THE UNIVERSITY OF HULL

The Lincolnshire Marsh – landscape evolution, settlement development and the salt industry

being submitted for the Degree of Doctor of Philosophy in the University of Hull

by

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February 2007

VOLUME I

The Lincolnshire Marsh – landscape evolution, settlement development and the salt industry

Volume One

Saltern mounds at Marshchapel. CUCAP PF 73 (29.3.55). Cambridge University Committee for Aerial Photography © Crown copyright

Helen Fenwick

University of Hull, 2007

Abstract

The coastal wetland, known as the Lincolnshire Marsh, is investigated in order to understand the ways in which people in the past exploited coastal zones. This research into a previously neglected area has tested the validity of Rippon's (2000) three-part model of coastal strategies - exploitation, modification and transformation. The Lincolnshire Marsh, as considered in this thesis, covers a region from Cleethorpes in the north to Wainfleet in the south. The study area also encompasses areas of the adjacent dry land, of the Middle Marsh and the Wolds, to the west.

A wide range of data are studied to help build a picture of the methods people have used to settle this region, from earlier prehistory through to the sixteenth century. It has been shown that the strategies adopted have varied over space and time, and that the region cannot be viewed as a single developmental unit. Four separate development zones have been postulated, showing differences in the visible Bronze Age reactions to rising sea-levels; in the concentration of salt production to specific regions, in certain periods; in the place-name evidence; in the Domesday landholdings; and in the settlement pattern.

Following Rippon's (2000) three-part model it has been shown that for the majority of its history, people have been happy to *exploit* the natural resources on offer along the Marsh, whether they be salt or the natural havens or pasture. Although salt was important in this development, it is limited in specific periods, to specific areas. On occasion the occupants of the Lincolnshire Marsh have *modified* the coast to aid with settlement and exploitation, however, there were no large-scale attempts at reclamation, or *transformation*, until the sixteenth century. In this respect the region is significantly different from many other coastal wetlands in north-west Europe which see large-scale attempts at transformation by the thirteenth century, at the latest. A subdivision has also been apparent at the modification stage – in some cases this strategy was *intentionally* adopted, in other areas the modification was *accidental*, a by-product of the salt industry.

Acknowledgements

The ideas within this thesis developed from work undertaken as part of the Humber Wetlands Project, funded by English Heritage and based within the Geography Department at the University of Hull. My thanks must go to colleagues who worked on this project, and for continued access to the data archive. As part of this project I met Ian Burgess at Marshchapel who allowed access to his land for excavations of the Late Saxon salt-working site and provided a digital copy of the 1595 map of Fulstow and Marshchapel, for which I am grateful.

As part of the data gathering stage of this thesis, numerous organisations and individuals have allowed access to data, housed my visits and helped with the research. These include: Lincolnshire Historic Environment Record, especially Mark Bennett; Hugh Winfield at North East Lincolnshire Historic Environment Record; Mike Hemblade of North Lincolnshire Historic Environment Record; all staff at Lincolnshire Archives in Lincoln; and staff of the Geography Department Map Library, University of Hull.

Digital datasets have been provided by: English Heritage National Monuments Record - digital copies of the NMP transcriptions; Digimap - Ordnance Survey data; UKBorders - digital boundary sets; British Geological Survey - solid and drift geology maps in digital format; and Getmapping - aerial photographs. Dr Edward Schofield and Dr Alan Clapham also provided access to the full copies of their unpublished PhDs, for which I am grateful.

My thanks must go to Richard Middleton and Dr Graham Ferrier of the Geography Department for being on the other end of email for GIS queries. For the first part of the work on this thesis I was employed as Centre Manager of the Wetland Archaeology and Environments Research Centre and my thanks go to colleagues in the Centre and in the Department of Geography. A departmental grant also aided the purchase of the British Geological Survey data. Since 2004 I have been a member of staff of the History Department and my thanks go to all colleagues and students in the Department for their encouragement to complete the work. This completion was aided by the award of study leave for a semester in 2006, and my thanks go to the

Department of History and the Faculty of Arts and Social Sciences for facilitating this leave. Thanks go to Dr Rod Ambler for helpful discussion concerning the parish structure and origins.

A number of projects have been 'put on hold' in the last 12 months of the thesis completion and I must thank the teams involved with the projects at Amarna, Egypt and Brodsworth, South Yorkshire for their patience. Thanks must also go to the Department of History 'coffee club' who fielded grammatical queries on a regular basis.

Thanks should also go to my supervisors, Dr Stephen Ellis and Dr Malcolm Lillie, for comments on the text and support during the research. Special thanks go to the latter for keeping up with tight deadlines that I imposed and stepping in towards the end of the process.

Finally family and friends. John and Lauren are thanked for allowing me time off at weekends to finish the thesis and for the constant nagging to get it finished. My parents and sister are acknowledged for the constant push so that graduation would not affect any holiday plans. This thesis is dedicated to my family; not just those of biological connection, but also those of the wider realm, who from an early age have encouraged me in my archaeological endeavours. This includes my godfather, David Hutchinson, who sadly died just a few months before completion.

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Due to the large number of illustrations that support the results section of this thesis (Part 3), it has been necessary to bind the thesis in two volumes. When it became apparent that this would be necessary, it was decided that the majority of figures should be placed in a separate section in the second volume. All illustrations have been added to the text for Chapters 1-3, and these are not presented in Volume Two. For Chapters 4-9, it was considered that to include all illustrations within these chapters would have disrupted this flow. These figures therefore appear in Volume Two.

A complete numbering system was adopted in the text for all illustrations, and a full list of figures is provided on the following pages. Having figures in a separate volume will also aid the reader with the possibility of having the figures available at all times, in Volume Two, whilst reading the text in Volume One. The full Appendices can be found on the CD at the back of Volume Two. The first pages of each Appendix are printed in Volume Two to highlight the nature of the data. However, the full page-numbering system is only apparent on the CD.

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List of abbreviations

BGS: British Geological Survey

Cummins: Cummins and Moore (1973)

ESRI: Environmental Systems Research Institute

GIS: Geographic Information System

HER: Historic Environment Record

HLC: Historic Landscape Characterisation

HWP: Humber Wetlands Project

Jones 1998: Jones (1988a)

LAO: Lincolnshire Archives Office

LHA: Lincolnshire History and Archaeology

LINHER: Lincolnshire Historic Environment Record

NELINHER: North-east Lincolnshire Historic Environment Record

NMP: National Mapping Programme

NMR: National Monuments Record

OS: Ordnance Survey

RCHME: Royal Commission on the Historical Monuments for England

SMR: Sites and Monuments Record (now known as Historic Environment Records)

Ulmschneider: Ulmschneider (2000b)

Wymer: Wymer and Bonsall (1977)

The following periodisation has been used throughout this thesis, partly based on the dates outlined in Hunter and Ralston (1999). It is acknowledged that the boundaries between the periods are not fixed and there are periods of transition.

Mesolithic	6550-4000 BC
Neolithic	4000-2600 BC
Earlier Neolithic	4000-3000 BC
Later Neolithic	3000-2600 BC
Bronze Age	2600-700 BC
Early Bronze Age	2600-1400 BC
Late Bronze Age	1400-700 BC

Iron Age	700 BC – AD 43
Roman	AD 43-410
Anglo-Saxon	AD 410-1066
Medieval	AD 1066-1500
Post-Medieval	AD 1500 onwards

Radiocarbon Dates

All radiocarbon dates discussed within this thesis have been recalibrated using OxCal Version 3.10 © C. Bronk Ramsey 2005, obtainable from http://c14.arch.ox.ac.uk. All dates are given as calibrated dates, with their full ranges, and the specific lab code for the date in the following format: 5772-5346 cal BC (Q-401). A list of all radiocarbon dates referred to in the text is presented in Appendix 1.

Maps

All original maps within this research have been produced using ArcMap GIS unless stated otherwise. North is always to the top, and any grid refers to the Ordnance Survey National Grid.

Part 1

Introduction

Chapter 1

Introduction

1.1 Introduction

The coastal margins of Britain are an intrinsic part of the character of the country, and are also areas which have seen major changes over the centuries, with sea-level fluctuations making these unstable environments in which to settle. Despite this, these areas have seen settlement throughout time and the potential struggle of people against the elements makes these regions a valuable area to study to try to understand human interactions with the environment. Despite the clear potential of this area of research, the study of coastal areas is a relatively young discipline within the field of wetland archaeology.

The region being investigated here, the Lincolnshire coastal zone (Figure 1.1), has witnessed extensive changes over the last 10,000 years both physically and culturally, and these changes are reflected in the ways in which the landscape of the area was exploited and settled. One important resource of the area that has influenced the nature and extent of settlement has been salt. The earliest evidence for salt production in Lincolnshire has been dated to the Late Bronze Age, with extensive evidence from the Iron Age and Roman periods and a large corpus of evidence for the Medieval industry (Baker 1960, Hallam, H.E. 1960, Hallam, S.J. 1960, Rudkin and Owen 1960, Palmer-Brown 1993, Grady 1998).

Rippon (2000) postulated three strategies that were adopted in coastal zones – exploitation, modification and transformation (see section 1.3). This thesis examines the nature of the landscape evolution of Lincolnshire Marsh, a previously neglected area, placing it in the context of this recent work and that undertaken in similar areas throughout the British Isles. A wide timeframe is selected to explore changes in the strategies through time, and a wide range of evidence is explored to provide a holistic view of the region. It applies Rippon's (2000) model of landscape development, in order to explore the extent to which the Lincolnshire Marsh contributes to the knowledge of the use of such zones. It will be shown that this region saw late reclamation, and that the modification could be both intentional and accidental.

1.2 Landscape studies

'For both the archaeologist and the native dweller, the landscape tells - or rather is - a story. It enfolds the lives and times of predecessors who, over the generations, have moved around it and played their part in its formation' (Ingold 1993: 152).

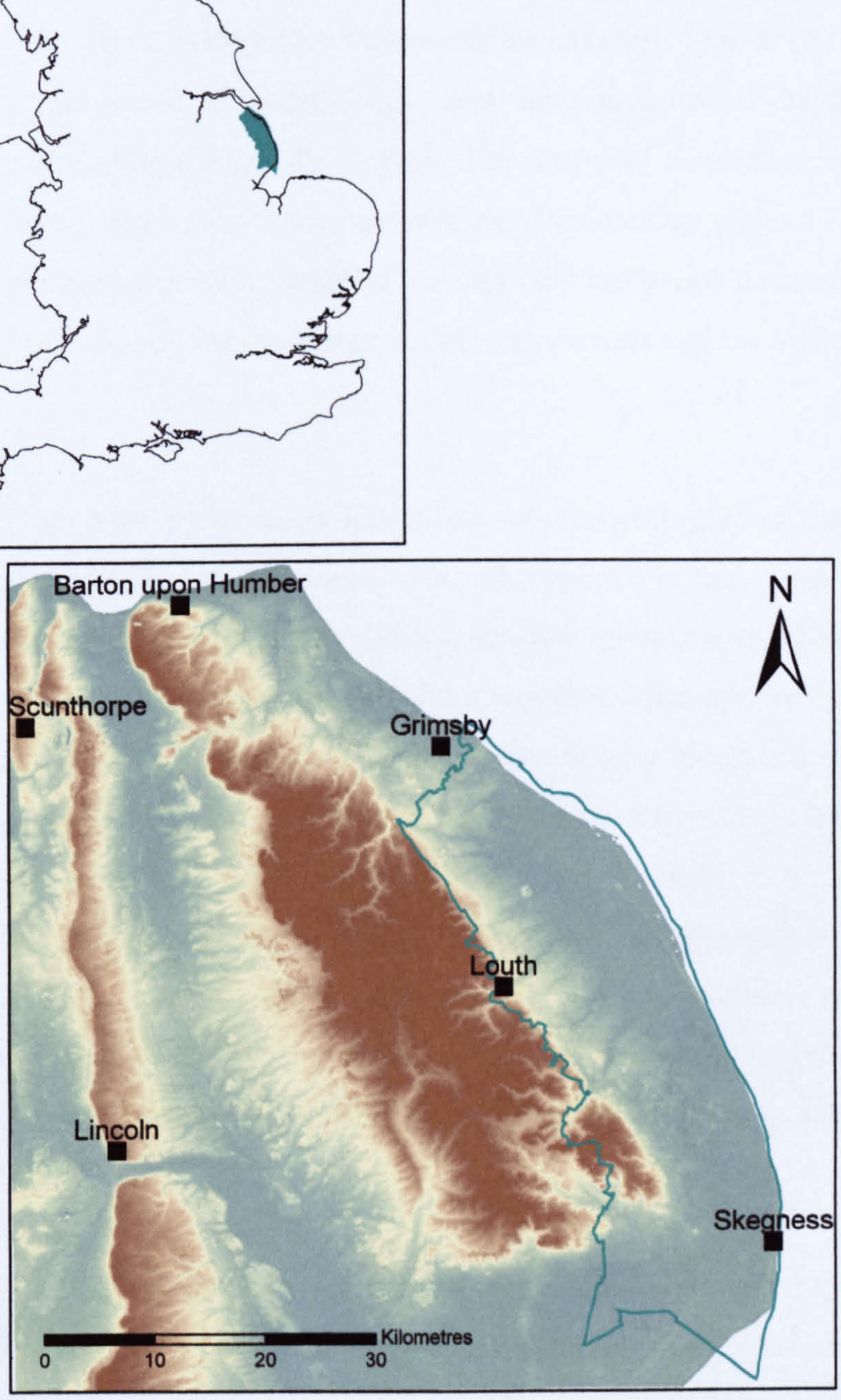


Figure 1.1: Location of the study area of the Lincolnshire Marsh including areas of the surrounding high ground

The term landscape has had a complex development. It has been shown to have Anglo-Saxon origins from the German word *landschaft*, but it disappeared from the records in the eleventh century, re-emerging in the seventeenth century in the Netherlands as an artistic term (Darvill 1997, Roberts and Wrathmell 2000).

Within archaeology, the term has been used in a variety of ways, most commonly 'to designate the components of the artefactual scene which, in close combination with wholly natural elements, give distinctive character to tracts of countryside' (Roberts and Wrathmell 2000: 5). The concept of landscape studies has evolved over the years in line with the development of archaeology, and new theories of landscape perception and phenomenology have developed. The study of landscape is not simply a consideration of the physical remnants that are visible today such as a road, field boundary or woodland, but also considers the ways the landscape has changed, the way people used and viewed the landscape in different periods and the value they placed upon it.

