South West Region.

Detached granaries are not found in all parts of the Region. In the Weald there are few examples (Martin & Martin 1982, p.162) as it is probable that the relatively small amounts of grain crops produced were either stored in the house or in a lofted bay of the barn.

Other than when forming part of a combination barn, granaries began to be more commonly incorporated into other buildings, particularly above cart sheds or forming part of combination ranges from the early to mid-19th century.

6.3 CART SHEDS AND IMPLEMENT SHEDS

6.3.1 NATIONAL OVERVIEW

The cart shed housed not only carts for transporting

muck to fields, the harvest to the steading and grain to market, but also the implements needed (primarily for arable cultivation) on the farm. It could also accommodate the coach or pony trap. Left outside, wooden implements could shrink and crack in the sun, while rain and snow caused iron to rust, jamming any moving parts. Cart sheds often faced away from the farmyard and were often close to the stables and roadways, giving direct access to the fields. They have been found as additions to barns, but are more commonly found as detached single- or double-storey buildings, in the case of the latter invariably with a first-floor granary (see 6.2.1). The size of cart-shed ranges serves as a rough indication of the former arable acreage of the farm. In some parts of the country, often in pastoral areas, the difficult terrain meant that wheeled vehicles were not widely used and so cart sheds tended to be few and smaller, perhaps of only one or two bays. One bay was sometimes enclosed with a wide door for the storage of small implements, or perhaps a pony trap. Cart sheds and implement sheds with lockable doors did

25 Distribution of listed hop kilns or oast houses in England

The distribution map of listed hop kilns or oast houses clearly demonstrates the importance of these buildings to the character of the south part of the South East Region where they are concentrated in Kent and East Sussex with a small cluster of oast houses in East Hampshire.

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not appear in any great numbers until the mid-19th century, when horse-drawn hoes, and later reapers and mowing machines, became more prevalent (Walton 1973; Mingay 1989, pp.532–44).

Examples of pre-19th-century date, concentrated on estate farms and in the arable lowlands, are extremely rare.

6.3.2 CART SHEDS IN THE SOUTH EAST (Figure 24)

There is documentary evidence for the existence of cart sheds or wagon houses from the medieval period but few, if any, such early examples are known to survive. Documentary evidence indicates that on occasion the cart shed and the stables for the cart horses could be combined: at East Meon in Hampshire the bailiff paid for, 'building anew 1 building for stabling the cart horses and carts' (Page 1996, p.293). In East Sussex in the 16th century a cart shed was combined with a granary above (Caffyn 1983, p.165).

The South East and East of England Regions probably contain the greatest number of cart sheds, including some of the earliest surviving examples in the country. The importance of arable over much of the Region meant that most farms would have required ploughs, harrows, carts and wagons and so cart sheds are common to most farms, the earliest generally dating from the 17th century. However, in areas where arable was of lesser importance, such as the Weald of East Sussex, cart sheds tend to be found only on larger farms (Caffyn 1983, p.165).

They are typically single-storey timber-framed buildings with one open side, and range from two to six or seven bays in length. Structurally they are often identical to the open-fronted cattle sheds that were built as additions to many farms in the later 18th and 19th centuries. It is usually the location of the cart shed, either facing out of the yard or located near a track into the farmyard, which identifies the original function of the building.

6.4 OAST HOUSES

6.4.1 NATIONAL OVERVIEW (Figure 25)

Although hops had been used in beer making in the medieval period, the commercial cultivation of hops did not begin until the 16th century. Until a decline in the market for hops in the late 19th century the crop was grown in 38 English counties (Walton & Walton 1998,



p.4) but now Herefordshire and Kent are recognised as the primary hop-growing areas of the country.

Mature hops have to be dried after picking and where hops were grown in any quantity this was carried out in a similar fashion to the drying of barley in a malt house. Indeed, it may be that malt houses could also have served as hop kilns for the few weeks of the year when the crop was harvested. The hops were laid out on a horse-hair mat on a slatted floor and turned periodically as heat from a kiln below passed through them. After drying, the hops were packed in readiness for transportation to a brewery. The alternative to drying hops in a kiln was to dry them slowly in the loft of the house and this may have been the most common way of processing the crop across much of the country where hops were grown on a small scale.

The oast house, characteristic of Herefordshire, Kent and the Wealden parts of Sussex and Hampshire, was a building that was used for only a few weeks of the year and so represented a considerable investment for most farmers. Hop growing was widely considered to be a high-risk venture, with many agricultural commentators advising against involvement in the practice (Jones & Bell, 1989). The earliest oast houses were small buildings typically around 20 feet x 10 feet comprising three rooms. The centre room contained the kiln, over which lay the drying floor which also served as the cooling floor, limiting the efficiency of the building. The other rooms provided storage for green hops and dried hops.

During the 18th century efforts were made to improve the flow of air through the drying floor. This was

26 Oast houses in the South East

Oast houses are a highly characteristic building of the High Weald, the Low Weald and the Wealden Greensand. Occasionally early oasts constructed within older barns survive but most have brick-built square or circular kilns, sometimes with both forms on the same range. In Hampshire flint and brick and the local malmstone were also used in the construction of oast houses. (A, B and D High Weald; C Wealden Greensand in East Hampshire)

A © Jeremy Lake; B–D © Bob Edwards



achieved through the construction of inverted funnels of timber and plaster in the roof space leading to a vent (Martin & Martin 1982, p.143). At this time larger oast houses were built, typically with a kiln measuring between 12 and 18 feet square with a rectangular stowage attached where the hops could cool on an upper floor before being pressed into 'pockets' and stored on the ground floor. The provision of a separate drying floor increased the efficiency and production capacity.

The circular kiln with its conical roof was a development of the early 19th century. It was believed that circular oasts were more efficient but this was eventually shown not to be the case and so later 19th-century kilns are usually square (Walton & Walton 1998, pp.11–13). In oasts built during the period of the brick tax (1784–1850) the upper part of the stowage was often built in timber frame and weatherboarded to reduce the

cost. Oast houses may have comprised a single kiln whilst there could be as many as eight kilns. One of the largest groups of kilns was on the Whitbread hop farm in Kent where there were 20 kilns. Square and circular kilns may have been combined in one building, and although square and circular kilns were typical, there are a few examples of octagonal kilns. Kilns could also be constructed in other buildings, such as barns, and it is possible that evidence for early kilns may survive in some barns.

6.4.2 OAST HOUSES IN THE SOUTH EAST (Figure 26)

By the early 18th century one third of farms in the Rape of Hastings in East Sussex were involved in the cultivation of hops, and most had an oast house (Martin & Martin 1982, p.133). Over 95% of surviving oast houses, however, date from the late 18th century or later. They are concentrated in The Weald of Kent and

Sussex, although a small number are also found in east Hampshire where the Wealden Greensand extends into the county. By the late 19th century hop growing in Sussex was declining – the acreage halving in the 40 years from 1867 due to the superiority of Kentish hops and foreign competition. By the early 20th century over half of the hop acreage of the country was in Kent (Bosworth 1909a, p.52; Bosworth 1909b, p.64). Hop gardens were typically small, rarely exceeding 20 acres. The many oast houses still surviving on the scattered farmsteads of the Weald are a strong characteristic of its landscape, even though the majority have now been converted to residential use. Although hops were grown in other parts of the Region, for example in Berkshire where they were grown ‘in considerable quantities’ (Mavor 1813, p.229), there are few recorded associated buildings surviving.

Domestic conversion has generally resulted in the loss of the hearths of the plenum chamber where the kilns were located and the press where sacks or ‘pockets’ were filled. Surviving examples are of great rarity.

6.5 HAY BARNs AND OTHER CROP-RELATED BUILDINGS

6.5.1 NATIONAL OVERVIEW

Hay would be kept in lofts over the cow house and stable, stored in stacks or in purpose-built barns. The latter differed from corn barns in that they were open-sided to allow a good flow of air through the hay. They comprised little more than a roof supported on brick, stone or iron piers with solid gable walls. They mostly date from the second half of the 19th century, and are more typical of the wetter pastoral west than the arable east. A very small number, mostly in Yorkshire, of timber hay barns with adjustable roofs – as commonly survive in the Netherlands – survive intact. The agricultural depression from the 1870s meant that dairy farming was one of the few branches of farming to remain profitable, leading to an increase in the production of hay. This period saw the introduction of some of the first mass-produced iron farm buildings, such as Dutch barns for hay storage, and also of airtight clamps for the preservation of silage. Silage towers were built in small numbers in the inter-war period, but were not generally adopted until the 1960s (Shaw 1990).

As the use of fodder crops, such as turnips, and overwintering of cattle became countrywide, there

developed a need to store the fodder in earth clamps or small rooms. In some of the better-planned farmsteads the root and fodder stores would be incorporated into the cattle housing, usually located close to where the cattle were stalled with access between the two. On smaller farmsteads the root store was either a separate building or formed part of a combination building, perhaps being associated with a granary or workshop. At present, it is not possible to identify any particular features of these buildings, other than the building materials, that are regionally characteristic.

Some areas of the country developed a specialisation in the production of particular crops such as hops or fruit. In some cases these crops required the construction of particular buildings that are regionally characteristic: for example, the oast house/hop kiln of the South East and West Midlands and the cider house of Herefordshire and the South West.

Small kilns for drying corn and particularly malt for brewing have been recovered through excavation (Le Patourel in Miller 1991, p.875) and a small number of much larger and more solidly constructed examples survive from the 17th century, especially in the North West and South West. Surviving examples of corn drying kilns, concentrated in upland farming areas, are extremely rare.

The processing of corn to flour was undertaken in mills normally powered by water or wind. Mill buildings are often found isolated from farmsteads but occasionally they can form part of the farmstead.

6.5.2 HAY BARNs AND OTHER CROP-RELATED BUILDINGS IN THE SOUTH EAST

Hay barns and barns apparently dedicated to the storage of vetch are recorded from the early 14th century on some manors of the bishops of Winchester, but there is little evidence for their construction or size. Vetch was also recorded as being stored in stacks, which were thatched (Page 1996).

The predominance of arable farming over the Region meant that hay production was limited and only a few farms constructed open-sided timber-framed or stone hay barns. Hay barns, associated with increased stock numbers, began to be built in larger numbers when mass-produced metal Dutch barns became available in the late 19th century.

7.0 Key Building Types: Animals and Animal Products

7.1 CATTLE HOUSING

7.1.1 NATIONAL OVERVIEW (Figure 27)

There are great regional differences in the management of cattle and the buildings that house them. This extends to how they are described in different parts of the country: for example, 'shippon' in much of the South West; 'byre' in northern England; 'hovel' in central England. Stalls, drains and muck passages have also been given their own local vocabulary.

Evidence for cattle housing is very rare before the 18th century, and in many areas uncommon before the 19th century. The agricultural improvements of the 18th century emphasised the importance of farmyard manure in maintaining the fertility of the soil. It was also recognised that cattle fattened better and were more productive in milk if housed in strawed-down yards and buildings, and fed with carefully measured quantities of nutritious turnips and imported feed. There is hardly a farmstead without 19th-century adaptations for increased livestock accommodation.

The introduction of hygiene regulations early in the 20th century for the production of milk resulted in new floors, windows and stall arrangements being inserted. Animal welfare standards are also important; cows on farms seeking Soil Association assurance require more than double (at 6 square metres) the space of tethered beasts in traditional cow houses. Some, particularly under split-level barns, are too low for modern usage and so have been preserved by abandonment or occasional use by sheep.

Characteristic features of cattle housing include:

- Externally, lower and wider doorways than stabling, with wall ventilation slits (adjustable sliding ventilators from the early 19th century) and holes in gable ends or side walls for the throwing out of muck (especially in areas with limited straw for bedding, where cattle were wintered indoors).
- Internally, ceilings were typically low and there was very little light. Hay was stored above in lofts, and in some examples (such as the Pennines) on either side in 'sink mows', increasing the warmth and airlessness. It was not until the later 19th century that the importance of a well-ventilated cow house became fully appreciated. The size of the haylofts increased as more cows were kept and the production of hay rose; their ceilings were higher and air ducts went from the cow house up on to the roof above the hay barn.

- Interior stalling and feeding arrangements. Cows were usually tethered in pairs with low partitions of wood, stone, slate and, later, cast iron between them. As the breeding of stock improved and cows became larger, the space for the animals in the older buildings became limited and an indication of the date of a cow house can be the length of the stalls or the width of the building. Feeding arrangements can survive in the form of hayracks, water bowls and mangers for feed.
- Variations in internal planning, cattle being stalled along or across the main axis of the building and facing a wall or partition. They were fed either from behind or from a feeding passage, these often being connected to fodder rooms from the late 18th century.

In the following descriptions of buildings for cattle the wide variety in the means of providing accommodation for cattle, both over time and regionally, can be seen .

7.1.1.1 Longhouses

In this type of building the family and animals used a common entrance and the cattle (typically prized dairy cattle) were stalled at one end, usually the end down-slope. Examples (often high status in terms of their size, detail and construction) survive in parts of the north and west of England and are usually the only evidence for cattle housing before the 17th century. They were more widespread in the medieval period (see 5.1.1 and Figure 17).

7.1.1.2 Ox houses

Oxen were the favoured animals for draught work on the farm in the medieval period, although in some parts of the country horses were already replacing them.. They survived in some areas into the 19th and even 20th centuries. Ox houses can be very difficult to identify, the most distinguishing feature being wide doorways and wider-than-average stalling (see 7.3.2).

7.1.1.3 Combination barns

See 6.1.2. These were used for cattle accommodation from the 17th century, and in northern aisled barns from at least that period.

7.1.1.4 Open-fronted sheds

The earliest of these were the two-storey linhays of the South West, with cattle accommodated below a hayloft. Shelter sheds, facing on to yards and either with haylofts above or simply single-storey, were increasingly built from the mid-18th century. Cattle yards with open-fronted sheds were typical of mixed farming areas where cattle

27 Cattle housing

- A & B Wooden cow stalls and slate cow stalls, the latter as found throughout the northern uplands.
- C Cow houses needed to be well ventilated, by either slits in the wall or windows. Horizontal sliding hit-and-miss ventilators, as here, achieved wide popularity in the mid- to late 19th century.

- D A range of looseboxes, easily distinguishable by its rows of doors providing access to individual cubicles for fattening.
- E The interior of a covered yard, on a home farm of the mid-19th century.

A, D, E © English Heritage / Michael Williams; B, C © Jen Deadman



were housed on the steading as fatstock and for their manure. Common internal fittings were mangers and hayracks, and sometimes stalls.

7.1.1.5 Lean-tos (outshots)

These were attached to other buildings (particularly barns) and farmyard walls, either as part of the initial phase of build or (particularly if the barn is pre-1750 in

date) a later addition. These could be either open-fronted or closed with doorways to individual cow houses or looseboxes.

7.1.1.6 Free-standing cow houses

These comprised either single-storey ranges, or two-storey ranges with haylofts. Pre-19th-century examples of the former include the neathouses of the claylands of

Suffolk and examples of both types are found in the West Midlands. In cattle-rearing areas calf houses have also been found; typically they are smaller in scale and often sited close to the house.

7.1.1.7 Looseboxes (Figure 27D)

Mostly dating from the 1850s, these served as accommodation for sick or calving beasts, bulls or most commonly fatstock. They comprised individual boxes or more usually a row of boxes with a central or rear feeding passage. The latter were usually distinguished externally by continuous rows of doors. There was often a feeding passage along behind them, with a feed store at one end. If used for fatstock, the floor of the boxes was sunken and the manure would build up in them during the winter. They reflected a realisation that warm and dry conditions would promote weight gain (through minimising heat loss) and retain the quality of the manure. Double rows would have a central feeding passage and were to be found on many farms by 1860.

7.1.1.8 Covered yards

By the 1850s it had been proved by agricultural chemists that the nutritional value of manure would be better preserved if it were under cover, and as costly feeds produced richer manures, the incentive to protect them was great. The problem was that it could be difficult to provide enough ventilation, but this could be overcome by complex systems of louvers and shutters. Some continued to be built as the depression in grain prices focused attention on livestock production. The best-known examples of covered yards are on the most expensively designed model farms of the mid- to late 19th century, almost all of them being estate-owned. The introduction of roofs to existing yards became general in fatstock areas from the late 19th century and especially after 1940. Dairy cattle are now typically housed in portal-framed sheds erected in the post-war period.

7.1.2 CATTLE HOUSING IN THE SOUTH EAST (Figure 28)

There is medieval documentary evidence for cow sheds and byres on some of the large estates of the Region; for example the Winchester Pipe Rolls make frequent references to the cost of repair of cattle buildings. It is possible that the majority of these buildings were for housing working oxen. On some occasions the actual function of the byre is cited, as at Bishop's Waltham where a cow house for nurturing calves was described (Page 1996, p.256). Generally, across most of the Region early cattle buildings are rare. A survey of farms in southwest Berkshire did not encounter any cattle buildings that could be securely dated as pre-1800 (Barnwell & Giles 1997, p.33) and it is probable that this is the case for most, if not all, of the other chalk areas of the Region.

In areas such as the Weald, where cattle fattening was the principal agricultural activity, cattle were commonly provided with housing. Here the small timber-framed barns were often combination buildings or had cattle sheds built against them. Examples of bays in barns devoted to the stalling of cattle, both facing the threshing floor and facing inwards along the length of the barn with a feeding passage between, have been recorded in east Sussex. The use of lean-to outshots at one end of the barn accommodating four to eight cattle became more common during the late 16th century. On some farms a barn-like building served as a specialised cattle building but these only occur on larger farms where there was another barn (Martin & Martin 1982, pp.61–7).

From the later 18th to the mid-19th century there was an increase in the provision of cattle sheds on many farms. These sheds typically took the form of an open-sided single-storey shelter ranged along one or more sides of the yard, often attached at one end to an earlier barn. In the Berkshire and Hampshire Downs it was also common for shelter sheds to be built against barns (Barnwell & Giles 1997, p.33). Open-fronted shelters are recorded from at least the early 15th century in Hampshire and the earliest examples in the Weald date from the 17th century (Martin & Martin 1982, p.66; Page 1999, p.184). On some large farms shelter sheds with back-to-back shelters can be found sited within the yard. Covered yards are not a common feature of farmsteads in the South East Region generally, but they do occur more frequently in areas with large estates such as the Wealden Greensand in east Hampshire. Where they were built they are usually of late 19th- or early 20th-century date.

During the later 19th century many farms, particularly those on the chalk areas, looked to dairying to replace, or at least support, incomes derived from wheat production. Larger estates looked to construct the required milking parlours and dairy buildings as cheaply as possible using new technologies such as mass concrete. On smaller farms, for example on the edge of the Wealden Greensand in east Hampshire, small L-plan ranges, part of which were fully enclosed, were built with a yard. Similar plans were also adopted in southwest Berkshire (Barnwell & Giles 1997, p.35; Edwards, 2005).

7.2 DAIRIES

7.2.1 NATIONAL OVERVIEW

The dairy, where milk was stored and turned into butter or cheese, was usually located within the farmhouse (at its service end or in a rear room) or located in a lean-to at the rear of the house. Some dairies were separate buildings but, as the women of the household usually

28 Cattle housing in the South East

- A Before the widespread provision of buildings for cattle, they would be sheltered in the farmyard during winter; protected from the prevailing wind by the barn which could have an open-fronted lean-to structure built against it to give some additional protection from the weather. (Thames Basin Heaths)
- B Across much of the Region buildings for cattle comprise open-fronted shelter sheds, often attached to a barn and forming part of a larger yard. In the Weald dispersed farmstead plans could consist of several small individual yards as in this example in East Sussex, which also has an enclosed cow house. (Low Weald)
- C Although open-fronted ranges facing into a yard are typical, this shelter shed is located within the yard and consists of two three-bay sheds set

- back to back with feed racks in-situ. (Thames Basin Heaths)
- D A New Forest cow house. There is little information available on the farm buildings of commoners in areas such as the New Forest and other heathland areas. Most of these buildings are of relatively poor quality and are rarely listed. Such buildings offer little opportunity for reuse and so are highly vulnerable. (New Forest)
- E A mid-19th-century cow shed and dairy range. The range includes three cow houses, a loosebox at one end where an animal could be isolated when sick or for calving and a boiling house at the other with a water cistern beneath the floor. (Thames Basin Heaths)
- F A large late 19th-century cow shed. This low, wide building, formerly open along one side, effectively served as a covered cattle yard (High Weald). All © Bob Edwards



29 A typical stable interior for working horses, showing the stalls that prevented the horses biting and kicking each other; the hay rack and cobbled floor. (Dorset Downs and Cranborne Chase) © Bob Edwards

managed the dairy, they were normally situated close to the house. Within the dairy, which was commonly cool and damp, milk was poured into large shallow pans and the cream left to rise to the top before it was skimmed off and churned (usually with a plunger) in order to make butter. New types of churn appeared in the mid-19th century, the most important invention being the centrifugal separator in 1890. On some estates, the individual dairy building could be quite ornate in design; they were often circular, with a tall conical roof and plenty of ventilation, cool tiled floors and a low marble, slate or tiled shelf running almost all the way around inside.

Cheeses were made from the preservation and treatment of the curd, the solid mass that separates from the thin whey: harder cheeses were made from skimmed milk, softer cheese such as Cheshire from whole milk. After pressing, it needed space for storage. In areas where cheese making was important the dairies often had a room above called a cheese loft, where cheese was stored while maturing, or there would be a separate cheese house, the equivalent of the arable farmer's granary. In the 19th century more ornate dairy buildings were built on some of the larger farms, often located within the garden of the farmhouse rather than in the working farmyard.

Dairying for urban markets was already a specialised enterprise by the 1750s, and winter feeding and the ousting of less-productive breeds by the Dairy Shorthorn (after 1820) boosted yields. By the 1850s, butter production for the market was concentrated around towns, and the first small dairy factories started production around 1870. Cheese making in East Anglia gave way to cereal farming and fattening after 1800 (Holderness in Mingay 1989, pp.160, 158). Commercial cheese making and foreign imports (from the colonies) made inroads from the 1860s, and by around 1914 farmhouse butter was being sold only in Devon and Cornwall, and cheese made only in Cheshire, Leicestershire and the vales of Dorset and Somerset (Whetham 1978, pp.11, 15). Changes in hygiene regulations and the centralisation of production through the 20th century had a major impact on dairies, with the majority becoming redundant to their original use. Changes in use may have resulted in the removal of fixtures such as slate or stone shelves for cooling the milk.

The sale of liquid milk had become massively important in many areas by the early 20th century (Whetham 1978, pp.9–10). The stand for milk churns, often built at



the farm gate to save the milk cart or lorry from having to come to the farmstead, and the abandonment of all but a handful of farmhouse dairies and cheese rooms for new milk-production plants were the other visible consequences of these developments.

The industrialisation of much of the dairy industry meant that the majority of farm dairies were redundant by the mid-20th century. Where the dairy was part of the farmhouse it is usual to find that it has been brought into domestic use, typically resulting in the removal of any fittings associated with butter or cheese making. Any survivals of dairy equipment in situ are rare. Detached dairy buildings may also have been brought into an alternative use, again usually resulting in the removal of associated fittings. Surviving historic dairies are both rare and highly vulnerable. Cheese rooms are now especially rare and hard to identify.

7.2.2 DAIRIES IN THE SOUTH EAST

As is typical across most of the country, dairies were normally incorporated into the farmhouse. Dairy houses and cheese rooms are documented (for the Weald, for example, see Thirsk 1984, p. 58) but have very rarely survived in recognisable form. A small number of farms have ornate dairies, which tend to be located within the garden of the farmhouse rather than forming part of the farmyard.

7.3 STABLES

7.3.1 NATIONAL OVERVIEW (Figure 29)

After the barn, the stable is often the oldest building on the farmstead. The high value of horses to the running of the farm meant stables were well built and often placed near the house, with easy access to the fields, and given a certain level of architectural and decorative treatment. A few stables dating to before 1700 have been identified in local surveys, while many more date from the 18th century. One of the reasons for this rise in number was the decline in the use of oxen.