The importance of landscape archaeology lies in the whole being greater than the sum of its parts. Individual sites and features, although valuable in their own right, increase in importance when related to the wider landscape context and when they are considered in relation to both contemporary and inter-related features. In essence landscape archaeology is multi-disciplinary, incorporating among others, strands of archaeology, history, geography, geomorphology, architecture and botany (but also see section 1.2.2 below). This situation has made it difficult to establish landscape archaeology as a rigid discipline, and the ideas of 'landscape' are constantly being re-written (Muir 2000a). Consequently, different disciplines relevant to the understanding of the landscape evolution of the Lincolnshire Marsh will be explored: incorporating the archaeological, documentary and physical evidence, amongst others (see Chapter 4).

Within archaeology, landscapes can be studied in the same way as any other type of archaeological resource such as finds or contexts. Landscape typologies can be formulated for a variety of features and these can then be used to produce models of landscape change. These methods and theories are explored in more detail in Chapter 3.

In order to understand the techniques and theories to be adopted by this thesis, it is first necessary to provide an overview of the development of landscape studies.

1.2.1 Development of landscape studies

Hoskins (1955) highlighted the fine line that divides landscape history and archaeology. In his pioneering work, he took the perspective of studying the landscape by looking at the features that are still visible in the landscape today. This, to him, was landscape history, with archaeology being a further layer of detail that is buried beneath this modern landscape (Hoskins 1955). Although not the first, or only, landscape historian of his day, he was one of the first to highlight the fact that the modern landscape is a palimpsest of activity of varying chronological ages and contains a great time depth.

> 'At the most we may be told that the English landscape is the man-made creation of the seventeenth and eighteenth centuries, which is not even a quarter-truth, for it applies only to country houses and their parks, and to the parliamentary enclosures that gave us a good deal of our modern patterns of fields, hedges, and by-roads. It ignores the fact that more than half of England never underwent any enclosure, but evolved in an entirely different way, and that in some regions the landscape had been virtually completed by the eve of the Black Death.' (Hoskins 1955: 13).

Contemporaneously to Hoskins, other historians such as Beresford were developing the idea that archaeology could include the study of maps and landscapes, and not just buried remains. Beresford's (1957) *History on the Ground*, not only looks at the development of villages and their field systems, but also boundaries, parkland and towns, exploring documentary and physical evidence in a range of essays.

From these early beginnings of landscape history and landscape archaeology, developments occurred slowly, undertaken by a growing group of exponents. It was not really until after the 1970s that landscape archaeology blossomed into the widely used discipline that it became in the 1990s. Landscape archaeologists were initially interested in the analysis of the positioning of settlements and sites in the landscape, and the relationships between these and other sites, and the topography. During the

1970s focus changed to the environmental setting of these settlements and sites and their position in a social and economic system, and towards the end of the 1970s landscape studies began to look at the role of perception. Work by authors such as Meinig (1979) have highlighted the different ways in which different people will perceive the same landscape, both from the point of view of those studying the landscape at the present time, and those who inhabited the landscape at any particular time in the past.

Whilst there has been substantial discussion of the concept of landscape, landscape perception, and its role in archaeological interpretation, this thesis does not dwell in great detail on this subject (see Cosgrove 1989, Hirsch 1995, Bender 1998, Knapp and Ashmore 1999 for discussions of the developments of concepts of landscape in geography, anthropology and archaeology). Although the perceptions of the people and the way they viewed the landscape are vital to a full understanding of the cultural development of the population, the focus of this thesis is the development of the landscape, and not the population's perception of that creation. The one concept that is studied more closely is that of marginal landscapes, which is discussed in further detail below (see section 1.3.3).

Later developments placed an emphasis on the social aspects of the landscapes - the communities that populated the locality and their interaction with, and effect on, the landscape (Darvill 1997). These developments served to move the research focus away from studies of landscapes as an unpopulated blank canvas of settlements, field systems and communication routes, and placed the people directly into the picture with the idea that it is their 'living' that creates the landscape:

> 'move beyond the sterile opposition between naturalistic view of the landscape as a neutral, external backdrop to human activities, and the culturalistic view that every landscape is a particular cognitive or symbolic ordering of space ... we should adopt, in place of both views, what I call a 'dwelling perspective', according to which the landscape is constituted as an enduring record of - and testimony to - the lives and works of past generations who have dwelt within it, and in so doing, have left there something of themselves.' (Ingold 1993: 152).

1.2.2 Multidisciplinary versus interdisciplinary studies

> 'One needs to be botanist, a physical geographer, and a naturalist, as well as an historian, to be able to feel certain that one has all the facts right before allowing the imagination to play over the small details of a scene.' (Hoskins 1955: 18).

It is widely acknowledged that landscape archaeology is multidisciplinary as the quote above illustrates. The wide variety of sources that need to be considered in any study of landscape involves the investigator donning various caps - historian, archaeologist, geographer, place-name expert etc. In his recent book *Historic Landscape Analysis*, Rippon (2004a) explores the idea that landscape analysis needs to be interdisciplinary rather than falling short at a multidisciplinary level. He justifies this perspective by explaining that many studies that claim to be multidisciplinary often treat each discipline separately, for example devoting a separate chapter to each of the different disciplines. Full-scale historic landscape analysis needs to combine the different sources of information and they need to be used, considered and studied concurrently and seamlessly with one another (Rippon 2004a). This division between multidisciplinary and interdisciplinary may appear to be partly semantic, but Rippon has highlighted a clear problem with some landscape studies which have attempted to produce a full understanding of landscape development and have fallen short, only providing a series of unrelated snap-shots of aspects of the landscape in question.

1.2.3 Historic Landscape Characterisation

One of the most recent developments in the study of landscapes has been Historic Landscape Characterisation (HLC). Methods of landscape characterisation have been developed by a number of agencies as a tool for management (including the Countryside Agency and English Heritage). English Heritage has developed a number of strategies and policies, which have seen the production of county-based characterisations of the historic environment (Clark *et al.* 2004). These developed out of the need to be able to define the character of the historic landscape in different regions throughout the country, and also the need to develop a way of managing threats and changes to the landscape within these regions. No one specific methodology was developed, with initial projects being paper-based exercises,

leading to the gradual introduction of Geographic Information Systems (GIS) (Clark *et al.* 2004, Rippon 2004a). Within the changing methodologies, certain sources of information were at first abandoned, such as early cartographic sources, to be re-integrated in later projects. Four main 'waves' of changing methodologies have been identified with the introduction of GIS in the second wave, and its adaptation to an analysis tool in the third wave (see Aldred and Fairclough 2003 for further details of the four waves). The development of GIS has allowed increasing amounts of diverse information to be incorporated in a single place to allow a broader picture of the historic landscape to be developed and interrogated (see Chapter 4).

The first English Heritage sponsored Historic Landscape Characterisation Project was that for Cornwall in the early 1990s, undertaken by the local archaeological unit, based within the county council (Herring and Johnson 1997, Rippon 2004a). The system developed in Cornwall pre-dates the application of GIS, but provides an outline of the basic methodology. The process began by attributing a specific historic landscape character-type to each parcel of land, from a pre-defined list of seventeen types including divisions such as Medieval enclosures, Post-Medieval enclosures, modern enclosures, ancient woodland, industrial, recreation and water. The information plotted during this stage of the exercise formed the basis for the future development of landscape zones (eighteen different types in total) to enable broader patterns to be defined, with their own historic character being a result of a variety of processes in the past (Herring and Johnson 1997, Rippon 2004a).

As Historic Landscape Characterisation was primarily developed as a modern management tool it has focussed on the plotting of current landscape features. Many of the past projects have not attempted to define the character of earlier, past 'historic' landscapes. Although only limited research is undertaken in defining the past landscape, the databases created for Historic Landscape Characterisation do provide a useful starting point from which historic landscape research can be conducted. Hence there is a distinction between Historic Landscape Characterisation, and the analysis of the historic landscape. Historic Landscape Characterisation can be referred to as 'future-orientated' in which the study of the current landscape is used to aid the management of future landscapes, whereas historic landscape analysis is often classed as 'past-orientated'. Here the present landscape is studied as the first

step in revealing the different processes that have occurred to create the modern day world (Bloemers 2002, Rippon 2004a). In some spheres the difference between 'past-orientated' and 'future-orientated' has often been defined as research versus management, but as mentioned above, the development of management-led projects can provide a basis for future research.

1.2.4 The character of the English landscape

Within the early developments in historical geography, researchers tried to define the differences in the character of the English landscape. Early commentaries on the landscape of England identified two separate zones - those titled 'champion' and those often identified as 'woodland' (Roberts and Wrathmell 2002). In general terms the 'champion' regions were characterised by large areas of open fields and nucleated settlement, compared to the 'woodland' regions which had a greater quantity of early enclosures surrounded by hedgerows and woodland alongside a dispersed settlement pattern (Roberts and Wrathmell 2002). The area of champion is usually defined as a swathe of country from the North Sea running diagonally across central England to the English Channel.

This early definition of the character of the English countryside pre-dates the development of landscape studies as outlined above. It has often revolved around the nature and development of field patterns, and as a consequence has focussed on settlement patterns and agricultural practices in different regions, particularly the development of open field systems. Discussions on the development of field systems began in the 1890s but it was the publication of Gray's (1915) *English Field Systems* that began the full-scale analysis of the development of field systems, and therefore the overall nature of the character of the majority of the English landscape. In his analysis of field systems, Gray (1915) distinguished different types of system and noted that they were often restricted to different regions which he interpreted as reflecting different historic racial populations within each of these regions. Since this early work, the definition of the regional characteristics of the landscape has developed in a variety of ways, but many hark back to a sub-division similar to that proposed by Gray. Fox (1932) also looked towards immigrant populations to explain variations, but also noted the divisions in the physical landscape. However, more recent studies dismiss the racial origins of the different regions and develop more

detailed analyses of characteristics other than just those of the field systems (Homans 1941, Thirsk 1964, Baker and Butlin 1973).

In his *History of the Countryside*, Rackham (1986) identified three broad zones of landscape in England with the central broad swathe termed 'planned' countryside and the two on either side as 'ancient' countryside (Figure 1.2). To the north and west were areas of uplands. The planned landscapes consisted of areas created during the Enclosure Acts of the eighteenth and nineteenth century, when the open-field systems of the region were converted into neat parcels of land, and are concentrated in an area from East Yorkshire, through Lincolnshire, into the Midlands and down to the south coast. There were few woods and roads, and settlements were characteristically villages with a few isolated farms. The ancient landscapes were a result of the piecemeal development of the field systems, often with associated walls and hedges, over many centuries. Settlements consisted of hamlets and small towns, and there were many roads and woodlands. The two areas of ancient landscapes include the rest of lowland Britain, with on one side, the area of southern East Anglia, the Thames Valley and Kent coast. On the western side, this area includes much of the marcher counties on the Welsh border, south to Somerset. Rackham (1986) also noted a number of highland zones which again show a different pattern of development.

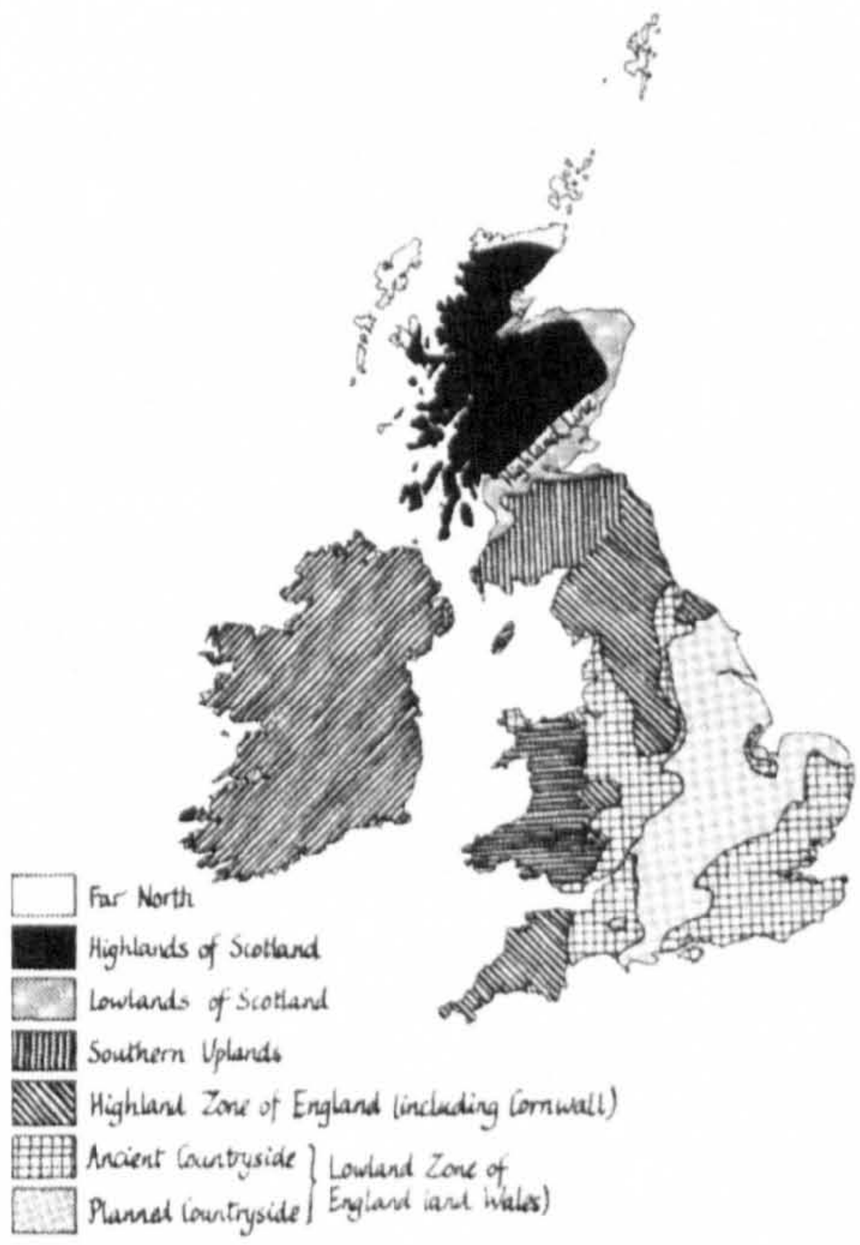


Figure 1.2: Rackham's regions of the British Isles (Rackham 1986: 3, Figure 1.3)

The subdivision into these large regions in many ways has been seen to be over-simplistic. Recent study by Roberts and Wrathmell (2002) has re-assessed the rural settlement of England and divided the country into three provinces (almost co-incident with Rackham's zones) and then each of these are subdivided into further sub-provincial divisions. The three main zones have been called the Northern and Western Province, the Central Province and the South-eastern Province (Figure 1.3).