The size of stabling was, like granaries and cart sheds, loosely linked to the arable acreage of the farm. The number of horses needed to work a farm changed little until the arrival of the tractor, with one horse for every 20 acres being the frequently quoted figure. Smaller farms still needed a team of horses, so even a 50-acre farm might well have four horses. Most farms still kept a few working horses until the 1950s, and they were finally replaced by tractors during the 1960s. Farmsteads, and the farmyards attached to manor and gentry houses, often had stables for riding and coach horses, the upper floors commonly being used as accommodation for stable hands. These were usually well appointed and in some cases were used as displays of wealth and status, incorporating architectural detailing not found on most other farm buildings.

Stable interiors are characterised by:

- Horses commonly stalled in pairs with wooden stall divisions between them to stop them kicking each other (Figure 34). Cast-iron stable fittings often replaced wooden ones. More elaborate stalls and mangers were usually confined to the riding-horse rather than carthorse stable, but on many small farms the riding horse would have been kept alongside the working animals. In early (pre-1750) examples, the stalls are across the end walls while in later examples the stalls are along the side walls, allowing more scope for lengthening the building and thus housing more horses.
- A manger and hayrack, the latter often accessed from a drop from the hayloft above. Other types of fodder, such as crushed oats and bean straw, became more general after the mid-19th century.
- Floors, cobbled and from the mid-19th century of engineering brick, sloping to a drainage channel.
- A ladder to the loft.
- The harness was usually kept in a separate room and chaff boxes were built in to the structure for storing feed. Small cubby-holes for keeping grooming brushes, medicines or lanterns were often built into the walls.

Stable exteriors are characterised by being:

- Usually two-storey, with pitching openings and ventilation to the first-floor loft and an external staircase. The upper floor sometimes provided accommodation for farm labourers or stable lads. Despite textbook advice on the tainting of the hay, the practice of housing horses below haylofts persisted, partly because of the perceived need to protect horses from chills and draughts. Single-storey stables, commonly with cast-iron ridge vents, were built from the later 19th century.
- Well lit, with windows ideally opening to the east to catch the early morning light. The door was wider and higher than that in the cow house.

As stables were usually well-lit buildings they tend to be less vulnerable to changes that affect their character externally. Carthorse stables are far less likely to retain floor surfaces, internal stalls and fittings (such as saddle hooks) than riding-horse stables. Many stables, particularly those located within ranges that included cow houses, were converted into dairies when modern electrically powered milking and cooling machinery was introduced from the 1950s.

7.3.2 STABLES IN THE SOUTH EAST (Figure 30)

In a national context the Region contains a relatively high number of pre-1750 and especially pre-1800 stables. Documentary sources indicate that on larger estates at least, detached stables for working oxen, cart horses and riding horses were provided, occasionally combined with a cart shed (Page 1996; Page 1999). Across the downland areas these buildings would usually have been timber framed, stone sometimes being used in north Oxfordshire and Kent. Few early timber-framed stables have been recognised but it is possible that the removal of stalls and the similar framing techniques have led to some being recorded as barns. In the Weald some surveys of the late 16th and early 17th centuries make reference to 'stalls' but the exact meaning of this term is unclear. It could indicate that stables were incorporated into the barn. It is considered that in the Weald the likelihood of a farm having a detached stable increases with farm size, with most farms over 100 acres having one (Martin & Martin 1982, p.154). The rarity of earlier stables suggests that this could be true across the Region.

Stables dating from the 18th century are far more common, especially in the predominantly arable parts of the Region, although in the Berkshire Downs area most stables appear to date from the 19th century (Barnwell & Giles 1997, p.30). Typically stables of 18th- or 19th-century date are brick built or use local stone rather than being constructed in timber.

In the area around Newbury in Berkshire and extending into north Hampshire, horse breeding, especially for racing and hunting stock, grew in importance in the later 19th and early 20th centuries, with the downs becoming well known as training grounds (Barnwell & Giles 1997, p.32). Some farms became dedicated stud farms, and ranges with looseboxes and fodder storage were built. Individual looseboxes, standing separate from the main ranges, were used to isolate a sick animal or to 'tease' a stallion.

7.4 PIG HOUSING

7.4.1 NATIONAL OVERVIEW

One or two pigs were kept on most farms, although the

30 Stables in the South East

- A A rare example of stabling for working oxen dating from the 18th century. (Midvale Ridge)
- B A 17th-century timber-framed stable forming part of a loose courtyard farmstead. The attached range to the right end is a later addition. Many timber-framed stables were replaced with brick structures from the 18th century. (Thames Basin Heaths)
- C Larger farmsteads may have two stables: one for the working horses and one for the riding horses. This late 18th- or early 19th-century brick and flint stable with hayloft over is located close to the farmhouse and would have housed a riding horse. A larger stable for the working horses lies across the farmyard. (Hampshire Downs)
- A © Jeremy Lake; B, C © Bob Edwards



pigs often ran with other livestock in the fields, or roamed about the yard, rather than having their own dedicated housing. Pigs were most commonly kept in dairying areas or market-gardening areas, such as the Fens, where whey or potatoes were available for feed. The only requirements for special accommodation were for farrowing, final fattening and accommodation of the boar. On most farms only a few pigs were kept for domestic use and here they were normally fed on kitchen scraps or whey (a by-product of dairying) and so sties were often placed near the kitchen or dairy. Sometimes they were also integrated into the planning of the farmyard, commonly on larger farms where commercial fattening was practised. Any pre-19th-century examples are of great rarity.

Characteristic features of pigsties are:

- Single-storey structures, with a gable entry to a first-floor hen house where lofts occur.
- Low entrances.
- Individual yards in some regions.
- Their construction in rows of three or more small and unlit boxes, often with a chute through the front wall into the feeding trough down which the swill could be thrown.
- A small chimneystack, marking the position of a boiler house for boiling swill for pig feed. These are most commonly found where pigs were kept on a commercial scale.

Imported feed sustained the growth of the pig industry in the inter-war period, more specialist producers taking the Danish or Scandinavian system as a model for the industrial housing of pigs. The American battery system of housing poultry was used for pigs from the late 1920s.

7.4.2 PIG HOUSING IN THE SOUTH EAST REGION (Figure 31)

Parts of the South East Region are recognised for their pig rearing and fattening, particularly the New Forest, the Thames Basin Heaths and the Weald. In the mid-19th century it was noted that in Berkshire, 'pigs are fed in great numbers in yards' (Caird quoted in Barnwell & Giles 1997, p.35). Elsewhere, in the wooded areas, pigs were allowed to feed in the woods and brought into the yard overnight but were not provided with buildings. Where cattle shelters existed the pigs probably shared these with the cattle. Cartographic evidence and surviving buildings indicate that many farms had a small range of pigsties but few are indicative of pork production on a commercial scale.

7.5 SHEEP HOUSING

7.5.1 NATIONAL OVERVIEW

The great importance of sheep farming to many areas of the country is not reflected in surviving farm buildings. In medieval times it was common practice to

31 Pigsties in the South East

Pigsties in the South East Region have few distinctive features other than their building materials. Most have a small yard attached to the shelter and they may have hatches and chutes for feeding. Generally these buildings are extremely vulnerable from neglect as they offer little opportunity for other uses. (A Low Weald; B Midvale Ridge)
A © Bob Edwards; B © Jeremy Lake

provide sheep houses, or berceries, even in the south of England. Apart from possible medieval timber-framed sheepcotes in Hampshire (Lewis et al 1988, p.113–15) there is only earthwork evidence for these buildings, but documentary sources show that in Gloucestershire at least they ranged from between eight and eighteen bays (Dyer 1995, p.149). Barns, when empty, were sometimes used for shearing and sorting the wool.

In Cumbria and elsewhere in northern England a building similar in appearance to a field barn was provided for the hogs or yearling sheep to give them protection over their first winter. Low floor-to-ceiling heights and upper-floor haylofts are characteristic features of these buildings. The low ceiling to the ground floor below a hayloft is the characteristic feature of hogg houses. Sheep housing in other areas is associated with outfarms, such as on the southern downlands.

Before the adoption of enclosures of rough grazing in upland areas sheep were kept on both the low-lying commons and high moors to which nearly all farmers had access. The only times of year when all the sheep would be gathered together was for shearing and salving and dipping. Salving involved the boiling of Stockholm tar and tallow to make a mixture that was smeared all over the coat to protect against lice and scab as well as keep the fleece waterproof through the harsh winter. The practice of salving was carried out until the introduction of compulsory dipping as protection from scab in the early 20th century and very few of the sheds used for salving survive. As well as salving, sheep were also washed or dipped. Sheep washing was often carried out in ponds or streams where the watercourse might be artificially deepened or walled or, more unusually, sheep were dipped in specially constructed tanks. Enclosures funnelled towards the water's edge have been found. In areas where watermeadows were a feature of the landscape sheep dips are sometimes found built in to the system of leats and sluices.

7.5.2 SHEEP HOUSING IN THE SOUTH EAST

During the medieval period sheep were often provided with shelters, usually located within the grazing areas. Some manors had separate buildings for the hogs (yearling sheep) and the ewes. In some cases these buildings were of considerable size: the wether-house recorded at Ivingoe, Buckinghamshire, in 1409–10 was of at least 10 bays in length with a thatched roof (Page 1999, pp.134, 286); a mid-15th-century sheep house on a manor of the bishops of Winchester



comprised 12 bays and measured 150 feet in length (Lewis et al 1988, p.115). The frequency that sheep houses are mentioned in the accounts of the bishops of Winchester suggest that they were relatively common buildings across the chalklands at least until the 16th century. Some sheep-house sites are known from earthworks and crop marks, providing a characteristic downland feature (Hare 1994, p.161) but no buildings survive in situ. One possible timber-framed sheep house has been identified in Hampshire, the building now standing within a farmyard and converted to a barn. The earlier use of the structure is suggested by the low height of the tie beams, the fact that it was originally open along one side and that two bays were floored (Lewis et al 1988, pp.113–15). A survey of farmsteads in part of East Sussex has revealed that shelter sheds were also built for sheep. Most examples were of 19th-century date (Caffyn 1983, p.167).

The Romney Marshes were scattered with sheep folds (shown on Ordnance Survey maps) and the so-called lookers' huts, which provided accommodation for shepherds. Formerly abundant, they are now uncommon.

7.6 DOVES AND POULTRY

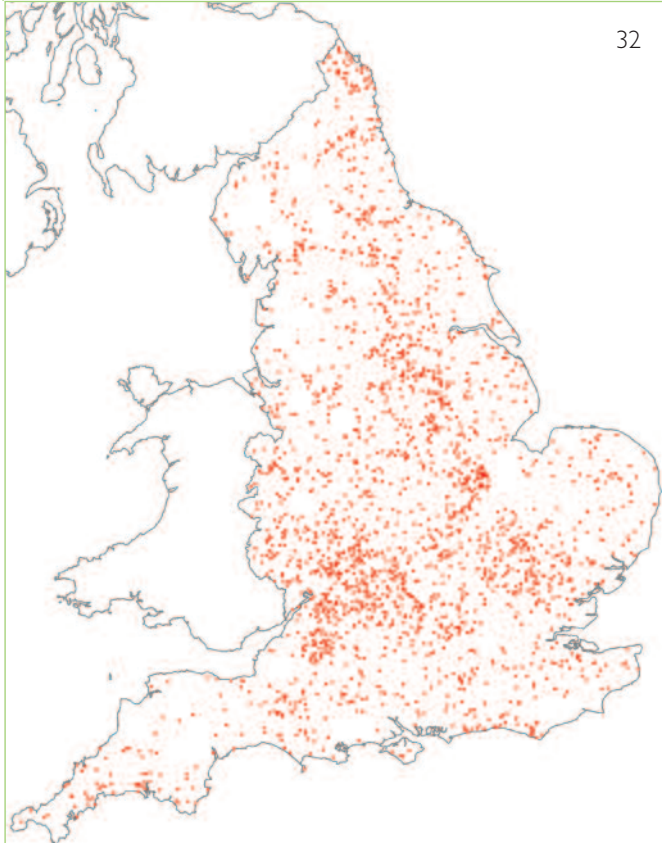
7.6.1 NATIONAL OVERVIEW (Figures 32 & 33)

The construction of a dovecote indicated the status of the owner, as in the medieval period the keeping of

32 Distribution of listed dovescotes in England

This distribution includes both free-standing dovescotes and dovescotes that are incorporated into other buildings. Although dovescotes are found in all Regions, their concentration within Roberts and Wrathmell's Central Province from Gloucestershire to Northumberland and extending into north Oxfordshire is notable. Within this area manorial control was strongest and the higher numbers of dovescotes may reflect this.

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doves or pigeons was usually restricted as a manorial right. The birds provided fresh meat and eggs as a supplement to the already varied diets of wealthier people, while the manure was also valued (see McCann 1991). As a consequence, dovescotes were often the object of considerable display and decoration, and commonly associated with gentrified or manorial farms.

Dovescotes are usually square or circular towers with pyramidal or conical roofs, but a number of varying forms have been found, including tun-bellied dovescotes (where the walls bulge outward slightly before tapering upward) and beehive dovescotes with corbelled stone roofs. There are also lectern dovescotes, which are square or rectangular with a mono-pitch roof, and a small number of octagonal dovescotes that are usually of 18th- or 19th-century date. Externally, perching or sunning ledges formed either in stone, brick or timber have been found. Later dovescotes often incorporated other functions such as granaries or stables. As the keeping of pigeons became more widespread, nesting boxes were incorporated into other farmyard buildings, for example the gable ends of barns.

Internally the walls were lined with nest boxes. In the

33 Buildings for birds in England

A The corbelled stone roof of this beehive dovescote is a distinctive method of construction that is only found in the south-west and north-west parts of England. (Cornish Killas)

B A flint-built circular dovescote dating from the 17th century. This dovescote is associated with a late medieval manor farm. This restored dovescote has a large penthouse on the roof providing access for the birds. (South Downs) A © Eric Berry; B © Bob Edwards (Continued overleaf)



33A



33B

earliest examples the nest boxes were sometimes formed in the thickness of the wall but usually they were in stone, brick or wood. Dovescote doorways were low to discourage the birds from flying out and often a potence, a central pivoted post with arms supporting a revolving ladder, provided access to the nest boxes for collection of the squabs and eggs. Surviving internal fittings are of great rarity, notably potencies and nest boxes (especially the removable wooden types).

Studies have shown that the distribution of dovescotes may in part be affected by the robustness of the building material. For example, a study of Gloucestershire dovescotes suggests that the brick or timber-framed dovescotes typical of the Vale of Gloucester have fared less well than the stone-built examples of the Cotswolds. At the time of the Gloucestershire survey the author noted that the surviving dovescotes of the Vale were in noticeably poorer condition (Ariss 1992, p.14).

During the 17th and early 18th centuries the restrictions

33C



33 Buildings for birds in England (continued)

- C Square stone dovecote with pitched roof. In the north of England a few 'lectern' dovecotes with mono-pitch roofs, more typical of Scotland, are found. (Vale of Pickering)
 - D Seventeenth-century timber-framed dovecote. Internally the nest boxes of this building are made from stone rubble, but wooden nest boxes and, in the East of England Region, clay bats forming the nest boxes are also found. (Herefordshire Lowlands)
 - E Octagonal brick dovecote dating from the 18th century. (Herefordshire Lowlands)
 - F Nest boxes incorporated into the gable end of a barn. The construction of nest boxes into the walls of other buildings was commonplace during the 18th and 19th centuries (Cotswolds).
 - G Hen house built over a pigsty. Probably late 19th century. (Vale of York)
 - H Goose pen built against a farmyard boundary wall. (Herefordshire Plateau)
- E, F, H © Bob Edwards; C © English Heritage NMR BB71 01134;
 D 149817 Taken as part of the Images of England project
 © Mr Chris Tresise; G © Jen Deadman

33D



33F



33E



33G



33H



on keeping doves were lifted and small-scale accommodation for doves can be found built into other farm buildings. However, as cereal prices rose and improved methods of farming were adopted the popularity of pigeons declined. Investigation of a farmstead should include a search for small groups of nest boxes, which may be tucked away at the top of a gable or over a gateway.

Poultry keeping was usually the preserve of the farmer's wife and so the hen house was usually close to the farmhouse. This location was also chosen because poultry were often fed on kitchen scraps and looked after from the farmhouse. 'Accommodation for poultry is a modest, though necessary adjunct to all farm homesteads. The busy farmer himself pays little attention as a rule to the feathered tribe, but a thrifty wife knows too well the profit attached to them,' (Clarke 1899, p.172). Geese could be housed in free-standing pens or alcoves in farmyard walls. Hens usually ran freely about a farmyard, but were encouraged to nest safely away from predators and so that the eggs could be collected. Hen houses usually included a small pop hole for the hens as well as a full-sized door for human access for feeding and egg-collection. The walls were lined with nest boxes. As is

still the case, hen houses were usually relatively short-lived buildings and there are few survivals that can be described as historic. Where historic examples do survive they usually form part of another building, such as a pig house: it was thought the chickens would keep the pigs warm and the pigs would frighten foxes away. The combination of a hen house located above a pig house was described as a poultiggery in some areas (for example in North Shropshire and Northumberland). These could be associated with a boiler house with a chimney for feed preparation.

7.6.2 DOVES AND POULTRY IN THE SOUTH EAST

The dovecotes of the South East Region do not have any particular features that can be regarded as being regionally distinct. As in other parts of the country, dovecotes were built using local materials and traditions, although timber-framed dovecotes are less frequently encountered despite the strong timber-framing tradition across much of the Region. Numerically, the county with the highest number of dovecotes is Oxfordshire with over 60 examples recorded. Most of the other counties have around 30 dovecotes recorded, although Berkshire appears to have relatively few with only 14 (OAU, 1995).

8.0 Key Building Types: Other Farmstead Buildings

8.1 OUTFARMS AND FIELD BARNES

8.1.1 NATIONAL OVERVIEW

Field barns and outfarms, sometimes with a cottage beside them, can be prominent landscape features. Outfarms were usually created on larger farms or in areas where the farmsteads remained in the villages after enclosure, resulting in some fields being distant from the main farmstead. These complexes usually took the form of a yard that was often fully or partly enclosed by buildings. The outfarm saved on labour in that the harvested crop from the surrounding fields did not have to be carried back to the farmstead, and its straw turned into manure which, in turn, did not have to be carted back out to the distant fields.

Field barns were built in areas where farmsteads and fields were sited at a long distance from each other or where fields were interspersed with the land of other farms. Isolated field barns, cow houses and sheep houses

are documented from the medieval period in upland areas (Le Patourel in Miller 1991, p.865). In some cases, such as the Craven Dales of Yorkshire or in the South Hams of Devon, they could be multi-functional buildings for cattle, corn and hay. The small and numerous field barns of the North Yorkshire Dales were built for a specialist dairy industry. In arable areas they were often simply threshing barns, which after 1770 were a typical part of outfarm groups.

Field barns and outfarms have always been vulnerable to dereliction once redundant. The widespread introduction of artificial fertilisers, bale silage production and the centralisation of farming activities are key factors in the abandonment and dereliction of field barns and outfarms.

8.1.2 OUTFARMS AND FIELD BARNES IN THE SOUTH EAST REGION (Figure 34)

Outfarm complexes comprising a yard, barn, shelter

34 Outfarms in the South East

- A & B In some parts of the Region, such as the High Weald and the claylands in north Hampshire, field barns were once common. They were associated with dispersed farmsteads and often a pattern of intermixed land holdings. These two examples show a late medieval timber-framed barn and a 19th-century brick cow shed. (High Weald)
- C An outfarm on the edge of the chalk downs in north Hampshire. A small threshing barn and single-storey buildings – probably shelter sheds – are ranged around a yard. The brick and flint is typical of 19th-century farm buildings in this part of the Downs. (Hampshire Downs)
All © Bob Edwards

34A



34B



34C



35 Other buildings

- A In the chalk parts of Hampshire and West Berkshire cob boundary walls with thatched or tile copings are often a highly characteristic feature of farmsteads, particularly those in villages. (Hampshire Downs)
- B Well house. Farmsteads on higher areas of chalk often had a well within

or close to the farmyard which could be enclosed within a well house. It is probable that relatively few examples survive – particularly of those built within the yard where they could pose an obstruction to farm machinery. (Hampshire Downs) © Bob Edwards



sheds and occasionally a cottage are seen standing in isolation in the chalk downlands (Barnwell & Giles 1997, p.17). Research has indicated that the surviving outfarms on the Hampshire Downs are only a fraction of the number that formerly existed (Edwards 2005, pp.59, 76). Sometimes an outfarm was upgraded to a farmstead with the addition of a farmhouse, and the original buildings may have been retained, although where these large downland farms have continued in agricultural use the buildings have often been partially demolished or replaced by modern sheds.

On the clays of the Thames Basin Heaths in north Hampshire research has shown that the land of the small farms of the area was often intermixed and field barns were often sited in the detached fields. From the mid-18th century these holdings were consolidated and some farms amalgamated, often resulting in the loss of the field barns, which are now rare features of the landscape of the area. In some cases a field barn might become the focus for a new holding (Edwards, 2005). Field barns may have been more common in other areas of small farms and early enclosure.

In parts of the Weald sheep were provided with some protection in the fields. This might be in the form of an open-fronted shelter shed (Caffyn 1983, p.167) or a sheep fold, many of which are marked on 1st Edition Ordnance Survey maps of areas such as the Rother valley.

8.2 MINOR AND MISCELLANEOUS BUILDINGS

8.2.1 NATIONAL OVERVIEW

A range of other, smaller, buildings have also been found

in a farmstead. Every farmyard would have had a water supply, either a pond, a nearby stream or a well, which could be enclosed in a well house. Fast-flowing water would also be used (see 6.0) to process grain into flour and wool into textiles, although evidence for mills or loom shops is very rare on surviving farms. Fuel for heating, in the form of timber or turf, would also be kept close to the house; specialist houses for peat, such as in Eskdale (Cumbria) are very rare. Some farmyards had recesses in the walls called bee boles to house a straw skep beehive. Occasionally a farm had its own slaughterhouse but many of these buildings do not have any characteristic external features, although internal features often included a higher ceiling and possibly a wheel to raise carcasses. Detached structures or rooms with chimneystacks served a diversity of functions: boil houses for animal (usually pig) feed; smithies (most frequently found on large farms, and located close to cart sheds); or washhouses. Farm dogs were often accommodated beneath the flights of steps that led up to lofts. Kennels for hunting dogs are found in hunting areas and are typically low, single-storey buildings similar to pigsties, with attached individual yards enclosed by metal railings.

8.2.2 MINOR AND MISCELLANEOUS BUILDINGS IN THE SOUTH EAST (Figure 35)

In the areas where earth-walled buildings are found, notably western Hampshire, Oxfordshire and Buckinghamshire, cob was often used for the construction of high farmyard walls. These are typically thatched or have tiled cappings. In north Oxfordshire, similarly tall boundary walls built in stone enclose many farmyards, particularly those set within villages, effectively restricting views into the farmyard.