The Central Province equates to the area identified by earlier studies of landscapes as 'champion', but within this region ideas of open fields and communally organised farming are not as clear-cut as has been suggested elsewhere, so much so, that Roberts and Wrathmell (2002: 2) conclude; 'In short, the diversity of field systems, seen in their physical layouts, husbandry practices and tenurial arrangements, are sufficiently complex as almost to defy rational classification'. They also highlight that the morphology of field systems cannot be solely studied and the need to look at the relationships between other areas and aspects such as settlement and the distribution of individual holdings, waste and common land. The provinces on either side of the Central Province are distinguished by more trees and areas of woodland. There are also more enclosing hedgerows and hence a less open landscape.

Roberts and Wrathmell (2002) argue that these three provinces had begun to emerge before the ninth century and may even date further back to the Roman period. These zones can be distinguished by characteristics of terrain and climatic conditions; however, they have also been influenced by cultural factors that cannot be divorced from any interpretation of their development. The Provinces were initially mapped using the settlement pattern plotted from the Ordnance Survey Old Series one inch to one mile maps, from the nineteenth century, for which a countrywide coverage was available. There are problems with this dataset deriving from different draftsmen's techniques and the time period over which the maps were drawn, but they do provide a basis from which to work. The distributions plotted from these maps were then used to establish the Provinces and sub-provinces. Roberts and Wrathmell view these divisions as 'tracts of 'settlement similarity'' to be 'both used and tested' (2002: 8).

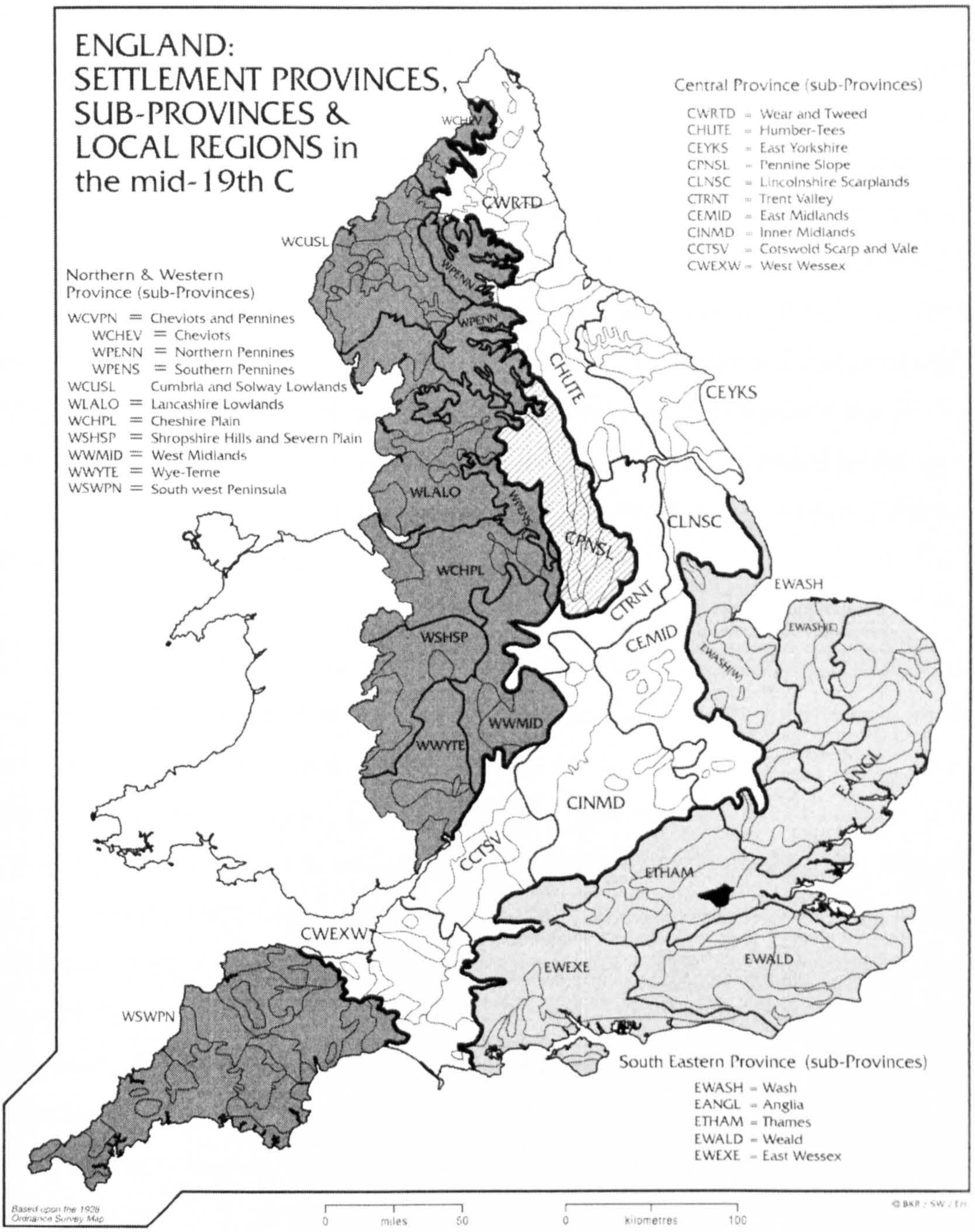


Figure 1.3: Settlement Provinces, sub-provinces and local regions as defined by Roberts and Wrathmell (2002:10, Figure 1.4)

This thesis will explore the nature of the landscape of the Lincolnshire Marsh, its position within these characterisations of the English landscape and how far these general countrywide models can be applied to discrete landscape blocks.

1.3 Coastal wetlands

Within their introduction to marshes, Reeves and Williamson (2000: 150) distinguish the differences between fens and marshes, highlighting the waterlogged nature of fens with little permanent settlement compared to the 'much more tamed and settled landscapes' of marshes. They continue: 'they too were watery lands... but they were more thoroughly drained, by networks of dykes, and were usually protected from flooding by 'walls' or embankments' (Reeves and Williamson 2000: 150). As has been shown in other areas of the country, and will be shown for the Lincolnshire Marsh, this 'taming' is only a final stage of landscape development and in many areas, and at many times, the coastal marshes of Britain were untamed landscapes. It will in fact be shown that in the Lincolnshire Marsh reclamation occurs relatively late in the sixteenth century.

Despite this, however, coastal wetlands were still settled until, either intentionally or accidentally, they were finally 'tamed'. Reeves and Williamson (2000) explain that, whereas many people assume that settlement is initiated in marshes due to embankments and drainage, in fact settlement often began with individuals taking advantage of a reduction in sea-level, which provided small islands of dry land upon which to settle and which would only require minimal maintenance of pre-existing drainage. Reeves and Williamson (2000: 150) also postulate that marshes 'were principally exploited for pasture or arable, rather than for the kinds of semi-natural resources offered by the fens'. As will be shown throughout this thesis, whilst marshes were generally exploited for pasture and arable, settlement was often initiated due to the availability of a wide range of other natural resources occurring along the coast.

The different strategies that have been adopted in coastal marshes have been explored by Rippon (2000) when undertaking an overview of research into the coastal margins of Britain and north-west Europe. Within this work he studied the impact of Roman and later activity on the coastal zone and postulated three broad ways in which coastal marshes have been used by communities in the past – exploitation, modification and transformation. He studied various coastal margins to examine the degree to which each of these elements can be seen in the development

of the area, and from this he developed a model of landscape development in coastal wetlands (Figure 1.4).

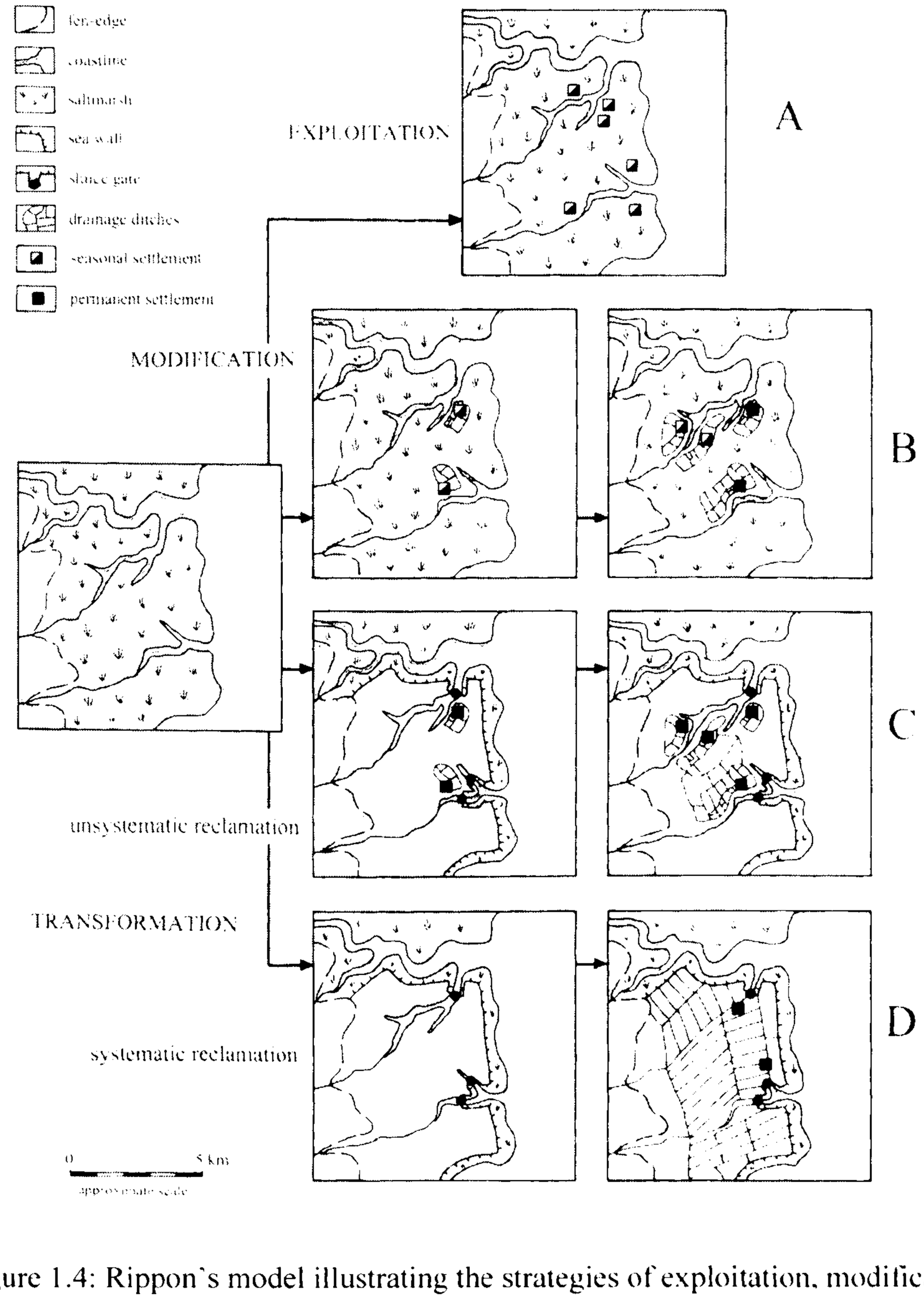


Figure 1.4: Rippon's model illustrating the strategies of exploitation, modification and transformation (Rippon 2000: 53, Figure 19)

The three ways in which Rippon (2000) discusses the use of coastal margins also show different intensities and strategies of landscape change. The most basic of these methods of landscape use is exploitation. This is simply the use of the natural resources of the region such as willow, reeds and rushes for construction materials,

wildlife for food, and peat for fuel. There is also the possible extraction of salt and the use of the saltmarshes for seasonal grazing. The second approach is the modification of the landscape to increase its natural productivity. This is most often seen through the control of water by excavation of ditches and the construction of banks, although these areas are possibly still threatened by flooding. The final strategy sees the eventual transformation of an area by the construction of permanent banks and defences and thus changing the nature of the landscape from one that was seasonally flooded, to one that is no longer inundated. This thesis will use this three-part model as a basis for the study of the Lincolnshire Marsh; however, it will refine the definition of modification, with a subdivision into accidental and intentional.

Notable archaeological research into the historic development of coastal landscapes has been undertaken on two areas of the British Isles. These are the Severn Estuary (Rippon 1993, 1996, 1997) and Romney Marsh (Eddison and Green 1988, Eddison 1995, 2000). Both have been tackled from different perspectives, but have provided a framework for the study of other areas of coastal marsh in Britain (Figure 1.5).

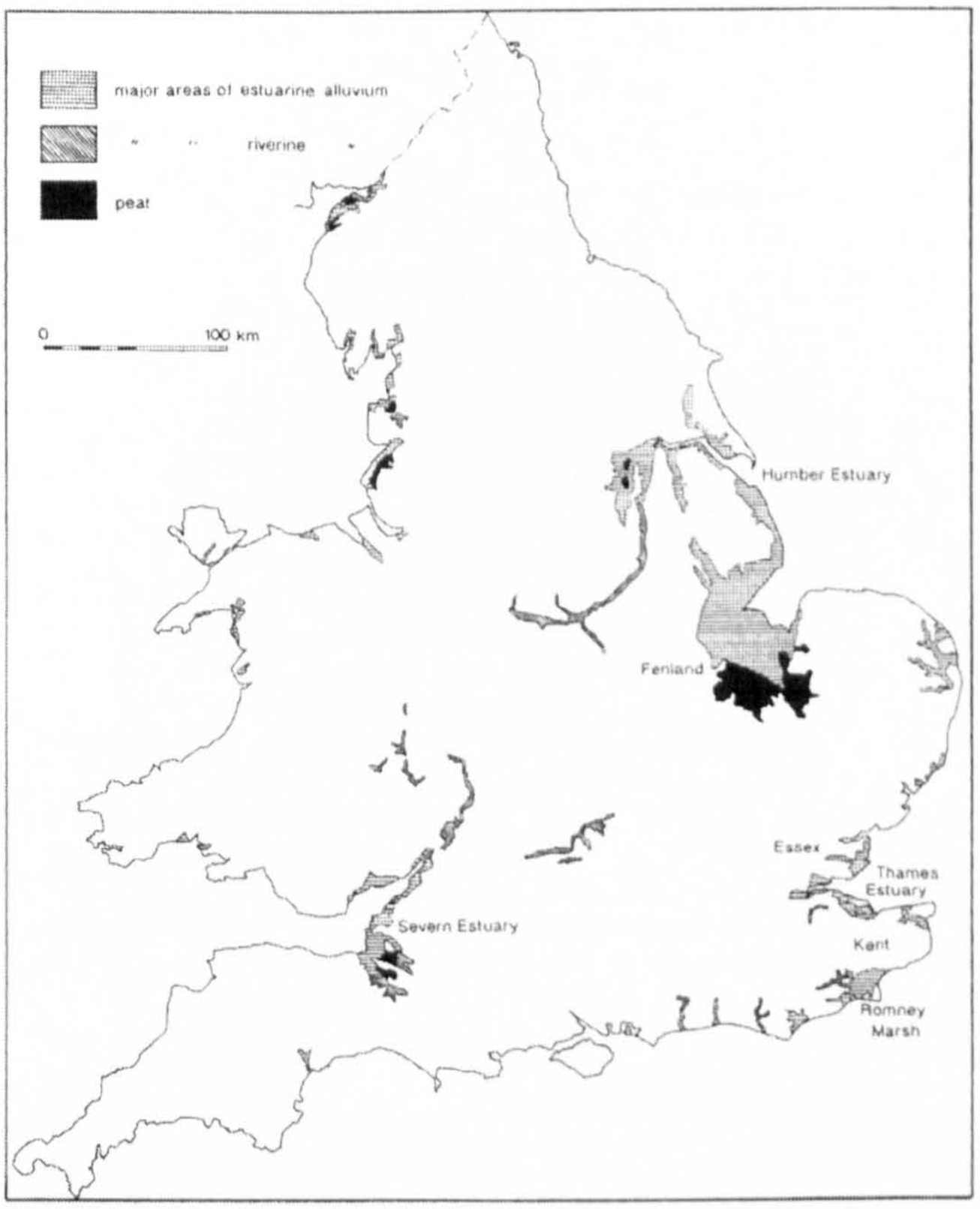


Figure 1.5: Coastal wetlands of England and Wales (Rippon 1997: 7, Figure 1)

1.3.1 Severn Estuary

Rippon's own personal research, which formed the basis of his later review of coastal wetlands in north-west Europe, has concentrated on the Severn Estuary coastal zone, initially as his PhD research and then following with wider research into specific regions (Rippon 1993, 1996, 1997). The Severn Estuary contains a diverse range of coastal and wetland zones including the Gwent, Avonmouth, North Somerset and Central Somerset Levels, and includes areas of coastal saltmarsh as well as freshwater peatlands (Figure 1.6).

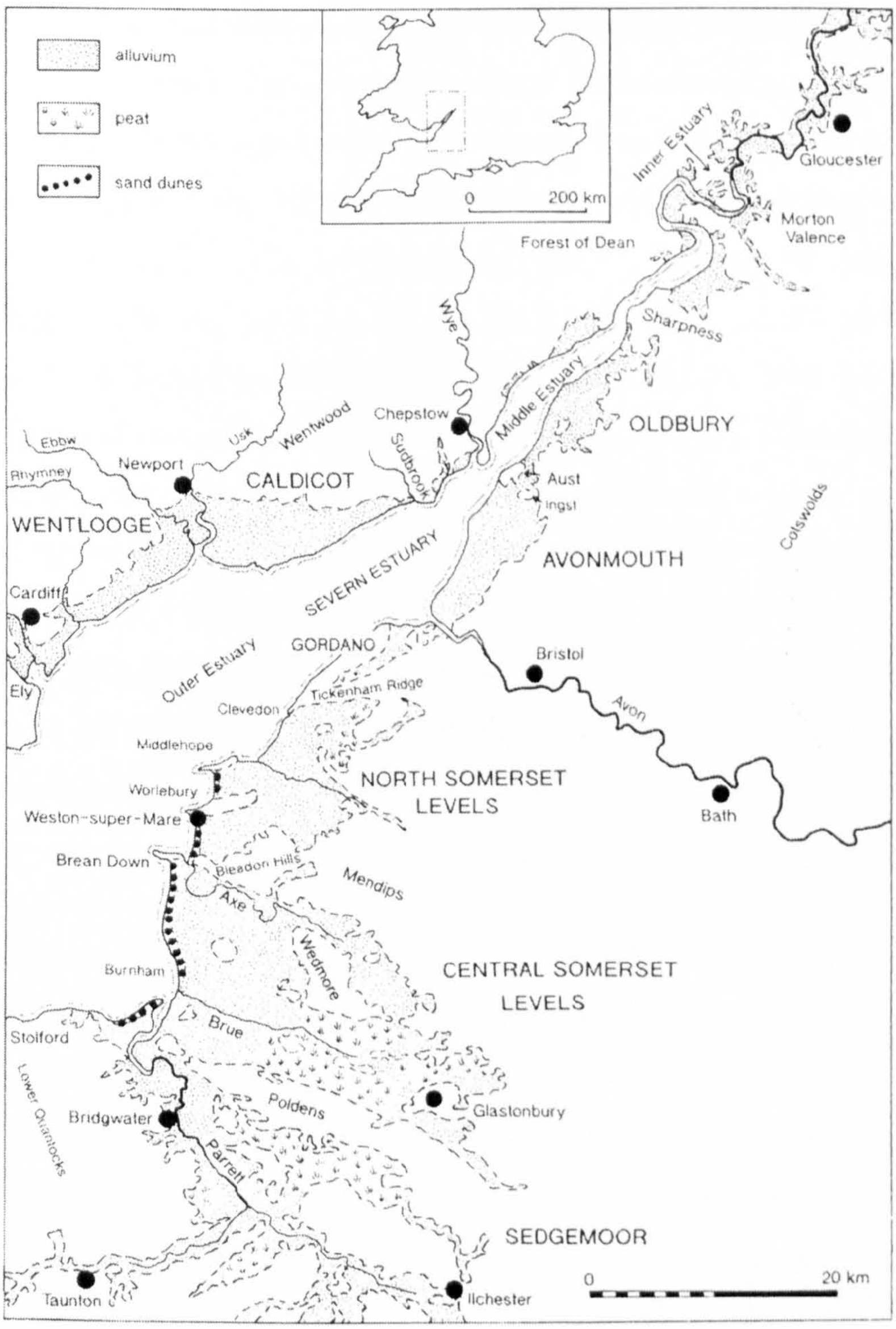


Figure 1.6: The Severn Estuary (Rippon 1997: 13, Figure 2)

Areas of high ground separate the different Levels that combine to form the wetlands of the Severn Estuary. The Central Somerset Levels are separated from the North Somerset Levels by the Bleadon Hills, while the Avonmouth Levels are surround by limestone ridges on the landward side, with the Tickenham Ridge providing the dividing line from the North Somerset Levels (Rippon 1997). On the opposite side of the Severn, are located the Gwent Levels that are subdivided into the Caldicot and Wentlooge Levels by the River Usk (Rippon 1997).

The wide range of resources within the Severn Estuary was extensively exploited during the Iron Age, and there is evidence for reclamation beginning in the Roman period. Rippon suggests that there is evidence for a carefully planned area of reclamation in the Wentlooge Levels, and suggests that this was carried out by the Roman military authorities (Rippon 1997). Smaller-scale reclamation can also be seen to have occurred in a piecemeal fashion in sections of Somerset and Gloucestershire. The one area of the Severn Estuary that seems to have been unprotected from inundation during the Roman period was the Brue Valley, which remained tidal and was used for salt production (Rippon 1997). The area around the Severn Estuary was affected by post-Roman flooding and as a consequence abandoned. It was later re-settled in the Late Saxon and Medieval periods, with areas on the south of the estuary being protected by flood defences in the Late Saxon period, and those on the north bank in the late eleventh/early twelfth century. Following the construction of the defences, the reclamation of the land took several centuries, with further improvements in drainage and agriculture occurring (Rippon 1997).

Rippon's approach was to consider a wide range of available sources from the documentation, historical mapping, aerial photographic data and known archaeology. His PhD research contained limited fieldwork elements, but it was through a combination of the different sources available that a complex picture of landscape development was formulated in order to produce regional models of landscape change in the Severn Estuary (Rippon 1993).

1.3.2 Romney Marsh

Romney Marsh has been researched under the auspices of the Romney Marsh Research Group since 1984, superseded by the Romney Marsh Research Trust in 1987. Romney Marsh differs from the Severn Estuary in that many individuals have undertaken and published the research. As such the publications are in the form of edited volumes. The only publication to draw together the majority of the strands of evidence has been a more popularised account produced by Eddison (2000).

The area collectively known as Romney Marsh includes Romney Marsh proper, Walland Marsh, all adjacent levels including Pett Level, the valleys of the Rivers Rother, Tillingham and Brede, and the shingle area of Dungeness (Figure 1.7). Palaeoenvironmental evidence shows a complex evolution of the Marsh, with a significant change occurring at around 6000 years ago. This event suggests the development of more sheltered conditions, and hence a more favourable environment for settlement, within the area of the Marsh (Tooley 1995). It has been proposed that the stimulus for this change may have been either the development of sand banks (Green 1968), the development of shingle forming a barrier (Eddison 1983), Mesolithic forest clearance in the Weald, increasing the sediment load of the rivers flowing through the Marsh (Holgate and Woodcock 1988), or a pause in sea-level rise (Tooley 1995). Further research has shown that the development of the shingle barrier must have played a fundamental role in both the physical development and human occupation of the region (Tooley 1995, Eddison 2000).

The appearance of the shingle in the area has been dated to no earlier than 6000 BP and no later than 3400 BP (Tooley and Switsur 1988). This shingle was deposited, re-worked and re-deposited, forming changing shingle barriers (Tooley 1995). These barriers acted as sea-breaks, protecting areas of land from inundation, but breaks within them would cause flooding, and major floods were a catalyst for more permanent flood defence works during the Medieval period (Tooley 1995). The flooding also coincided with freshwater flooding from increased flow of the rivers to the north, as a result wholesale drainage and sea defences were necessary (Tooley 1995).

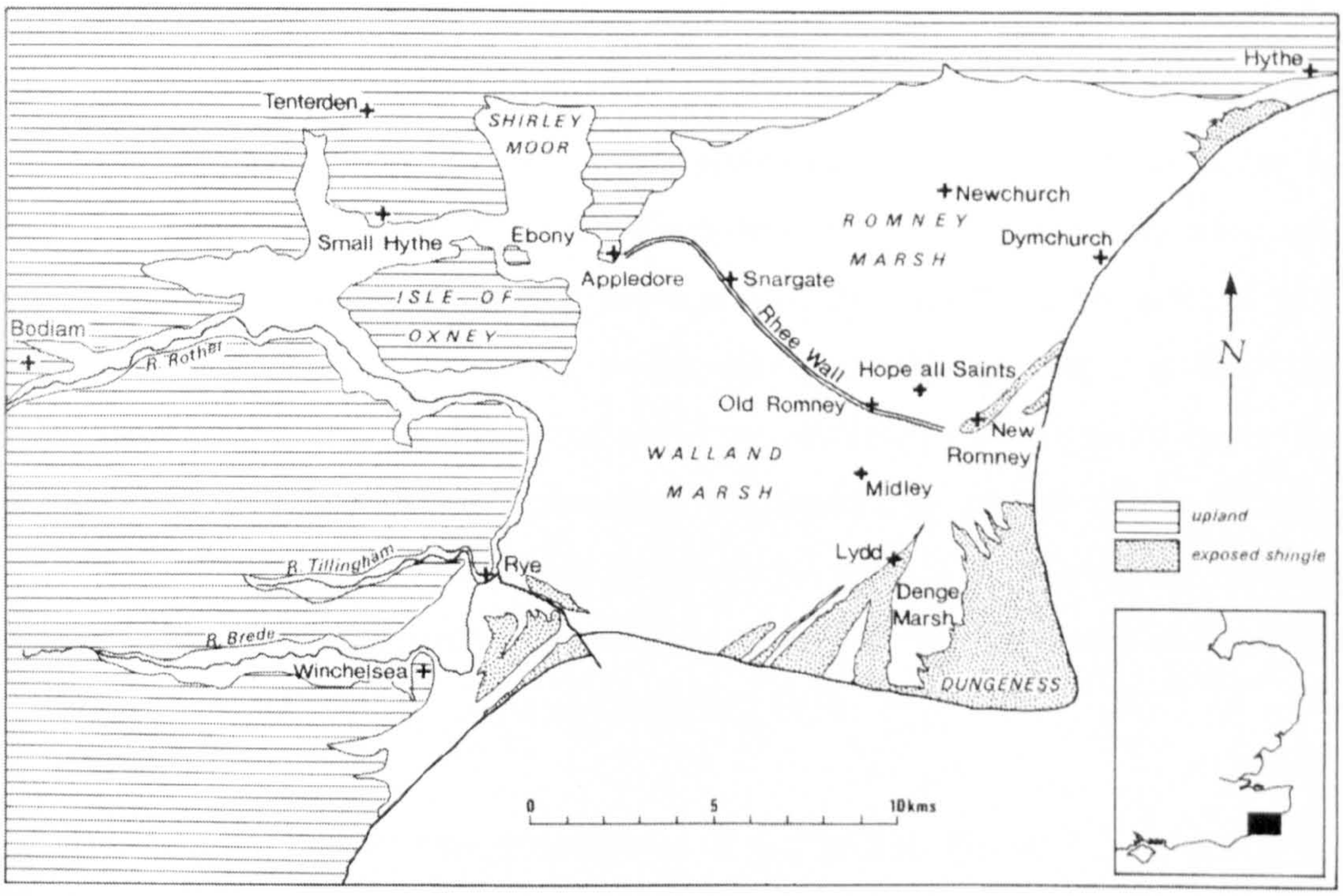


Figure 1.7: The Romney Marsh (Eddison 1995: vii, Figure 0.1)

Within the Romney Marsh areas of higher ground, therefore drier and free from flooding, were favoured for settlement. These included the shingle barriers, as well as slightly raised areas in the marshland itself, such as the roddons (remains of former creeks) and levées (raised bank of deposits along the edges of channels) (Tooley 1995). Evidence of early settlement has been forthcoming, including Early Bronze Age, Late Iron Age, Roman and Medieval occupation, with Roman evidence in the area of Romney Marsh proper being uncovered at a depth of 1 m below the ground surface (Eddison 2000). In the Early Bronze Age, the shingle barrier acted as a stopping-off point for cross-channel travellers, who also used the shingle for tool manufacture. Roman period exploitation has been highlighted by a number of recorded sites with pottery and briquetage, suggesting salt-working activities (Eddison 2000).