9.0 Glossary

- Aisled barn** A barn in which increased width was obtained through the use of aisles – narrow extensions along one or more sides or ends of the barn. A series of posts stand in the place where the walls of an unaisled building would run. The roof is carried on beyond the line of the aisle posts so the height of the walls is reduced and the visual mass of the roof increased.
- Allotment** An area of land allotted to a farmer, often at the time of enclosure. The word changes meaning in the later 19th century to mean 'land allotted to villagers for growing their own fruit and vegetables'.
- Arable** Land cultivated for the growth of crops.
- Bank barn** A combination barn of usually two storeys. Through constructing the barn against a bank, both floors can be entered from ground level. Typically bank barns have a threshing barn, sometimes with a granary and hayloft, and over housing for cattle. The ground floor may be open-fronted or enclosed. Bank barns are characteristic of the Lakeland area of the North West Region and parts of Devon, Somerset and Cornwall in the South West Region. They could be placed across the slope or along the slope, the latter having the lower floor often accessed from doors close to or in one gable end.
- Barn** A building for the storage and processing of grain crops, and for housing straw. See also Combination barn.
- Berceries (sheep houses)** Medieval name for sheep houses – shelters provided for sheep usually in areas of grazing away from the farmstead.
- Byre** (see **shippon** and **hovel**) Dialect term for cow house, commonly used in Yorkshire and the North East.
- Cart shed** A building for housing carts and farm implements. Cart sheds are usually open-fronted buildings sited close to a road or track into the farmstead. One bay of a cart shed may be portioned off and provided with doors to create a secure storage area for smaller implements. In many areas cart sheds are combined with first-floor granaries.
- Catch meadow system** Similar to watermeadows. A system of drains cut along a hillside and made to overflow on to the pasture below in winter, encouraging the early growth of grass. Also known as field gutter systems.
- Chaff box/chaff house** Storage for the chaff, or outer husks of crops, a typical by-product of threshing. Chaff was used as fodder for horses.
- Cider house** A building for the milling and pressing of cider, found in the South West and the West Midlands. It usually forms part of a combination range, and is marked by a wide doorway.
- Cob** A term used for earth-walled buildings in the south and west of England. Cob buildings are heavily concentrated in Devon and Dorset and are also found in Wiltshire.
- Combed wheat reed** A method of thatching in which all the straw is laid in the same direction with butts down. The stems of the straw are not bruised or crushed as with longstraw. The finished roof resembles reed thatch rather than longstraw.
- Combination barn** A barn that also housed cattle or horses, and sometimes other functions such as cart sheds and granaries. Combination barns can be two-storey or single-storey buildings. They include bank barns.
- Convertible husbandry** A system whereby some fields were brought into arable cultivation for a short period – usually until the soil was exhausted – and then returned to pasture for a number of years. This system was commonly found in upland areas of the country.
- Coping** Usually flat stones but sometimes bricks laid on the top of a wall to prevent water getting into the core of the wall: for example, on the top of a gable wall of a building where the roofing material abuts the gable wall rather than covers it.
- Covered yard** A cattle yard that is fully covered by a roof – the aims of which were to protect the nutrients in the manure collecting in the yard from being washed away by the rain and to provide an environment where cattle would fatten more quickly.
- Cow house** An enclosed building for cattle in which the animals are normally tethered in stalls.
- Cruck, Raised cruck, Jointed cruck** A pair of curved timbers, usually halved from the same tree trunk, that form an A-frame extending from the ground to the apex of the roof. A raised cruck has the feet of the crucks raised off the ground, usually embedded in a masonry wall. Jointed crucks are individual cruck blades formed by two timbers joined together.
- Dairy** A building, or more often a room within the farmhouse, where milk was processed to make cheese and butter.
- Daub** A mixture of clay and straw applied to wattle infill of timber-framing to make a wall.
- Demesne farm** A manorial farm managed directly as opposed to land within the manor farmed by tenants.
- Dipping** The washing of sheep by immersing them in water.
- Dispersed settlement** Settlement consisting of scattered, isolated farmsteads and small hamlets. Dispersed settlement is the predominant settlement form over much of western parts of England, and an area extending from East Anglia to the South East.
- Dovecote** A building, or part of a building, providing nest boxes for pigeons or doves.

- Downland** The higher land of the chalk areas of the country. These areas typically had a poor, thin soil and were the preserve of sheep which grazed on the extensive, unenclosed areas. This form of management suppressed the growth of scrub and allowed a rich flora to establish.
- Dutch barn** Now used to describe an iron-framed, open-fronted building for the shelter of hay or corn. They typically date from the late 19th to the mid-20th centuries.
- Enclosure Enclosed land.** Enclosure of land may have occurred at an early date – possibly medieval and in a few rare cases in the prehistoric period. In other areas open fields or common land was enclosed either by agreement or, in the 18th and 19th centuries, by act of parliament.
- Fallow land** Land left uncultivated, allowing it to rest. In a 3-field open field system one field was left fallow by rotation each year.
- Farmstead** The homestead of a farm where the farmhouse and some or all of the farm buildings are located.
- Fatstock** Farm animals reared for meat.
- Field Barn** A building set within the fields away from the main farmstead, typically in areas where farmsteads and fields were sited at a long distance from each other. Field barns are often combination buildings providing storage for hay or straw and shelter for animals.
- Flail** An implement comprising two linked wooden sticks used to beat grain from the ear (see Thrashing).
- Granary** A building for storing grain before it has been milled. Granaries are usually at first-floor level to prevent rodents and damp damaging the grain. They could be free-standing structures or be an enclosed upper floor above a cart shed or stable.
- Grange** A farmstead belonging to and run by a monastic house.
- Grazier** A person who farms grazing animals, typically for meat or wool.
- Half-hipped roof** A roof in which the gable wall rises above the height of the eaves but does not extend to the apex. The upper part of the gable has a short sloping roof with rafters lying axially (in the same line of the orientation of the building). In a fully hipped roof, axial rafters are of the same length as the rafters of the main roof slopes.
- Hay barn** A structure to shelter but ensure the adequate ventilation of hay. They are typically open-sided structures with roofs supported on high brick, stone, timber or iron piers.
- Hay loft** Storage for hay above cart shed or stables.
- Hayrack** A rack made of wood and from the later 19th century often made in iron, in which hay could be placed to be eaten by cattle, horses or sheep.
- Hemmels** Small open-fronted cattle shelters with their own yards, mostly found in the North East.
- Hipped roof** A roof with slopes at the gable ends of equal or similar length to the side slopes. The gable walls do not rise up to the apex but are of similar height to the side walls. The top ends of the rafters that do not extend to the ridge are carried on a hip rafter.
- Hit-and-miss timber boarding** (also called **Yorkshire boarding**) Usually vertical boarding forming a wall to animal housing which has gaps between the boards to provide ventilation for the animals.
- Holding** A farm.
- Hovel** A dialect term for cow house, formerly common in parts of the Midlands and central southern England.
- Hurdle work** Hurdles, usually made from hazel or another pliable wood woven to form fence panels, were arranged to form temporary enclosure for animals, especially sheep.
- Husbandry** Farming, the management of the production of crops and animals.
- Infield-outfield system** A type of agriculture practised in pastoral (usually upland) areas, where the fields closest to the farmstead or settlement were the most intensively cropped and animals were only permitted to graze after the hay or corn crop was cut. Beyond was rough grazing for sheep and cattle, which was occasionally ploughed for corn.
- Kneeler** A stone, often shaped, which supports the stone coping to the gable end.
- Laithe house** A linear range of one construction comprising a farmhouse with attached barn and usually a stable. There is no internal link between the house and the agricultural element of the range. Laithe houses are usually associated with small part-time farmers who were often involved in the textile industries of the Pennines.
- Lean-to** A building, usually a later addition, which is constructed against the side of a larger building. Lean-tos typically have a mono-pitch roof.
- Lias** A form of limestone, typically split into thin pieces.
- Linear farmstead** A farmstead where the farmhouse and agricultural buildings are ranged in a line, usually attached to each other.
- Linhay** Two-storeyed building with open-fronted cattle shelter with an open-fronted hay loft or tallet above characteristic of Devon and south Somerset. The tallet may be constructed as a conventional floor or simply created from poles. Historically the term linhay was used to refer to a wider range of buildings including field barns.
- Loosebox** An individual cubicle for housing fatstock, found in the form of lean-tos attached to barns or other buildings, or as continuous ranges with an optional central or rear feeding passage.
- Longhouse** A building that housed humans and cattle under one roof and in which there was direct access from the accommodation into the byre. The byre was always built down-slope from the accommodation.

- Originally animals and humans used the same entrance but as living standards changed the animals were often provided with separate access.
- Longstraw** Term used to describe a thatching method where the ears and butts of the straw are mixed. The stems of the straw are bruised and crushed and the result is a generally looser coat than combed wheat reed or water reed. The appearance of the roof is quite different from combed wheat reed and water reed, with a much thicker covering of straw.
- Manger** An open trough in a stable or cowshed from which horses or cattle could eat.
- Mass-walled building** Buildings where the walls are constructed of solid materials such as stone, earth or brick as opposed to timber-framed walling.
- Meadow** A field maintained for providing grass for grazing and for making hay.
- Midstrey** Term used in southern England and East Anglia for the projecting porch to a threshing barn.
- Nucleated settlement** Settlement pattern consisting mainly of villages with relatively few isolated farmsteads or hamlets.
- Oast house** A building in which hops are dried.
- Oolite** An easily worked form of limestone from the Jurassic period.
- Open-field system** A system in which farmland was held in common with the strips of individual farmers intermixed across several fields. Open-field systems rarely had hedges between strips or fields. Over time the strips were usually consolidated and eventually enclosed. Enclosure of open fields results in characteristic field patterns where the boundaries form an elongated reversed 'S'.
- Outfarm** A barn with animal accommodation either within the barn or separately, located away from the main farmstead, which avoided transporting straw and manure to and from distant fields.
- Outshot** See Lean-to.
- Pantiles** Clay roofing tiles with a wavy profile. Originated in Holland and became popular along the north-east coast. Also made in Somerset.
- Pastoral farming** Farming system based predominantly on the rearing or fattening of stock. Pastoral areas are usually predominantly grassland but in some areas arable cultivation was also important, providing fodder crops for the animals as well as corn crops for domestic use.
- Pasture/pasturage** Grazing land.
- Piecemeal enclosure** The enclosure of areas of land field by field, possibly through assarting, as opposed to the wholesale enclosure of large tracts of land and the creation of large field systems.
- Pigsty** A small building for housing pigs. Typically built as individual boxes, individually or in rows and with external feeding chutes. They were often built with their own individual yards.
- Pilaster** An ornamental rectangular column projecting from a wall.
- Portal-framed shed** Mass-produced iron-framed shed usually clad in metal sheeting.
- Poultiggery** A building combining a pigsty at ground level with a poultry house in a loft above.
- Processing room** A room in a farmstead where fodder for animals would be prepared, usually with the aid of machinery such as chaff cutters, cake breakers and root crushers.
- Quoin** The stones or brickwork set at the corner of a building. Where poor-quality building stone was used it was difficult to form corners to a building so the quoins would be made out of bricks or a better quality stone that could be worked square.
- Rickyard** A yard, usually sited close to the barn, in which the harvested corn crops could be stored in ricks to await threshing. The ricks would be built on raised platforms to protect the grain from rodents and thatched to protect from rain.
- Ridge and furrow** Long, parallel ridges of soil separated by linear depressions, caused by repeated ploughing using a heavy plough.
- Ring-fenced** A term to describe a farm in which all the fields are held in a compact block as opposed to being intermixed with the fields of other farmers.
- Root and fodder stores** Room often located close to or incorporated within the cattle housing.
- Salving** The rubbing of a tar-based mix into sheep, in order to guard against ticks, etc.
- Shelter sheds** Open-fronted structures for cattle facing on to cattle yards.
- Shippon** A dialect term for cow house, commonly used in the North West and the South West peninsula.
- Silage clamp** An airtight container for the storage of freshly cut grass.
- Stable** A building for housing horses or working oxen.
- Staddle barn** Threshing barn, usually timber framed and raised on staddle stones. Staddle barns date from the later 18th and early 19th centuries and may be an attempt to counter the greater predation of the brown rat.
- Staddle stone** Staddle stones usually comprise two stones: an upright column that is capped by a circular stone of larger diameter, typically with a rounded top, together forming a mushroom shape. Staddle stones prevented rodents climbing up into granaries, ricks and staddle barns.
- Stall** A standing for a cow or horse within a byre or stable. Stalls are usually divided by wooden or stone partitions to prevent animals biting and kicking each other.
- Thrashing (or Threshing)** The removal of grain from the ears of corn crops. Threshing by hand involved hitting the ears with a flail.
- Threshing barn** See barn.
- Tillage** The tending of land to prepare it for a crop.

Tithe A payment of a tenth of crops and produce paid to the Rector of the church for his maintenance. Payment in kind was generally changed to a cash payment in the mid-19th century although this occurred earlier in some parishes.

Topography The features of the landscape; its hills, rivers, roads, woods and settlement.

Vaccary A stock farm for cattle. Most vaccaries are of 12th- or 13th-century origin, and were built for ecclesiastical or lay lords. They are concentrated in the Pennines.

Watermeadow A valley-floor meadow that was subject to controlled flooding using a system of drains and sluices to encourage early grass growth, providing spring food for sheep. The flooding brought nutrients on to the land, improving hay crops. Watermeadows

were first developed in the West Midlands but became a characteristic feature of the chalk river valleys of Wessex.

Wattle An interwoven panel usually made from hazel used to infill timber framing. Wattle could be covered in daub or left uncovered if more ventilation was required.

Wheel house A structure which housed a horse-engine for powering threshing machinery, and typically found projecting from barns. Also known as a gin gang in northern England.