Field walking on the Romney Marsh has shown that there was an intensive period of settlement in the Early Medieval period (AD 1050-1250) before a variety of problems resulted in depopulation (Reeves 1995). Evidence shows that the area of Romney Marsh proper was settled during the Saxon period whilst it would appear that the area of Walland Marsh, to the south, was initially settled in the eleventh

century and the development of parishes here would suggest that some of the area was colonised by the communities on Romney Marsh proper, in a planned and organised manner (Eddison 2000). The difference in dates of reclamation for Romney Marsh proper and Walland Marsh has been attributed to the ease with which the former could be reclaimed; the area was relatively flood-free at the time of reclamation, whereas Walland Marsh posed more of a challenge due to its low-lying position (Rippon 2000). Evidence of Medieval earthworks is extensive due to the depopulation of the area and subsequent conversion to pasture in the fifteenth century (Eddison 2000). Throughout the Medieval period, the Marsh was liable to flooding, which necessitated constant expenditure on drainage and defence but produced excellent pasture (Gross and Butcher 1995).

As described by Tooley 'the possibilities of occupying, inning and retaining the marshes were intimately related to the movement of shingle and the cyclicity of storms' (1995: 3), and as such the Romney Marsh has seen a quite different development from other coastal zones in Britain.

1.3.3 Marshlands as marginal zones

Coastal zones, prone to flooding, can be classed as marginal areas (Mills and Coles 1998, Rippon 2001, Arneborg 2002). The coastal zone necessitates a level of perseverance on the part of the individual in order to survive in such a dynamic environment. However, in many cases the rewards for this perseverance outweigh the initial hardships and it is the advantages that encourage people to occupy such areas. Of course, due to modern perceptions, we consider areas prone to flooding as marginal and attempt to combat the advance of water with huge flood defences. It is only in recent years that our flood management strategies have changed to incorporate the deliberate breaching of flood defences in an attempt to alleviate flooding in other areas along certain rivers and estuaries (Environment Agency 2003).

Coles and Mills (1998) have summarised three types of marginality which are currently used by archaeologists: environmental, economic, and social and political. It is the environmental factor by which most coastal areas are considered 'marginal' but the other two factors can also be represented within coastal zones. Environmental

factors include the constant threat of flooding, and the possibilities of sea-level change. With many areas of heavy clay soils, coastal zones can be considered to be economically marginal as agricultural productivity may be low. This is too narrow a view, as although they could be low producers of one type of economic resource, they have a different range of resources to exploit which may be economically more valuable, for example, salt. As will be seen through the course of this thesis, marginality is a concept which depends on many factors, including people's perceptions of what is 'marginal', hence Coles and Mills (1998: x) conclude that marginality has 'little to do with the inherent qualities of the land itself and much more to do with the way in which that landscape is both perceived and exploited'.

Postan (1972) has discussed how these marginal zones would have been the last areas chosen to be reclaimed for agriculture. He highlights that they were marginal in differing ways – they were physically poor, their improvement was beyond the technical expertise of the time, they were avoided for legal reasons, or were geographically peripheral (these are similar characteristics to those of Coles and Mills above). Within the lands which Postan describes as outside the technical expertise of the Medieval population were the wetlands. He concludes that these areas would have been left until all other available land, that was easier to cultivate, had been settled.

> 'Taken en masse the surviving evidence leaves the student with an impression bordering on certainty that in the older parts of England the lands taken up for the first time by the arable farmers in the thirteenth century were as a rule of the lowest possible quality; too forbidding to have tempted the settlers in earlier centuries, and some of them too unremunerative to have been maintained in cultivation by farmers of a later age.' (Postan 1972: 25).

Postan is thus concentrating on the economic value of arable farming as the primary factor, rather than considering the other resources, and this is one of the key flaws in classifying areas as marginal based on one closely defined factor.

Occupation of marginal zones can be seen as a range of push and pull factors (Rippon 2000). Those that push the population into marginal coastal areas include increased population pressure, land shortage and social pressure. Those that attract population to settle such zones include improved physical conditions (such as sea-level regression or improved climate) and the abundance of natural resources. These include food, fuel, building materials such as reeds and other resources such as salt (see section 1.5 below). To settle such coastal zones requires considerable effort. As Rippon (2000) highlights, the marginal nature of these zones makes them extremely interesting regions to study the ways in which humans have adapted to changes in not only their physical environment, but also in the social and economic climate.

This thesis will investigate what factors led to the settlement of the Lincolnshire Marsh and whether the settlers viewed it as a marginal zone or a rich resource waiting to be exploited. In conclusion, as Rippon states (2001: 153) 'Coastal wetlands are 'marginal' only if human communities perceived them to be so'.

1.4 The Lincolnshire Marsh

Rippon (2000: 211), in his discussion and work on the coastal marshes of north-west Europe, highlighted the Lincolnshire coastal zone as lacking the detailed investigation of other regions, and as one that holds a great investigative potential. Hence this thesis will redress the balance, with a full study of a wide range of data sources. The strategies adopted within the region will be explored in line with Rippon's (2000) three-part model of exploitation, modification and transformation.

The Lincolnshire Marsh is a strip of coastline stretching from the mouth of the Humber estuary to the mouth of The Wash (Figure 1.1). The area is bounded to the west by the Lincolnshire Wolds, and is split into two longitudinal zones, the Middle Marsh and the Outmarsh (see section 2.1). Fluctuating sea-levels have resulted in an ever-changing coastline. The current coastline is just the most recent of the coastlines that, in the past, have undergone movement both east and westwards, depending on sea-level fluctuations. This mobile junction between land and sea has been the cause of changing settlement patterns, but has also hidden pre-Medieval remains under a blanket of alluvium. Only modern development, agricultural activities, drainage works and the natural erosive powers of the sea allow insights

into these earlier periods. It is therefore to the post-Roman periods that most researchers have looked to explain the nature of settlement in the region.

Early investigations into Medieval settlement along the Lincolnshire coast suggested that permanent settlement was only possible in this wetland environment with the creation of sea bank defences (Owen 1975). Further investigations indicated that the crucial factor in the development of the area was in fact the salt industry (Owen 1984). Indeed this industry was not only the initial cause of settlement in the area, but it also made further settlement possible through the establishment of spoil-heaps (saltern mounds) which, due to their elevated situation, facilitated the building of subsequent settlements (Owen 1984).

Owen's (1984) work on the development of these settlements emphasised certain key features that enable a greater understanding of both the salt industry and settlement evolution in this region. In essence the salt workers had to work close to the high water mark of spring tides and access was needed to the saltwater or mud at all times. As such, there could be no sea bank on the seaward side of the saltern while it was in use. The subsequent elevated topography facilitated expansion of settlement further into what had previously been an inter-tidal zone.

This feature of settlement development was highlighted in Morris' (1989) *Churches in the Landscape*, which linked the development of the churches, and hence the settlements in the area, to the salt industry. The churches in the Marsh are often sufficiently large to suggest a degree of wealth in the local community. This wealth is often associated with the prevailing local economy such as the 'wool churches' of East Anglia.

Additional, subsequent research carried out by agencies such as the British Geological Survey (BGS) and Royal Commission on the Historical Monuments of England (RCHME), has highlighted the occurrence of saltern mounds in the northern part of the Lincolnshire Marsh (Pattison and Williamson 1986, Grady 1998). However, this level of survey has not been carried out to the same extent on the south Lincolnshire coast.

1.4.1 Previous work in the Lincolnshire Marsh

The archaeological study of Lincolnshire began surprisingly late, and in particular, the study of the Lincolnshire Marsh has been largely neglected (see Chapter 2). A number of fieldwork projects have attempted to fill this gap in recent years. A survey of the Lincolnshire coast from Tetney to Friskney, titled the Lindsey Coastal Survey, was undertaken in 1989-1990 as part of a pilot project to map the extent of different deposits and their archaeological potential (Brooks 1990). The survey concentrated on the immediate coastal area of the beach, with a transect being walked at the low tide point and another walked along the upper portion of the beach. Any non-sand deposits such as peat or alluvial outcrops were mapped (Brooks 1990).

The survey identified peat outcrops from Ingoldmells to Theddlethorpe St Mary, along with a number of archaeological sites consisting of tree roots, Iron Age briquetage, a number of pits of indeterminable nature, and a number of un-diagnostic worked flints. The survey concluded that the coastline could be divided into four separate zones with differing erosion and accretion processes that effect the visibility of the archaeological record on the beach. The area identified as Zone 3, between Mablethorpe and Ingoldmells, was considered to have the highest archaeological potential and consequently was also under the greatest threat. The high visibility of the archaeological resource in this zone was due to the high erosive nature of this section of coastline (Brooks 1990). It was also noted that the visibility of many of the deposits is temporary, with deposition, movement of sand, and erosion all occurring rapidly.

English Heritage funded this initial study of the Lincolnshire coast, however, no further work was instigated until the survey by the Humber Wetlands Project, which reached the Lincolnshire Marsh in 1999 (see section 1.4.2 below). More recently a project was instigated by Lincolnshire Wildlife Trust, with the aid of Lincolnshire County Council and English Heritage, to provide a summary of the archaeology of an area defined as the Lincolnshire Coastal Grazing Marsh, mainly to assess the impact of the change from pasture to arable in the area (Tann 2004, Palmer and Tann 2006). The area studied covered the parishes within the Outmarsh. The initial report provided an overview of the known archaeology with the data from the National Mapping Programme and a few additional plots of aerial photographic data.

Assessment of the exact nature and the interpretation of this data was not undertaken, or put into the context of the wider region. Further work on sample regions produced sketch plots of further areas of ridge and furrow in an attempt to establish the decline in pasture between 1940 and 2000 (Palmer and Tann 2006).

1.4.2 The Humber Wetlands Project

English Heritage has funded four major wetlands projects in England, investigating the archaeology of areas with a high potential for wet preservation. Previous studies had investigated the regions of the Somerset Levels, Fenlands (see section 1.4.3) and North West Wetlands. The last of the four regions was the survey of the wetlands adjacent to the Humber Estuary and the lower reaches of its tributaries. The rivers that run into the Humber drain over a fifth of the landmass of England (Pethick 1990), and the Humber Wetlands remained the last large area to be studied by a wetland survey. After an initial assessment of the area in 1992, a full-scale survey project named the Humber Wetlands Project was initiated in 1994, studying a separate landscape block in turn, with publication running concurrently with the project (Figure 1.8). The areas studied were Holderness (1994-95), the Humberhead Levels (1995-96), the Ancholme and Lower Trent valleys (1996-97), the Vale of York (1997-98), the Hull Valley (1998-99), and the Lincolnshire Marsh (1999-2000) (Van de Noort and Ettè 2001).

The Humber Wetlands Project undertook an extensive field walking and coring programme in each of the study regions, alongside assessment of specific archaeological sites and reassessment of the known archaeology of the regions. The survey region was defined as the land below the 10 m contour, with cut-offs at York in the north and Skegness in the south. In each region a selection of 'map views' were chosen to be studied in greater detail (Fenwick *et al.* 2001a). The area of the Lincolnshire Marsh survey included an area from the Humber Bridge, along the south bank of the Humber Estuary, and then along the coast to Skegness (Figure 1.9).

The land surveyed in the Lincolnshire Marsh included the area up to the 10 m contour and hence concentrated on the area defined as the Outmarsh, the area which has undergone the most change and been most affected by inundation in the past.

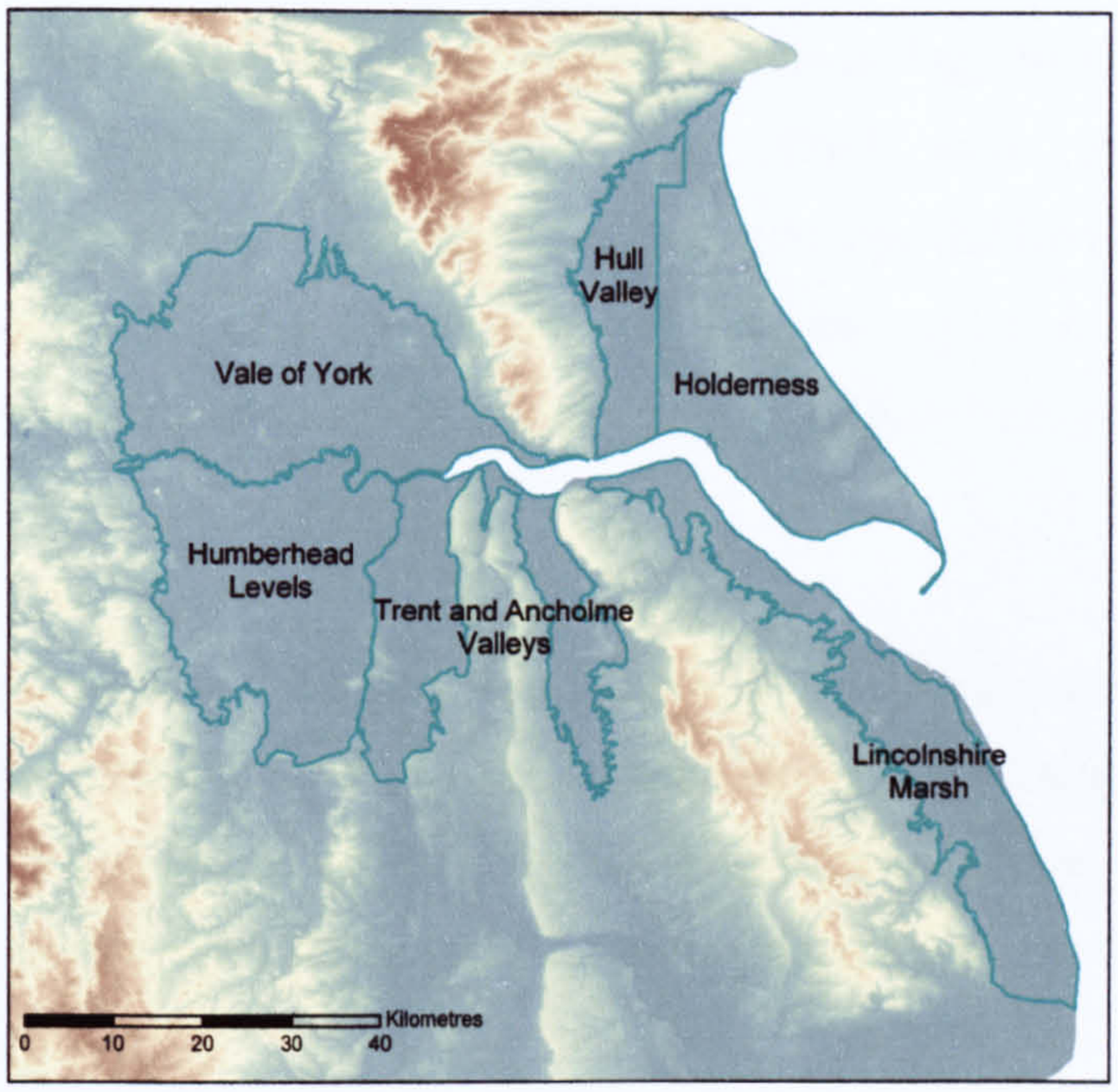


Figure 1.8: Location of the study area of the Humber Wetlands Project and the six sub-regions

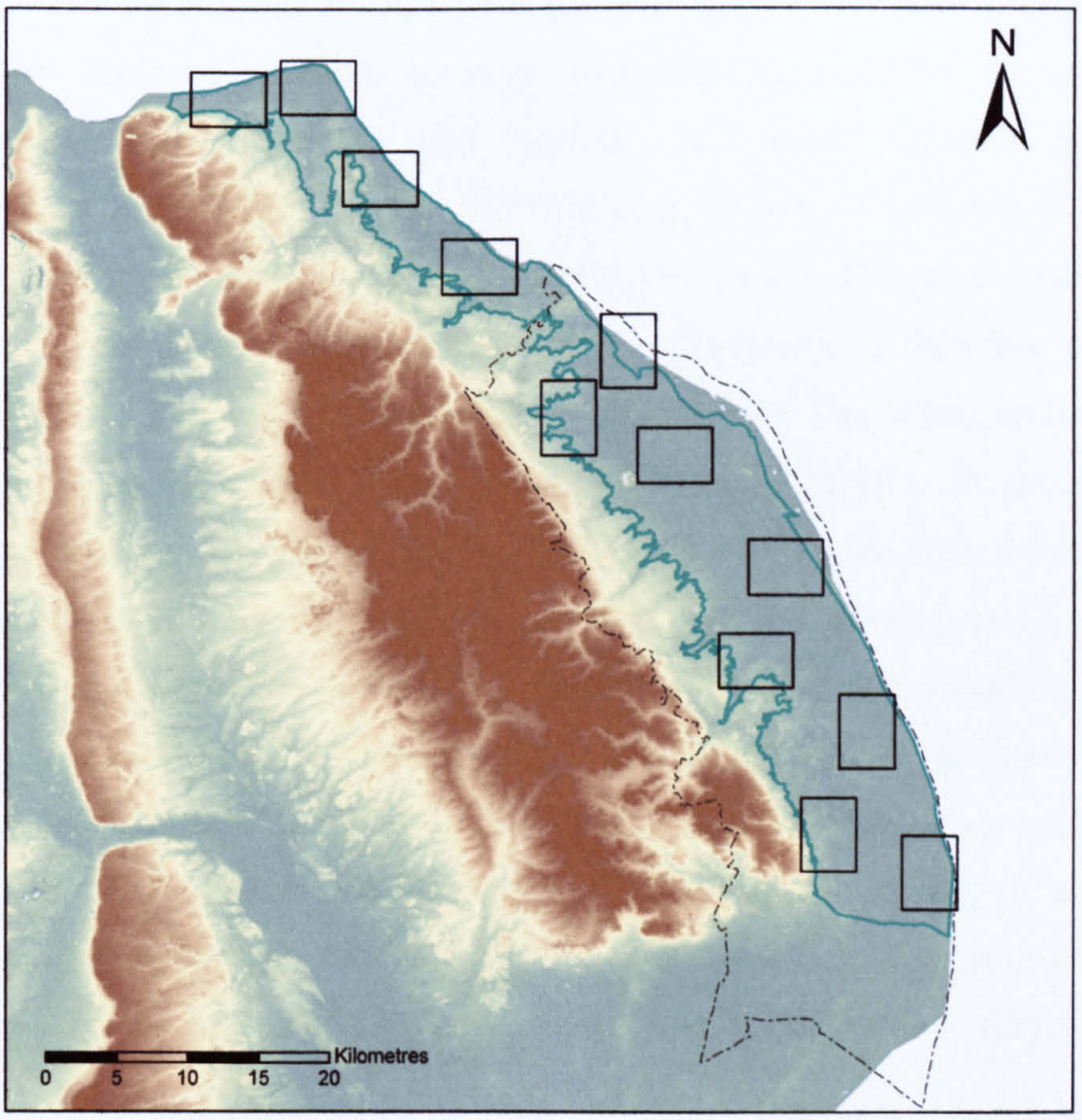


Figure 1.9: Location of the Humber Wetlands Project study area of the Lincolnshire Marsh and the location of the 'map views' surveyed

The results of the survey increased the known archaeology in the region, adding prehistoric and Roman evidence to areas which were previously blank. Reassessments of the barrow cemetery at Butterbump and the Iron Age salt-working activity at Ingoldmells added further dimensions to the region. A newly discovered Anglo-Saxon salt production site at Marshchapel provided fresh evidence of human activity.

The research contained within this thesis grew from initial research undertaken by the writer during the Humber Wetlands Project. This research suggested that at least three distinct development regions could be discerned within the Lincolnshire Marsh, each revealed by differences in the present landscape (see Chapter 2, section 2.5, Fenwick, H. 2001).

1.4.3 The Fenland Survey

Between 1981 and 1988, English Heritage funded the Fenland Survey, one of the other four regional wetlands surveys. Incorporating areas of the counties of Lincolnshire, Cambridgeshire and Norfolk, this survey adopted a different methodology from that of the Humber Wetlands Project, by selecting a number of parishes to survey in each county (Figure 1.10). In the area of Lincolnshire, the Fenland Survey took its northernmost limit as Skegness. It therefore studied the infilling of the Fenland basin and the development of The Wash, rather than the coastal margins as studied by the Humber Wetlands Project. In the Fenland, a complex development history was apparent, with rising sea-levels resulting in the development of peat over the old land surface due to the backing up of the regions rivers (Hayes and Lane 1992). Subsequent flooding of the area deposited a range of marine deposits and resulted in the infilling of the basin (Hayes and Lane 1992). As with the coast further to the north, this infilling was a varied process affected, by both positive and negative sea-level changes. Within the context of the Fenland Survey a distinction was made between marsh and fen, in that marsh was an area influenced by the sea, and fen an area influenced by freshwater (Hayes and Lane 1992).

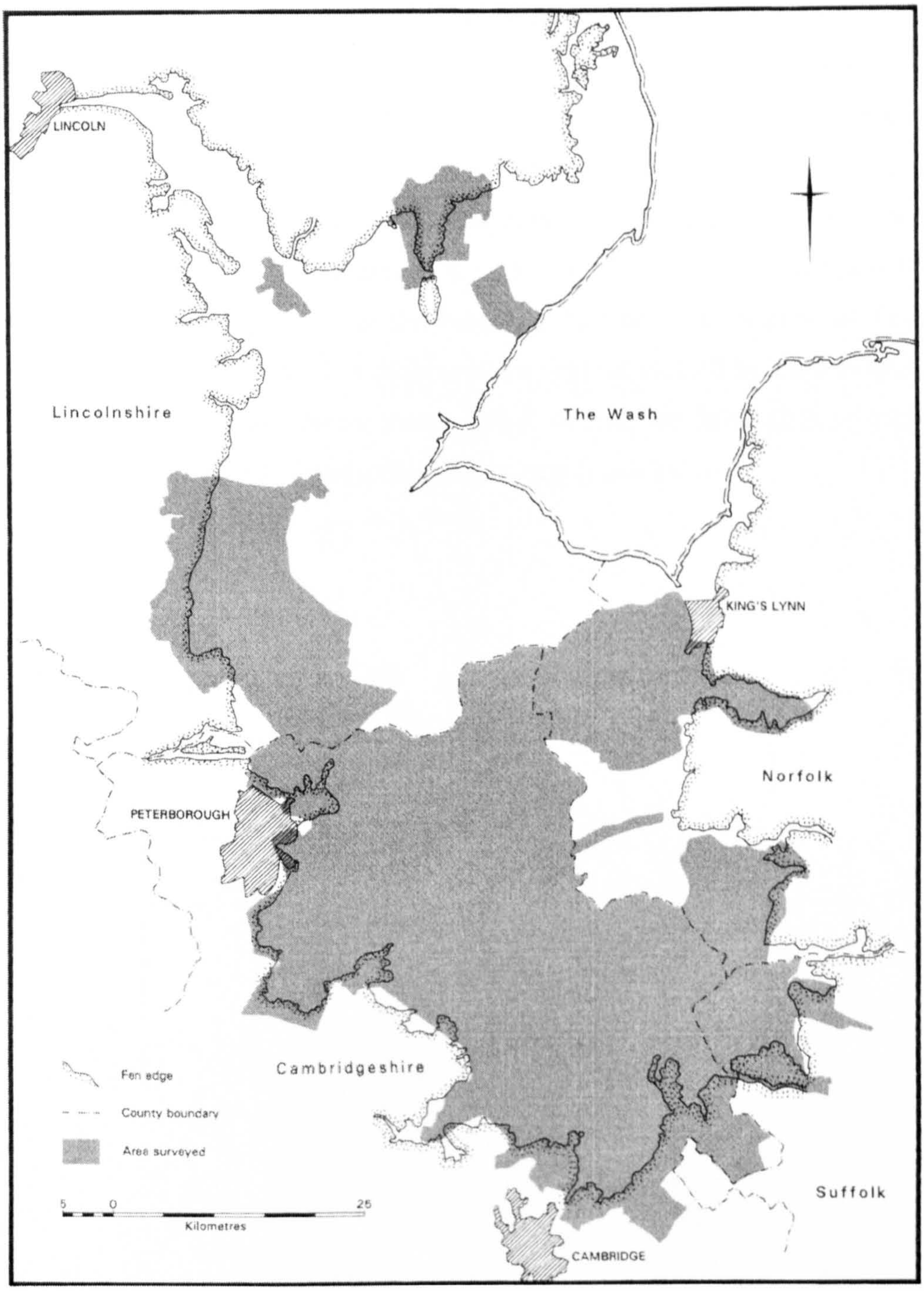


Figure 1.10: Areas surveyed during the Fenland Survey (Hall and Coles 1994: xii, Figure 1)

The area in Lincolnshire that was surveyed by the Fenland Survey falls into two zones, - the south-west fens and the northern fen-edge (Figure 1.11). During the south-west fens survey a contiguous group of 20 parishes, including those of Crowland and Spalding to the west of The Wash, was studied. The survey revealed two different development zones, with the northernmost area affected by flooding

later than the southernmost area, resulting in more evidence for prehistoric activity in the northern area (Hayes and Lane 1992). In the area of northern fen-edge, the survey reached its closest point to the survey region considered here. Three separate groups of parishes were studied. These included a group of three parishes in the area where the River Witham enters the Fenland basin, a group of eleven parishes on the fen-edge, and the parish of Wrangle on the coast. The group of eleven parishes abuts the current study region along the boundary between the parishes of Toynton St Peter and Halton Holgate, but otherwise the regions studied by the Fenland Survey are separated from the current study region. In total the Fenland Survey left up to 70% of the fenlands of Lincolnshire unsurveyed (Lane 1993).