Winnowing The separation of grain from the chaff, usually achieved by throwing the grain into the air and using the wind to blow the lighter chaff away from the grain.

Yorkshire boarding See Hit-and-miss boarding.

10.0 Sources

10.1 GENERAL SOURCES

The great barns of the medieval period were the first farm buildings to attract the attention of artists and antiquarians, from the 18th century. In the early 20th century this interest broadened out to studies of other iconic building types, such as Arthur Cooke's *A Book of Dovecotes* (1920), and their inclusion in the famous regional landscape studies published by Batsford (*The Face of Britain*). A milestone in the serious academic study of the subject was the publication of a regional study by J.E.C. Peters (1969), which was followed a year later by Nigel Harvey's inspirational general history of the subject (1970, 2nd edition 1984). Peters has usefully summarised his work in a booklet (1981, 2nd edition 2003) and studies examining farm buildings in their broader national and regional contexts have been taken forward by Brunskill (1982, revised 1987), Darley (1981), Lake (1989) and Wade Martins (1991). Individual studies

have been published in the journal of *The Historic Farm Buildings Group*, founded in 1985. A major project by the Royal Commission for Historical Monuments in England, which targeted sample areas for recording, was published in 1997 (Barnwell & Giles 1997). There are a small number of county-wide studies, for example in Kent (Wade in Giles & Wade Martins 1994, pp.26–27) and Surrey (Gray 1998).

Despite an increasing level of interest in historic farm buildings, some of the smaller, less impressive building types have not been subject to the level of study and research that buildings such as barns have received. Therefore there is a limited understanding of the regional variations that may be encountered. As a consequence, the National Overview texts provided in this document for farmstead and building types are sometimes longer than their regional summaries.

There are a number of sources that provide a good overview of agricultural history and the development of farm buildings including:

The Board of Agriculture *General View of the County of...*, published from 1795 to 1814 describe the state of agriculture in individual counties at the time. They often include a map of agricultural regions and a section of farm buildings. They are inevitably biased towards the large, publicity-conscious and 'improving' farmers and estates. County *Directories* from the second half of the 19th century often include essays on different aspects of the county, such as agriculture.

The British Association for the Advancement of Science published regional studies to coincide with the venues of their annual meetings in the 1950s and '60s. Many contain useful chapters on geology and agriculture.

The various volumes of *The Agrarian History of England and Wales* (Collins, Hallam, Thirsk, Miller, Mingay, Whetham) include essays by leading scholars.

James Caird (1852) *English Agriculture in 1851–2* is a collection of county essays written for *The Times*.

Haggard R. (1902) *Rural England* describes English agriculture county by county.

Hall, A.D. (1913) *A Pilgrimage of British Farming* describes farming in various counties in 1913.

The *Journal of the Royal Agricultural Society* has prize and regional essays on farming and farm buildings, especially useful for the mid- and late 19th century.

The *Victoria County Histories* are of variable use. The more recent volumes contain chapters on agricultural history and buildings.

The *Vernacular Architecture Group* has produced, besides its journal, a comprehensive national and regional bibliography (see Hall, Michelmores and Pattison for reference).

Barnwell, P.S. & Giles, C. (1997) *English Farmsteads 1750–1914* contains a short general introduction, a general concluding chapter and regional studies from west Berkshire, south Lincolnshire, north Northumberland, east Cornwall and central Cheshire.

Brunskill, R.W. (1982) *Traditional Farm Buildings of Britain* gives a very useful farming and building overview.

Darley, G. (1981) *The National Trust Book of the Farm* contains a general introduction followed by regional studies.

The revised Pevsner's *Buildings of England*, published county by county, often have useful introductions on landscape regions and building types.

Many county archaeological and historical journals include relevant articles. National journals of particular interest include those of the following societies:

British Agricultural History Society
Historic Farm Buildings Group
Local Historian

Society for Medieval Archaeology
Society for Post-Medieval Archaeology
Rural History
Society of Architectural Historians
Society for Landscape Studies
Vernacular Architecture Group

10.2 NATIONAL BIBLIOGRAPHY

- Airs, M. (1983) 'Hovels or Helms; some further evidence from the 17th century', *Vernacular Architecture*: **14**: pp.50–51
- Aitkens, P. & Wade-Martins, S. (1999) 'The farmsteads of Suffolk', *Journal of the Historic Farm Buildings Group* **13**: pp.1–17
- Alcock, N.W. (1981) *Cruck Construction*, CBA Research Report **42**: Council for British Archaeology, York
- Alcock, N.W. (2003) *Documenting the History of Houses*, British Records Association, London
- Alcock, N.W., M.W. Barley, P.W. Dixon, & R.A. Meeson (1996) *Recording Timber-framed Buildings: an illustrated Glossary*, CBA, York
- Allen, R.C. (1991) 'The two Agricultural Revolutions, 1459–1850', in Campbell, B. & M. Overton, *Land, Labour & Livestock*, Manchester University Press, Manchester
- Andrews, G.H. (1852) *Agricultural Engineering I: Buildings*, John Weale, London
- Barley, M.W. (1961) *The English Farmhouse and Cottage*, Routledge, London
- Barnwell, P.S. (1992) 'The National Farm Survey, 1941–1943', *Journal of the Historic Farm Buildings Group* **7**: pp.12–19
- Barnwell, P.S. & Giles, C. (1997) *English Farmsteads 1750–1914*, RCHME, Swindon
- Bateman, J. (1883) *The Great Landowners of Great Britain & Ireland*, Harrison, London
- Beacham, P. [Ed] (1990) *Devon Building. An introduction to local traditions*, Devon Books, Exeter
- Beckett, J.V. (1990) *The Agricultural Revolution*, Basil Blackwell, Oxford
- Belhaven, Lord (1699) *The Country-men's Rudiment, or An Advice to the Farmers of East Lothian on how to Labour and Improve their Ground*, Heirs of A. Anderson, Edinburgh
- Benoy, W.G. (1956) *Farm Buildings. Conversions and Improvements*, Ministry of Agriculture, London
- Betty, J.H. (1993) *Know the Landscape: Estates and the English Countryside*, B.T. Batsford, London
- Beresford, M. & J. Hurst (1971) *Deserted Medieval Villages*, Lutterworth, Cambridge
- Brigden, R. (1986) *Victorian Farms*, Crowood, London
- Brigden, R. (1992) 'Bucking the Trend: New Farms Between the Wars', *Journal of the Historic Farm Buildings Group* **6**: pp.35–48
- Browick, T. (1862) 'On the management of a Home Farm', *Journal of the Royal Agricultural Society of England (JRASE)* **23**: pp.247–269
- Brown, J. (1987) *Agriculture in England, A Survey of Farming 1870–1947*, Manchester University Press, Manchester
- Brunskill, R.W. (1982) *Traditional Farm Buildings of Britain*, Gollancz, London
- Caffyn, L. (1983) 'A Study of Farm Buildings in Selected Parishes of East Sussex', *Sussex Archaeological Collections* **121**: pp.149–71
- Caird, J. (1852) *English Agriculture in 1850–51*, Longmans, London
- Caird, J. (1878) *The Landed Interest and the Supply of Food*, Cassell & Co, London
- Chambers, J.D. & G.E. Mingay (1966) *The Agricultural Revolution*, B.T. Batsford, London
- Clark, J., J. Darlington & G. Fairclough (2004) *Using Historic Landscape Characterisation*, English Heritage and Lancashire County Council
- Clarke, D.W. (1972) 'Pennine Aisled Barns', *Vernacular Architecture* **4**: pp.25–7
- Clarke, D.W. (1974) 'Aisled timber barns in the Pennines', *Brigantian* **3**: pp.18–20
- Clay, C. (1985) 'Landlords and Estate Management in England', in Thirsk, J. [Ed] *Agrarian History of England and Wales* **7**, Cambridge University Press, Cambridge: pp.119–251
- Cobbett, W. [Cole Ed.] (1930) *Rural Rides*, Peter Davies, London
- Collins, E.J.T, A.K. Giles & J.G. Malleson (1989) *Ernest Edward Cook and his country estates*, University of Reading, Reading
- Collins, E.J.T. (2000) *The Agrarian History of England and Wales*, Volume VII, 1850–1914, Cambridge University Press, Cambridge
- Colvin, H. (1978, 1995, 3rd ed) *Biographical Dictionary of British Architects, 1600–1840*, Yale University Press, Newhaven and London

- Colvin, H. & J. Newman [Eds.] (1981) *Of Buildings: Roger North's Writings on Architecture*, Oxford University Press, Oxford
- Copland, S. (1866) *Agriculture, Ancient and Modern*, James Virtue, London
- Curwen, J.C. (1809) *General Hints on Agricultural Subjects*, J. Johnson, London
- Darley, G. (1981) *The National Trust Book of the Farm*, Weidenfeld & Nicholson, London
- Dean, G.A. (1844) *On the Construction of Farm Buildings*, Charles Henry Knight, Worthing
- Dean, G.A. (1850) 'On the Cost of Farm Buildings', *JRASE* **11**: pp.558–73
- Dean, G.A. (1851) *The Land Steward*, Atchley & Co., London
- Dean, G.A. (1867) *Selected Designs for Country Residences, Entrance Lodges, Farm Offices, Cottages, etc.*, Charles Henry Knight, Worthing
- Dean, P. (1999) *Sir John Soane and the Country Estate*, Ashgate, Aldershot
- Denton, J.B. (1864) *The Farm Homesteads of England. A collection of plans of English homesteads existing in different parts of the country*, Chapman & Hall, London
- Denton, J.B. (1879) 'Report of the judges of the farm plans sent in for competition at the London International Exhibition, 1879', *JRASE* 2nd ser. **15**: pp.774–81
- Dyer, C. (1984) 'Evidence for Helms in Gloucestershire', *Vernacular Architecture* **15**: pp.42–5
- Dyer, C. (1986) 'English peasant building in the later Middle Ages', *Medieval Archaeology* **30**: pp.19–43
- Dyer, C. (1995) 'Sheepcotes: Evidence for Medieval Sheepfarming', *Medieval Archaeology* **39**: pp.136–64
- Dyer, C. (1997) 'History and Vernacular Architecture', *Vernacular Architecture* **28**: pp.1–8
- Edwards, B. (2005) *Farmsteads and Landscape Character in Hampshire – Pilot Project*, unpublished report for English Heritage Forum Heritage Services
- English Heritage (1998) *Conservation-led Regeneration: the Work of English Heritage*, English Heritage, London
- English Heritage (2000) *Thatch and Thatching, a Guidance Note*, English Heritage, London
- Fox, C. (1952) *The Personality of Britain*, National Museum of Wales, Cardiff
- Fletcher, T.W. (1960–61) 'The Great Depression of English Agriculture, 1873–1896', *Economic History Review* 2nd ser. **13**: pp.417–32
- Gardiner, M. (2000) 'Vernacular Buildings and the Development of the Later Medieval Domestic Plan in England', *Medieval Archaeology* **44**: pp.159–79
- Giles, C. & S. Wade Martins [Eds] (1994) *Recording Farm Buildings*, Historic Farm Buildings Group, Norwich
- Gray, P. (1998) *Farmsteads and Farm Buildings in Surrey*, Surrey County Council
- Grey, J. (1843) 'On Farm Buildings', *Journal of the Royal Agricultural Society of England* **4**: pp.12–13
- Hallam, H.E. (1988) *The Agrarian History of England and Wales, Volume II, 1042–1350*, Cambridge University Press, Cambridge
- Hall, A.D. (1913) *A Pilgrimage of British Farming*, John Murray, London
- Hall, L. (1983) *The Rural Houses of North Avon and South Gloucestershire*, City of Bristol Museum and Art Gallery, Bristol
- Hall, R de Z. (1972) *A Bibliography of Vernacular Architecture*, David and Charles, Newton Abbot
- Hansell, P. & J. Hansell (2001) *Dovecotes*. Shire Publications, Princes Risborough
- Harris, R. (1978) *Discovering Timber-Framed Buildings*, Shire Publications, Aylesbury
- Harvey, N. (1984) *A History of Farm Buildings in England and Wales*, 2nd ed, David and Charles, Newton Abbot
- Harvey, N. (1985) *Historic Farm Building Study, Sources of Information*, ADAS, MAFF
- Hobbs, S. (ed) (2000) *Wiltshire Glebe Terriers, 1588–1827*, Wiltshire Record Society **56**
- Hooke, D. [Ed] (1985) *The Medieval Village*, Oxford University Committee for Archaeology, Oxford
- Howkins, A. (1994) 'Peasants, servants and labourers: the marginal workforce in English agriculture', *Agricultural History Review* **42**: pp.49–62
- Hudson, J. (1850) 'On the construction of farm buildings', *JRASE* **11**: pp.280–82
- Hunt, G. (1874) 'On concrete as a building material for Farm Buildings and Cottages', *JRASE* 2nd ser. **10**: pp.211–32
- Hunt, R. (1797) 'Essay on the design of farms, farm buildings, etc', *Communications to the Board of Agriculture*, Board of Agriculture, London
- Hutton, K. (1976) 'The distribution of wheel houses in the British Isles', *Agricultural History Review* **24**: pp.30–35
- Jones, E.L. (1968) *The Development of English Agriculture 1815–1873*, Macmillan, London