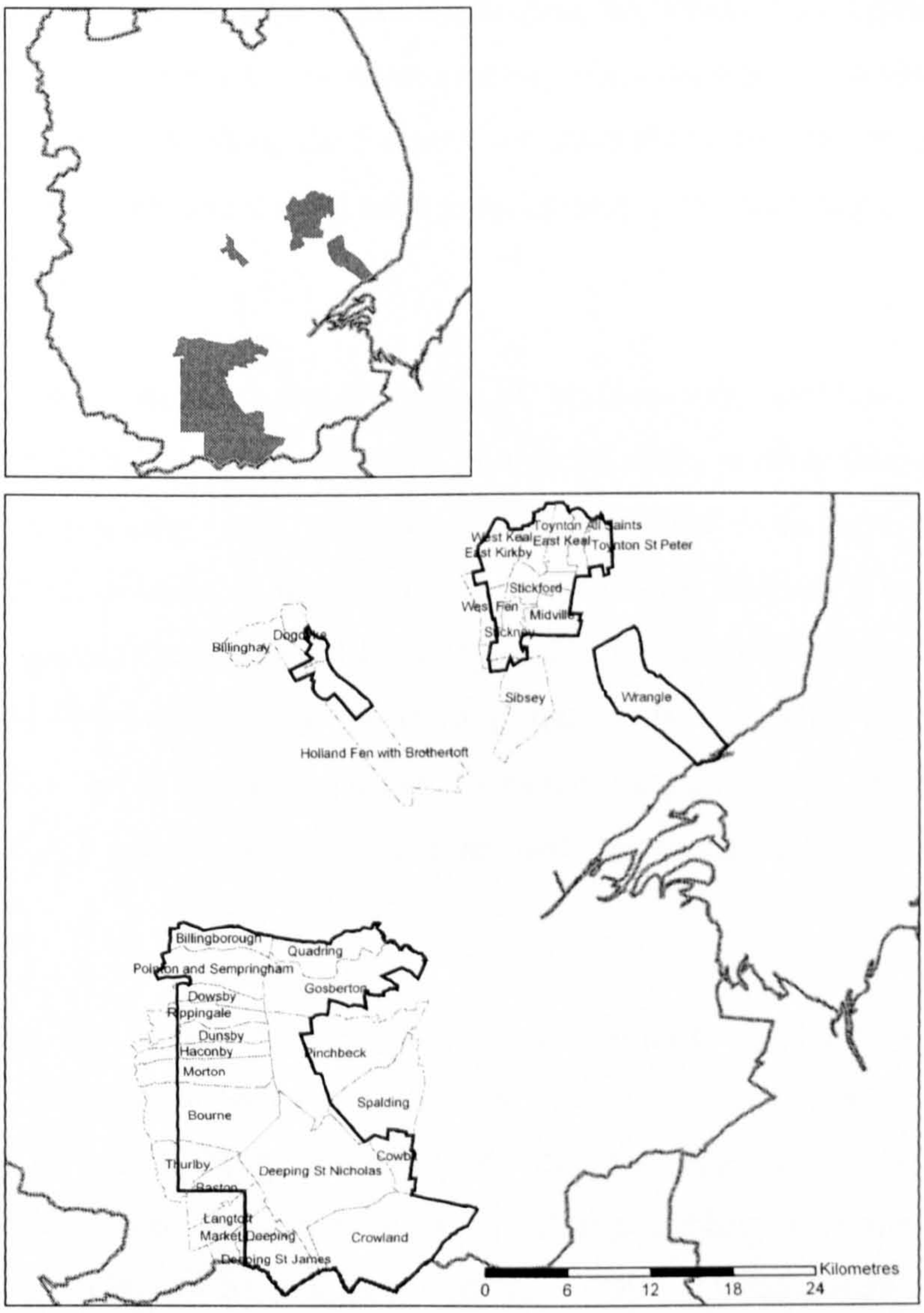


Figure 1.11: Areas surveyed by the Fenland Project in Lincolnshire (after Hayes and Lane 1992, Figure 2 and Lane 1993, Figure 2)

The results from the Lincolnshire part of the Fenland Survey showed that the siltlands have evidence for the earliest arable activity in the Lincolnshire Fens, and that the field pattern takes a different form to that of the rest of the Fenland. In the siltlands, the field pattern is irregular, compared to the more regular and geometric pattern of the clay and peat areas (Hayes and Lane 1992).

The Fenland differs from the Lincolnshire Marsh in showing the presence of former river channels and 'roddons'. Roddons are sand or silt banks which represent former watercourses and are raised above the level of the surrounding fen due to the shrinkage of the surrounding peat (Waller 1994). Even at the present time there are few watercourses flowing directly eastwards from the Wolds to the North Sea via the Lincolnshire Marsh; many of the watercourses flow southwards and reach the sea at The Wash. The roddons along the former river channels in the Fens often correspond to the locations of settlements and have salterns upon either their top or sides (Hayes and Lane 1992).

The field survey included the mapping of surface soils and the recording of stratigraphy where it could be viewed in a clean drain section (Hayes and Lane 1992). Field walking was undertaken following the techniques adopted in Cambridgeshire, with fields walked in transects at 30 m intervals (Hayes and Lane 1992). This method was adopted fully in the upland and siltland areas but after a selection of fields had been walked in each area of the peat fens, fields were then only visited to record roddons and islands as these regions had a sparse pattern of settlement; a similar survey technique was used on the clay fens (Hayes and Lane 1992).

Results from the parish of Wrangle show a complex development of roddons resulting in little evidence of early prehistoric activity, which may be either buried or absent from the archaeological record. By the Iron Age the evidence shows a dramatic change, with a large number of salterns appearing in the area, which continue to develop into the Roman period (Lane 1993). Development from the Late Saxon period of the 'tofts' (saltern mounds) mask much of the area from the present village to the coast, potentially hiding more Roman sites, but there is evidence of

abandonment of the area in the Late Roman period until the Late Saxon period (Lane 1993).

All three surveys of the region - the Lindsey Coastal Survey, the Humber Wetlands Project and the Fenlands Survey - have highlighted the presence of extensive evidence for salt production along the Lincolnshire coast.

1.5 The salt industry

Before the advent of modern refrigeration, salt was an important means of preserving food. It also had a number of other uses in leather and textile manufacture, and a range of medicinal uses (Bridbury 1955, Rippon 2000). Prior to the flourishing of large-scale salt trade, a reliance was placed on two sources of salt - the lowland coastal areas of the British Isles and inland brine springs.

Salt production from a range of different periods has been identified along the eastern and southern coastline of England, and the Severn Estuary (Figure 1.12). Evidence for salt production is usually found in the form of the waste materials at production sites, often termed salterns. These include briquetage, the rough and crude clay supports and troughs, along with evidence for waste sand, silt and ash (De Brisay and Evans 1975). Salt was produced in coastal areas in three main ways – by the boiling of seawater, processing saturated sand or peat, and (though not practiced widely in Britain) by solar evaporation of seawater. Access to the tidal waters was necessary for most forms of procurement, but production sites needed to be located high enough not to be affected by especially high tides or storms. As such, they were often located on any available raised banks along tidal creeks. Salt production from brine springs was concentrated in Cheshire and Droitwich from the Roman period onwards (McNeil 1983, Hurst 1992, 1997).

1.5.1 Prehistoric and Roman salt production

The earliest evidence for salt production in England dates to the Bronze Age with sites located at Brean Down, Somerset (Foster 1992), Mucking, Essex (Barford 1990) and in Lincolnshire (Palmer-Brown 1993), but it is only in the Late Iron Age that evidence becomes widespread.

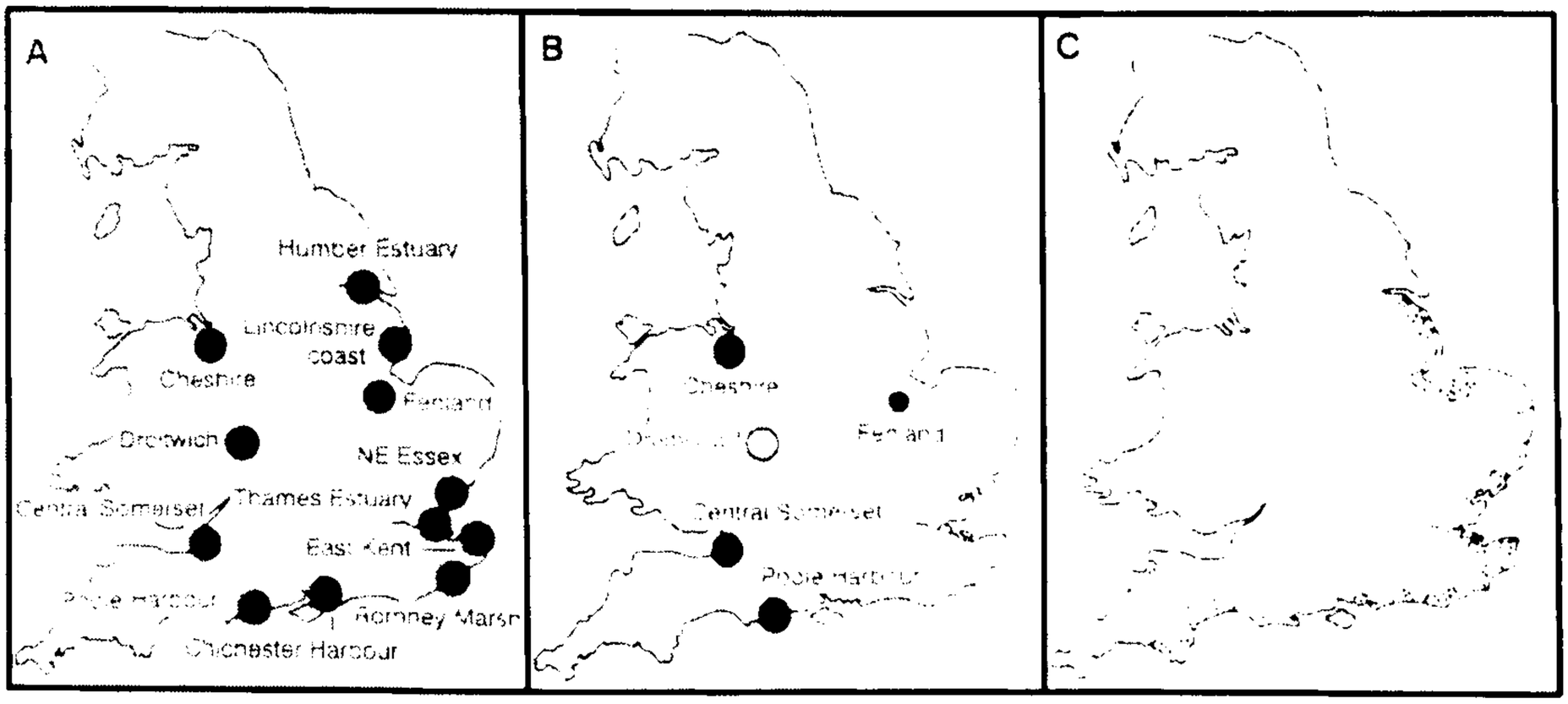


Figure 1.12: Location of salt production during A) Early Roman, B) Late Roman, and C) eleventh century (Rippon 2000: 97, Figure 36)

Evidence for Iron Age coastal salt production has been discovered in Somerset, Essex, the Fens, and the Lincolnshire coast. However, many sites have been difficult to date, especially if no diagnostic pottery was discovered with the briquetage. As a consequence, many Early Roman salterns may actually date to the Late Iron Age and many salterns currently dated to the Late Iron Age may in fact date to the Early Roman period. The evidence for this activity is mainly found in the form of mounds of briquetage and associated production debris.

Evidence for Roman salt production is extensive, with activity identified along the south coast, on Romney Marsh and in areas of Chichester, Langstone and Poole Harbours, the Somerset Levels, Kent and Essex (with concentrations around the Blackwater and Crouch Estuaries in Essex, and the Thames and Medway Estuaries in Essex and Kent), the Fens and on the Lincolnshire coast (Rippon 2000). A change from ceramic pans containing the water to be boiled, to lead vats, seems to occur at some point during the Roman period. A decline in salt production happens during the Late Roman period, with very few sites dating from this period through to Domesday having been identified. During the Late Roman period there appears to be a concentration of activity in central Somerset and Poole Harbour. Rippon (2000) has suggested that the demand for salt should not have decreased in this period, and as a consequence he has postulated a number of reasons which may have caused this

decline in salt production. These include environmental changes; development of a villa-owning class; technological change which results in the process becoming less archaeologically visible; agriculture becoming more important than salt so areas of coastal marshes were reclaimed; increased competition from the continent; and salt becoming a state monopoly (Rippon 2000).

After careful consideration of each of the possible explanations the picture does not become much clearer. However, Rippon (2000) dismisses a number of the explanations. He concludes that the importance of the inland brine springs potentially grew, along with the growing economic importance of the south-west of the country and a decline in the south-east, may go someway towards explaining the overall decline. However, salt was still needed in all areas of the country and it would have been cheaper to procure salt close to the source rather than transporting it across country (Rippon 2000).

1.5.2 Medieval salt production

Several early Medieval charters record salt production along different sections of the British coastline from the AD 700s onwards but the physical evidence of these sites remains elusive. The Domesday Book records around 1200 'saltpans' along the coast (Keen 1988). In recent years archaeological evidence for Saxon salt production has been recovered from Lincolnshire and the Fens (Fenwick *et al.* 2001a, Lane pers. comm.), but in other regions such as Romney Marsh these have yet to be identified (Vollans 1995). Not all regions that produced salt in the Roman period had large-scale production of salt in the Medieval period, with only minimal salt production occurring in the Severn Estuary, for example (Rippon 2000).

Later Medieval production can be seen from the waste mounds at various locations around the coast, including the Pevensey Levels, Romney Marsh, Kent and the Lincolnshire coast (Beresford and St Joseph 1979, Rippon 2000). Due to the extensive use of the method of extracting salt from sand and peat, and the scale of the activity, large amounts of waste were produced, creating mounds in a landscape usually characterised by flat coastal plains.

1.5.3 The Lincolnshire Marsh

Extensive evidence of salt production has been recovered from the Lincolnshire Marsh from the Late Bronze Age onwards. In any study of this area a consideration of the salt industry must play a vital role, as it has already been shown that it played a pivotal role in the development of the region (Owen 1984, Grady 1998, Fenwick, H. 2001). The available evidence indicates a peak in salt production during the Late Iron Age and Roman periods, as well as in the later Medieval period (Baker 1960, Hallam, H.E. 1960, Hallam, S.J. 1960, Rudkin and Owen 1960, Palmer-Brown 1993, Grady 1998). The intervening early Medieval period provides some documentary evidence for salt-working activity, such as the Domesday Book, but until recently there has been little physical evidence for salt production (Fenwick, H. 2001). A detailed discussion of the methods employed in salt production in Lincolnshire is presented in Chapter 2.

1.6 Main research aims of the thesis

1. To build a model of landscape evolution and settlement development in the Lincolnshire Marsh region and evaluate its association with the salt industry.

Any investigation into a complex wetland landscape such as the Lincolnshire Marsh has to start by building a picture of the development of each individual landscape feature. By placing these in a temporal framework, we are able to establish the processes that are integral to landscape reclamation. The integration of a wide range of historical and archaeological source material and the concomitant examination of the present landscape allows the establishment of a model of landscape change over time for a region which has been neglected in the past. This model will examine any regional development zones within the Marsh as a whole, and the role that the salt industry played in this development.

2. To evaluate the nature of human-landscape interaction.

There can be no doubt that pre-Medieval occupation of an area adds to the character and features that are present in the landscape today. The area of the Lincolnshire Marsh considered in this study would appear to be primarily a result of post-Roman human-landscape interactions. This is partly due to its wetland nature, with pre-Medieval land surfaces being buried deeply by a series of regressive and transgressive episodes (and also due to the associated differential nature of this

burial), and due to new settlers having to accommodate both land reclamation and settlement plantation. An analysis of the known pre-Medieval archaeological record will provide insights into the earlier occupation of the region and enable an evaluation as to what extent this occupation has affected the modern landscape. It also allows a number of aspects of human-landscape interaction in these earlier periods to be investigated. However, the current research places an emphasis on the Roman and later periods of wetland landscape exploitation and development. By the end of the sixteenth century there is extensive evidence of sea banks and reclamation, and the study will end at this point, when it is evident that the landscape is in the process of being totally transformed.