- Kennedy, A.T. (1988) 'The influence of wind on the orientation of threshing barns', *Vernacular Architecture* **19**: pp.19–23
- Kent, N. (1775) *Hints to Gentlemen of Landed Property*, J. Dodsley, London
- Kerridge, E. (1967) *The Agricultural Revolution*, George Allen & Unwin, London
- Lake, J. (1989) *Historic Farm Buildings*, Blandford Press, London
- Lake, J. & P. Gaskell (2002) 'Historic Farm Buildings: Audit and Evaluation'. *Conservation Bulletin* **42** (March 2002): pp.28–9
- Lake, J. & B. Edwards (2006) 'Farmsteads and Landscapes: Towards an Integrated View', *Landscapes*, **7**: pp.1–36
- Laurence, E. (1727) *The Duty of a Steward to his Lord*, John Shuckburgh, London
- Lawrence, J. (1801) *The Modern Land Steward*, Symonds, London
- Lawson, W. (1874) *Ten years of Gentleman Farming at Blennerhasset*, Longmans, London
- Loch, J. *An Account of the Improvements on the Estates of the Marquess of Stafford*, Longmans, London
- Loudon, J.C. (1831) *Encyclopedia of Agriculture*, 2nd ed, Longman Press, London
- Lucas, R. (1997) 'When Did Norfolk Cross 'The Brick Threshold'', *Vernacular Architecture* **28**: pp.68–80
- McCann, J. (1991) 'Enquiry into the Design and Use of Dovecotes', *Transactions of the Ancient Monuments Society* **35**: pp.88–162
- McCann, J. (1996) 'The Influence of Rodents on the Design and Construction of Farm Buildings in Britain to the mid-19th Century', *Journal of the Historic Farm Buildings Group* **10**: pp.1–28
- McCann, J. (2004) *Clay and Cob Buildings*, Princes Risborough, Shire Publications
- MacDonald, S. (1975) 'The progress of the early threshing machine', *Agricultural History Review* **24**: pp.63–77
- MacDonald, S. (1981) 'Model Farms' in Mingay, G.E. [Ed] *The Victorian Countryside* I, Routledge & Kegan Paul, London: pp.214–26
- Mercer, E. 'The unfulfilled wider implications of vernacular architecture studies', *Vernacular Architecture* **28**: pp.9–12
- Miller, E. (1991) *The Agrarian History of England and Wales, Volume III 1350–1500*, Cambridge University Press, Cambridge
- Mingay, G.E. (1989) *The Agrarian History of England and Wales, Volume VI 1750–1850*, Cambridge University Press, Cambridge
- Michelmores, D.J.H. (1979) *A Current Bibliography of Vernacular Architecture*, Vernacular Architecture Group
- Moir, J. (1997) 'Vernacular Architecture: Open Air Museums and the Ecological Framework', *Vernacular Architecture* **28**: pp.20–24
- Moir, J. & J. Letts (1999) *Thatch Thatching in England 1790–1940*, English Heritage Research Transactions **5**, James and James, London
- Morton, J.C. (1842) *On the Nature and Property of Soils*, 4th ed., J. Ridgeway, London
- Morton, J.C. (1855) *Cyclopedia of Agriculture*, Blackie & Sons, Glasgow
- Morton, J.C. (1863) *The Prince Consort's Farms*, Longmans, London
- Morton, J.C. (1868) 'Town Milk' in *JRASE* 2nd ser. **5**: pp.69–98
- Moscrop, W.J. (1865) 'Covered cattle yards' in *JRASE* 2nd ser. **1**: pp.88–99
- Moscrop, W.J. (1872) 'On the housing of fattening cattle', *Transactions of the Highland and Agricultural Society of Scotland* 4th ser. **4**: pp.156–165
- Moscrop, W.J. (1890) 'Covered Cattle Yards' in *JRASE* 3rd ser. **1**: pp.473–90
- Needham, S. (1984) 'Helms, hovels and belfreys: more evidence from probate inventories', *Vernacular Architecture* **15**: pp.45–6
- Ojala, E.M. (1952) *Agriculture and Economic Progress*, Oxford University Press, Oxford
- Orwin, C.S. & E.H. Wretham (1971) *History of British Agriculture, 1846–1914*, David and Charles, Newton Abbot
- Overton, M. (1996) *Agricultural Revolution in England 1500–1850*, Cambridge University Press, Cambridge
- OAU (1995) *Dovecotes, Monuments Protection Programme Step I Report*, Oxford Archaeological Unit for English Heritage
- Pattison, I.R., D.S. Pattison & N.W. Alcock (1992) *A Bibliography of Vernacular Architecture, Vol III, 1977–1989*, Vernacular Architecture Group
- Pattison, I.R., D.S. Pattison & N.W. Alcock. (1999) *A Bibliography of Vernacular Architecture, Vol III, 1990–1994*, Vernacular Architecture Group
- Perren, R. (1970) 'Landlords and Agricultural Transformation, 1870–1900', *Agricultural History Review* **18**: pp.36–51

- Perren, R. (1973) 'The Landlord and Agricultural Transformation 1870–1900' in Perry, P.J., [Ed.] *British Agriculture 1875–1914*, Methuen, London: pp.109–28
- Perry, P.J. (1974) *British Farming in the Great Depression, 1870–1914: An historical geography*, David and Charles, Newton Abbot
- Perry, P.J. (1981) 'High Farming in Victorian Britain', *Agricultural History* **55**: pp.156–65
- Peters, J.E.C. (1969) *The Development of Farm Buildings in West Lowland Staffordshire up to 1880*, Manchester University Press, Manchester
- Peters, J.E.C. (1981) *Discovering Farm Buildings*, Shire Publications, Aylesbury
- Platt, C. (1969) *The Monastic Grange in Medieval England: a reassessment*, Macmillan, London
- Rackham, O. (1972) 'Grundle House: on the quantities of timber in certain East Anglian buildings in relation to local supplies', *Vernacular Architecture* **3**: pp.3–8
- Rigold, S. (1973) 'The distribution of aisled timber barns', *Vernacular Architecture* **2**: pp.20–22
- Rippon, S., with Clark, J. (2004) *Historic Landscape Analysis: Deciphering the Countryside*, Council for British Archaeology, York
- Roberts, B.K. (1977) *Rural Settlement in Britain*, Hutchinson University Press, London.
- Roberts, B.K. *The Making of the English Village*, Batsford, London
- Roberts, B.K. (1996) *Landscapes of Settlement. Prehistory to the Present*, Routledge, London.
- Roberts, B.K. & S.Wrathmell (2000) *An Atlas of Rural Settlement in England*, English Heritage, London
- Roberts, B.K. & S.Wrathmell (2002) *Region and Place A study of English rural settlement*, English Heritage, London
- Robinson, J.M. (1983) *Georgian Model Farms*, Oxford University Press, Oxford
- Robinson, J.M. (1988) *The English Country Estate*, National Trust/Century, London
- Ryan, C. (1988) 'An Introduction to the Recording of Farm Buildings', *Journal of the Historic Farm Buildings Group* **2**: pp.56–9
- Scott, J. (1885) *Text Book of Farm Engineering: Part 4, Buildings*, Crosby Lockwood & Co., London
- Shaw, J. (1990) 'Pastures in the Sky: Scottish Tower Silos 1918–1939', *Journal of the Historic Farm Buildings Group* **4**: pp.73–91
- Sheldon, J.P. (1879) *Dairy Farming*, Cassell, London
- Sheldon, J.P. (1908) *British Dairying*, 3rd ed, Crosby Lockwood, London
- Smith, J.T. (1965) 'Timber Framed Building in England – its development and regional differences', *Archaeological Journal* **122**: pp.133–58
- Smith, P. (1975) *Houses of the Welsh Countryside*. London, HMSO
- Smith, P. (1980) 'The Architectural Personality of the British Isles' *Archaeologia Cambrensis*: pp.1–36
- Spooner, W.C. & J. Elliott (1850) 'On the Construction of Farm Buildings', *JRASE* **9**: pp.270–82
- Stamp, L.D. [Ed.] (1937–44) *The Land of Britain*, Royal Geographical Society, London
- Stephens, H. (1844) *Book of the Farm*, 4th ed, W. Blackwood, London
- Sturgess, T. (1850) 'Farm Buildings', *JRASE* **11**: pp.288–99
- Taylor, C.C. (1983) *Village and Farmstead: A History of Rural Settlement in England*, George Philip, London
- Tancred, T. (1850) 'On the Construction of Farm Buildings', *JRASE* **11**: pp.192–214
- Thirsk, J. [Ed.] (1967) *The Agrarian History of England and Wales, Volume IV, 1500–1640*, Cambridge University Press, Cambridge
- Thirsk, J. [Ed.] (1984) *The Agrarian History of England and Wales, Volume Vi, 1640–1750 (Regional Farming Systems)*, Cambridge University Press, Cambridge
- Thirsk, J. [Ed.] (1985) *The Agrarian History of England and Wales, Volume Vii, 1640–1750 (Agrarian Change)*, Cambridge University Press, Cambridge
- Thirsk, J. [Ed.] (2000) *The English Rural Landscape*, Oxford University Press, Oxford
- Thirsk, J. (1987) *England's Agricultural Regions and Agricultural History, 1500–1750*, Macmillan, London
- Thompson, F.M.L. (1959) 'Agriculture since 1870', *Victoria History of the Counties of England: A History of Wiltshire* **4**, University of London, London
- Thompson, F.M.L. (1963) *English Landed Society in the 19th Century*, Routledge & Kegan Paul, London
- Turner, M. (1980) *English Parliamentary Enclosure*, Dawson, Folkestone
- Walton, J.R. (1973) *A Study in the Diffusion of Agricultural Machinery in the 19th Century*, Oxford School of Geography Research Paper No. 5
- Wade Martins, S. (1980) *A Great Estate at Work*, Cambridge University Press, Cambridge

- Wade Martins, S. (1991) *Historic Farm Buildings*, B.T.Batsford, London
- Wade Martins, S. (1995) *Farms and Fields*, B.T.Batsford, London
- Wade Martins, S. (2002) *The English Model Farm*, Windgather Press, Macclesfield
- Wade Martins, S. & T. Williamson (1999) 'The Roots of Change', *Agricultural History Review Monograph*, British Agricultural History Society, Exeter
- Waistell, C. (1827) *Designs for Agricultural Buildings*, Longmans, London
- Warren, J.W. [Ed] (1990) *Wealden Buildings*, Wealden Buildings Study Group Coach Publications, Horsham
- Whetham, E. (1978) *The Agrarian History of England and Wales, Volume VIII, 1914–1939*, Cambridge University Press, Cambridge
- Wiliam, E. (1986) *The Historical Farm Buildings of Wales*, John Donald, Edinburgh
- Wiliam, E. (1987) 'The use of barns', *Journal of the Historic Farm Buildings Group* **1**: pp.16–24
- Young, A. (1764) 'Common farmers vindicated from the charges of being universally ignorant', *Museum Rusticanum* **3**
- Young, A. (1770) *A Farmer's Guide to the Hiring and Stocking of Farms*, W. Strachan, London
- Young, A. (1771) *A Farmer's Tour through the North of England*, 4 vols, W. Strachan, London
- Young, A. (1784) 'A Minute of the Husbandry at Holkham by Thomas William Coke', *Annals of Agriculture* **11**: p.382
- Young, A. (1793) *General View of the Agriculture of Yorkshire*, Board of Agriculture, London
- Young, A. (1804) *General View of the Agriculture of Norfolk*, Board of Agriculture, London
- Young, A. (1808) *General View of the Agriculture of Sussex*, Board of Agriculture, London
- Young, A. (1809) *General View of the Agriculture of Oxfordshire*, Board of Agriculture, London
- Young, A. (1813) *General View of the Agriculture of Suffolk*, Board of Agriculture, London

10.3 REGIONAL BIBLIOGRAPHY

- Ariss, P. (1992), 'The Dovecotes of Gloucestershire', *Journal of the Historic Farm Buildings Group* **6**: pp.3–34
- Aston, M. & C. Lewis [Eds] *The Medieval Landscape of Wessex*, Oxbow Monograph **46**, Oxbow, Oxford
- Banister, B. (1994) 'The Farm Buildings of the Dukes of Norfolk Arundel Estate, West Sussex', *Journal of the Historic Farm Buildings Group* **8**: pp.34–53
- Bosworth, G.F. (1909a) *Sussex: Cambridge County Geographies*, Cambridge University Press, Cambridge
- Bosworth, G.F. (1909b) *Kent: Cambridge County Geographies*, Cambridge University Press, Cambridge
- Boys, J. (1805) *General View of the Agriculture of the County of Kent*, Board of Agriculture, London
- Brandon, P. (1999) *The South Downs*, Phillimore, Chichester
- Brandon, P. (2003) *The Kent and Sussex Weald*, Phillimore, Chichester
- Caffyn, L. (1983) 'A Study of Farm Buildings in Selected parishes of East Sussex', *Sussex Archaeological Collections* **121**: pp.149–71
- Chapman, J. & S. Seeliger (1997) *A Guide to Enclosure in Hampshire 1700–1900*, Hampshire County Council, Winchester
- Chapman, J. & S. Seeliger (2001) *Enclosure, Environment and Landscape in Southern England*, Tempus Publishing, Stroud
- Clark, D. (2004) 'Cranked Inner Principles', *Vernacular Architecture* **35**: pp.32–9
- Collins, E.J.T. [Ed] (2000) *The Agrarian History of England and Wales 7: Part II*
- Course, E. & P. Moore (1984) 'Victorian Farm Buildings in Hampshire', *Proceedings of the Hampshire Field Club and Archaeological Society* **40**: pp.107–14
- Course, E. (n.d.) *Hampshire Farmsteads in the 1980s*, Southampton University Industrial Archaeology Group, Southampton
- Dodd, J.P. (1979) 'Hampshire Agriculture in the Mid-Nineteenth Century', *Proceedings of the Hampshire Field Club and Archaeological Society* **35**: pp.239–60
- Downing, R. (2001) 'The Coleshill Model Farm', *Journal of the Historic Farm Buildings Group* **14**: pp.9–22
- Driver, A. & W. Driver (1794) *General View of the Agriculture of the County of Hampshire*, Board of Agriculture, London
- Edwards, B. (2005) *Farmsteads and Landscape Character in Hampshire – Pilot Project*, Unpublished report for English Heritage Forum Heritage Services
- Everitt, A. (1986) *Continuity and Colonization: The evolution of Kentish settlement*, Leicester University Press, Leicester
- Everitt, M.A. (1977) 'The Making of the Agrarian Landscape of Kent', *Archaeologia Cantiana* **92**: pp.1–31

- Hampshire County Council (2000) *The Hampshire Landscape A Strategy for the Future*, Hampshire County Council, Winchester
- Hare, J. (1994) 'Agriculture and Settlement in Wiltshire and Hampshire' in Aston, M. & C. Lewis [Eds] *The Medieval Landscape of Wessex*, Oxbow Monograph **46**, Oxbow, Oxford
- Holderness, B.A. & G.E. Mingay (2000) 'The South and East' in Collins, E.J.T. [Ed] *The Agrarian History of England and Wales 7: Part II*
- Hughes, A & D. Johnston (2002) *West Sussex Barns and Farm Buildings*, Dovecote Press, Wimborne
- James, W. & J. Malcolm (1794) *General View of the Agriculture of the County of Surrey*, Board of Agriculture, London
- Jones, G. & J. Bell (1988) 'Getting at the Truth: Recording and Interpreting a Farm Building: Turks Farm Oast, Mayfield, East Sussex', *Journal of the Historic Farm Buildings Group* **2**: pp.3–14
- Lambrick, G. & P. Bramhill (1999) *Hampshire Historic Landscape Assessment*, Unpublished report Oxford Archaeological Unit/Scott Wilson for Hampshire County Council and English Heritage
- Lewis, E., E.V. Roberts & K. Roberts (1988) *Medieval Hall Houses of the Winchester Area*, Winchester City Museum, Winchester
- Martin, D. & B. Martin (1978–82) *Historic Buildings in East Sussex Rape of Hastings Architectural Survey* 7 parts
- Mavor, W. (1813) *General View of the Agriculture of Berkshire*. Board of Agriculture, London
- Nairn, I. & N. Pevsner (1965) *Sussex: Buildings of England*, Penguin, Harmondsworth
- Newman, J. (1969) *West Kent and the Weald: Buildings of England*, Penguin, Harmondsworth
- Page, M. [Ed] (1996) *The Pipe Roll of the Bishopric of Winchester 1301–2*, Hampshire County Council, Winchester
- Page, M. [Ed] (1999) *The Pipe Roll of the Bishopric of Winchester 1409–10*, Hampshire County Council, Winchester
- Peach, J. (1989) 'A Study of the Staddle Stone Granary in Hampshire', *Proceedings of the Hampshire Field Club and Archaeological Society* **45**: pp.183–9
- Pearce, W. (1794) *General View of the Agriculture of Berkshire*, Board of Agriculture, London
- Pearson, S. (1994) *The Medieval Houses of Kent: An Historical Analysis*, RCHME. HMSO, London
- Pevsner, N. & D. Lloyd (1967) *Hampshire and the Isle of Wight: Buildings of England*, Penguin, Harmondsworth
- Power, E. (1941) *The Wool Trade in English Medieval History*, Oxford University Press, Oxford
- Quincey, A. (1993) *Kent Houses*, Antique Collectors Book Club, Woodbridge
- Roberts, E.V. (2003) *Hampshire Houses 1250–1700 Their Dating and Development*, Hampshire County Council, Winchester
- Sherwood, J. & N. Pevsner (1974) *Oxfordshire: Buildings of England*, Penguin, Harmondsworth
- Stevenson, W. (1813) *General View of the Agriculture of the County of Surrey*. Board of Agriculture, London
- Tyson, B. (1989) 'Rebuilding Chilworth Farm, Oxfordshire in 1740', *Journal of the Historic Farm Buildings Group* **3**: pp.3–17
- Vancouver, C. (1813) *General View of the Agriculture of Hampshire and the Isle of Wight*, Board of Agriculture, London
- Walton, R.A.E. & I. Walton (1998) *Kentish Oasts 16th–20th Century: their history, construction and equipment*, Christine Swift, Egerton
- Wooldridge, S.W. & F. Goldring (1953) *The Weald*, Collins, London
- Young, A. (1793) *General View of the Agriculture of the County of Sussex*, Board of Agriculture, London

11.0 Joint Character Area Descriptions: URLs for PDF Documents

- 1 **North Northumberland Coastal Plain** www.countryside.gov.uk/Images/JCA01_tcm2-21114.pdf
- 2 **Northumberland Sandstone Hills** www.countryside.gov.uk/Images/JCA02_tcm2-21115.pdf
- 3 **Cheviot Fringe** www.countryside.gov.uk/Images/JCA03_tcm2-21116.pdf
- 4 **Cheviots** www.countryside.gov.uk/Images/JCA04_tcm2-21117.pdf
- 5 **Border Moors and Forests** www.countryside.gov.uk/Images/JCA5_tcm2-21066.pdf
- 6 **Solway Basin** www.countryside.gov.uk/Images/JCA6_tcm2-21068.pdf
- 7 **West Cumbria Coastal Plain** www.countryside.gov.uk/Images/JCA7_tcm2-21069.pdf
- 8 **Cumbria High Fells** www.countryside.gov.uk/Images/JCA8_tcm2-21070.pdf
- 9 **Eden Valley** www.countryside.gov.uk/Images/JCA9_tcm2-21071.pdf
- 10 **North Pennines** www.countryside.gov.uk/Images/JCA10_tcm2-21072.pdf
- 11 **Tyne Gap and Hadrian's Wall** www.countryside.gov.uk/Images/JCA11_tcm2-21073.pdf
- 12 **Mid Northumberland** www.countryside.gov.uk/Images/JCA12_tcm2-21120.pdf
- 13 **South East Northumberland Coastal Plain** www.countryside.gov.uk/Images/JCA13_tcm2-21121.pdf
- 14 **Tyne and Wear Lowlands** www.countryside.gov.uk/Images/JCA14_tcm2-21122.pdf
- 15 **Durham Magnesian Limestone Plateau** www.countryside.gov.uk/Images/JCA15_tcm2-21123.pdf
- 16 **Durham Coalfield** www.countryside.gov.uk/Images/JCA16_tcm2-21124.pdf
- 17 **Orton Fells** www.countryside.gov.uk/Images/JCA17_tcm2-21074.pdf
- 18 **Howgill Fells** www.countryside.gov.uk/Images/JCA18_tcm2-21075.pdf
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- 20 **Morecambe Bay Limestones** www.countryside.gov.uk/Images/JCA20_tcm2-21078.pdf
- 21 **Yorkshire Dales** www.countryside.gov.uk/Images/JCA21_tcm2-21079.pdf
- 22 **Pennine Dales Fringe** www.countryside.gov.uk/Images/JCA22_tcm2-21125.pdf
- 23 **Tees Lowlands** www.countryside.gov.uk/Images/JCA23_tcm2-21126.pdf
- 24 **Vale of Mowbray** www.countryside.gov.uk/Images/JCA24_tcm2-21128.pdf
- 25 **North Yorkshire Moors and Cleveland Hills** www.countryside.gov.uk/Images/JCA25_tcm2-21129.pdf
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- 27 **Yorkshire Wolds** www.countryside.gov.uk/Images/JCA27_tcm2-21132.pdf
- 28 **Vale of York** www.countryside.gov.uk/Images/JCA28_tcm2-21133.pdf
- 29 **Howardian Hills** www.countryside.gov.uk/Images/JCA29_tcm2-21134.pdf
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- 31 **Morecambe Bay and Lune Estuary** www.countryside.gov.uk/Images/JCA31_tcm2-21080.pdf
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- 33 **Bowland Fringe and Pendle Hill** www.countryside.gov.uk/Images/JCA33_tcm2-21083.pdf
- 34 **Bowland Fells** www.countryside.gov.uk/Images/JCA34_tcm2-21084.pdf
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- 44 **Central Lincolnshire Vale** www.countryside.gov.uk/Images/JCA44_tcm2-21143.pdf
- 45 **Northern Lincolnshire Edge With Coversands** www.countryside.gov.uk/Images/JCA45+47_tcm2-21144.pdf
- 46 **The Fens** www.countryside.gov.uk/Images/JCA46_tcm2-21145.pdf
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- 48 **Trent and Belvoir Vales** www.countryside.gov.uk/Images/JCA48_tcm2-21146.pdf
- 49 **Sherwood** www.countryside.gov.uk/Images/JCA49_tcm2-21147.pdf
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- 51 **Dark Peak** www.countryside.gov.uk/Images/JCA51_tcm2-21087.pdf

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- 76 **North West Norfolk** www.countryside.gov.uk/Images/JCA076%20-%20North%20West%20Norfolk_tcm2-21179.pdf
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- 78 **Central North Norfolk** www.countryside.gov.uk/Images/JCA078+084%20-%20Central%20North%20Norfolk%20+%20Mid%20Norfolk_tcm2-21181.pdf
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- 85 **Breckland** www.countryside.gov.uk/Images/JCA085_tcm2-21187.pdf
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- 89 **Northamptonshire Vales** www.countryside.gov.uk/Images/JCA89+94_tcm2-21159.pdf
- 90 **Bedfordshire Greensand Ridge** www.countryside.gov.uk/Images/JCA090_tcm2-21190.pdf
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