3. To place the development of the coastal zone of the Lincolnshire Marsh in the wider context of the British Isles and north-west Europe.

In his discussion of the changes in the coastal zones of the British Isles and north-west Europe, Rippon (2000) highlights the Lincolnshire Marsh as one of the areas where further study is needed to fully understand the different changes that have occurred through time and the ways in which these have been influenced by human activity (Rippon 2000). His research develops a model for landscape development in coastal zones, based upon three different types of change – exploitation, modification and transformation (Figure 1.4). Once the development of the Lincolnshire Marsh has been established, it will be compared and contrasted with this model to determine to what extent the model is applicable in this region and in order to facilitate an assessment of the nature of any intra-regional variability.

4. To act as a springboard for future research

As with all archaeological research, this thesis will not be the final word on the landscape archaeology of the Lincolnshire Marsh. New discoveries are constantly being made which will alter our current understanding of the landscape, and as new forms of data become available the current picture may alter completely. This thesis will highlight possible future research avenues and the potential of new forms of data to aid our understanding of the Lincolnshire Marsh.

1.7 Thesis structure

The thesis is divided into four parts. Part 1 includes the present chapter which introduces the background to, and the aims of, the research, and Chapter 2 which explores the region of the Lincolnshire Marsh, its physical development, the archaeological knowledge base of the region and previous work in the area.

Part 2 examines the methodology employed within this study. Chapter 3 explores the methods involved in landscape study, particularly the techniques of historic landscape analysis and the application of GIS. Chapter 4 focuses on the available data sources that have been used within the research, their origins and use, and presents a critical evaluation of their reliability.

Part 3 contains the main results of the thesis. Chapter 5 provides a general overview of the settlement development in the Lincolnshire Marsh as a whole, from the earlier prehistoric periods, through to the Medieval period. Chapters 6 to 9 then investigate the development of four separate zones of the Lincolnshire Marsh, to elucidate the regional variability of the landscape evolution.

Part 4 discusses the results and draws conclusions within wider contexts. Chapter 10 focuses on the landscape evolution of the Lincolnshire Marsh, synthesising the evidence and providing an overview of landscape change. Chapter 11 places the Lincolnshire Marsh in the wider context of coastal wetland studies, making comparisons with other regions in England and north-west Europe. Final conclusions are drawn in Chapter 12, and possibilities for future research are also identified.

1.8 Summary

Coastal wetlands present an opportunity to investigate human interaction with the natural environment, and the nature of settlement expansion and contraction. Although various areas of the British Isles have previously been studied and models of their development postulated, the Lincolnshire Marsh represents a unique opportunity to investigate the applicability of these models to a complex section of the east coast of Britain, previously neglected in large-scale coastal research.

Chapter 2

Lincolnshire Marsh study region

2.1 Introduction

This chapter provides an archaeological and environmental background to the area known as the Lincolnshire Marsh, and defines the exact limits of the area considered in this thesis (section 2.1.1). The nature and extent (or absence of) antiquarian research within the region is highlighted in section 2.1.2. The chapter then considers the regional and national research frameworks within which the Lincolnshire Marsh lies, and as such, outlines the relevant research agendas to which the current research may contribute (section 2.2). These research frameworks include the recent study of the rural settlement of England by Roberts and Wrathmell (2000, 2002), and the English Heritage Resource Assessment and Research Agenda for the East Midlands (Cooper and Clay 2006). The discussion then considers the environmental and archaeological background of the region, providing the basis on which the current research will build (sections 2.3 and 2.4). Finally the published ideas of different landscape development zones within the Lincolnshire Marsh will be explored (section 2.5), which the thesis will use as a basis upon which an investigation of the nature of the landscape evolution is developed. For the location of the main sites mentioned in the text please refer to Figure 2.1. All radiocarbon dates recorded for the Lincolnshire Marsh, and discussed within this chapter, are presented in Appendix 1.

2.1.1 Definition of the study area

In the past many regional studies have defined their boundaries by using modern political divisions, such as county or district boundaries. This can divorce the landscape from its past, as there is little evidence to suggest that the modern political boundaries would have had an effect on how and why the region developed in the way that it did.

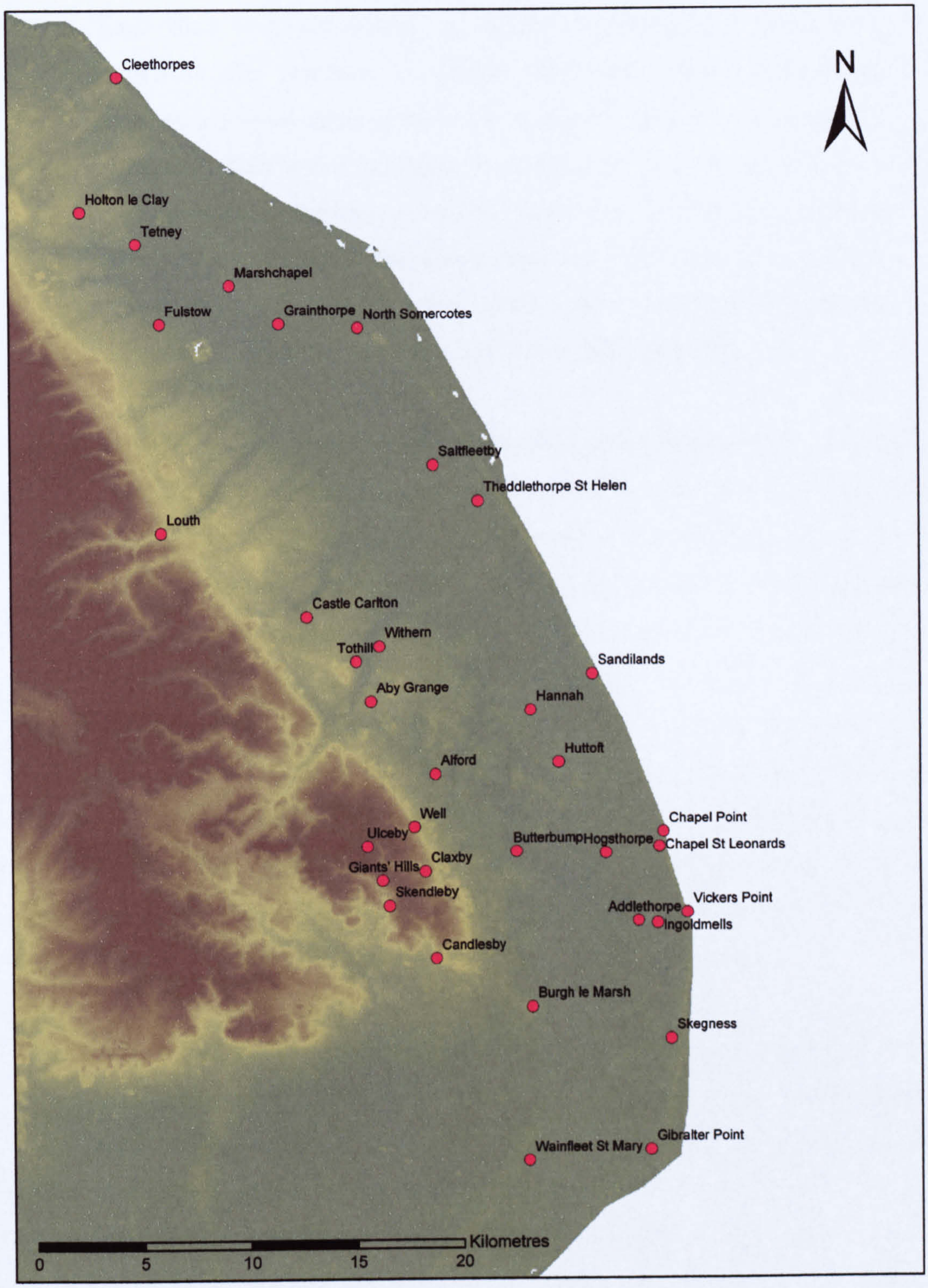


Figure 2.1: Main sites and locations referred to in Chapter 2

> 'Each such unit, old county or modern authority, is a ready-made framework for research, a spatial framework which immediately becomes a mental framework when manipulating data – a perceptual framework. This would not matter if every county were homogeneous in its regional characteristics, nor even if the varied local regions within a county all terminated at the county boundary. But for rural settlement there is no such fit between administrative units of any kind or date and the regions … defined.' (Roberts and Wrathmell 2000: 39).

Although the more important elements controlling how a region developed, and was exploited, may have been the natural boundaries and barriers, they may also include social or economic barriers, which are not visible in the landscape today. For the purpose of this research, the area of the Lincolnshire Marsh and its hinterland has been defined using a range of natural divisions. The area has natural boundaries to the west and east with the Lincolnshire Wolds and the North Sea respectively (Figure 2.2). The area of the Marsh is traditionally divided into two areas - the Outmarsh and Middle Marsh. The Outmarsh is the flat, low-lying zone bordering the coast, with the Middle Marsh defined as the area between the Outmarsh and the Wolds (Ellis 2001). Rising to 25 m OD, the Middle Marsh is slightly higher and more undulating than the Outmarsh, due to the underlying till surface which is not covered by the later alluvial deposits that have effected the Outmarsh.

The northern and southern limits of the Marsh are slightly harder to define. To the north, the alluvial marsh deposits disappear at Cleethorpes as the natural boulder clay (glacial till) outcrops at the coast. Therefore this has been taken as the northern limit of the study region. To the north of this point the area is affected by estuarine processes from the Humber Estuary rather than by those of the North Sea coast. The southern limits of the area merge from the coastal marshes to the Fens with no distinct boundary. Few surveys, including the Humber Wetlands Project and the Fenland Survey, have managed to define a division between the Fenlands and the Lincolnshire Marsh, despite the fact that they discuss them as two different zones. However, for the purposes of this study a southern boundary has been established at Gibraltar Point, where the Steeping River enters the North Sea. At this point there is

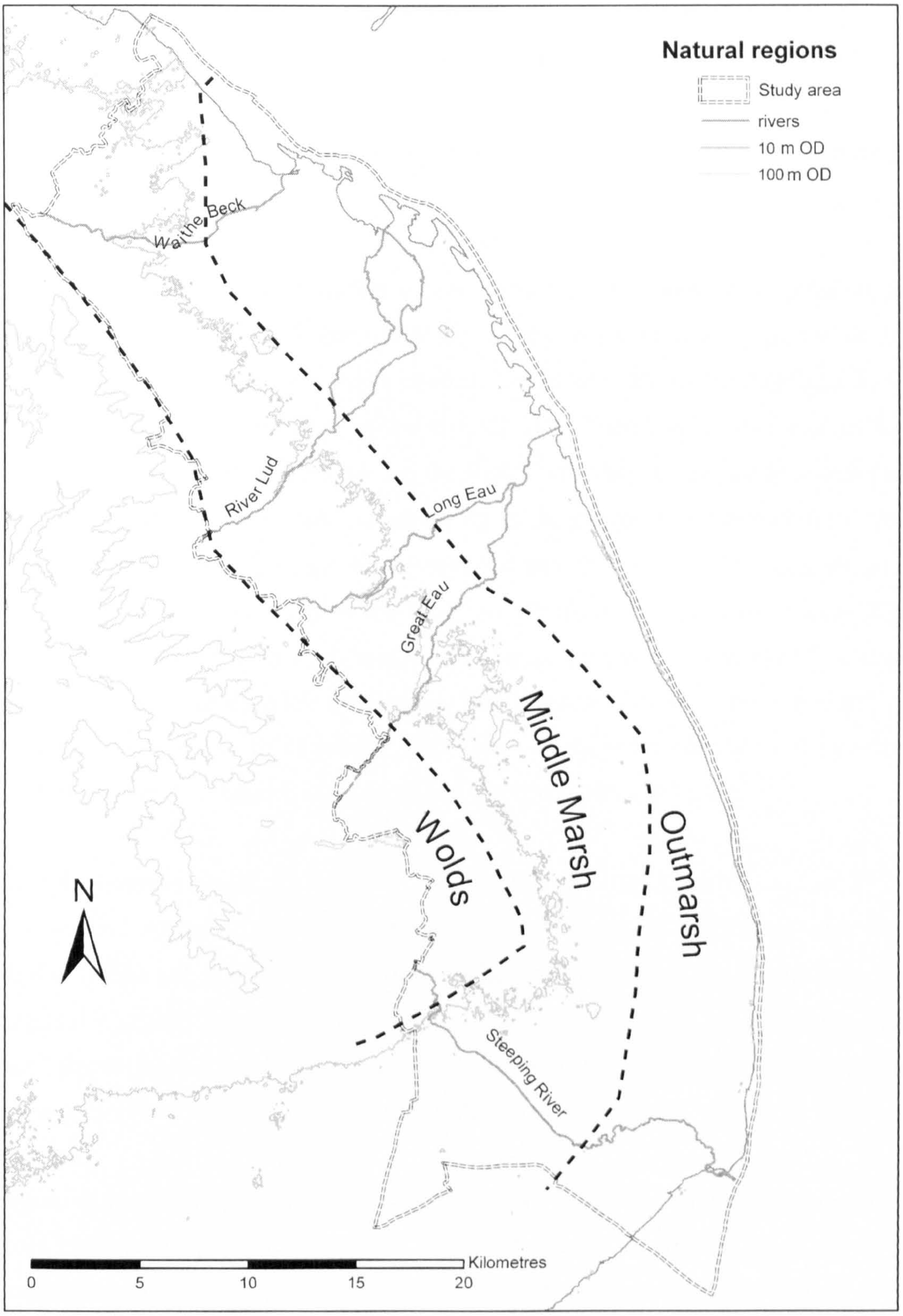


Figure 2.2: Study area of the Lincolnshire Marsh showing the natural zones of the Wolds, Middle Marsh and Outmarsh

also a change in coastal processes, with the sands of the Lincolnshire coast giving way to the clay flats of The Wash. The course of the Steeping River inland has been partly canalised but the original course can be traced, and for the purposes of the current study, the parishes to the south of this course form the southernmost boundary of the region.

Any investigation of the evolution of the coastal zone cannot be undertaken in isolation, as knowledge of the settlement of the adjacent higher ground is of fundamental importance. In certain periods, the inhabitants of the highland zone would have been the exploiters of the coastal zone. Therefore a large area of the adjacent zone of the Middle Marsh and the Wolds will also be considered in order to provide a context for the activities occurring in the coastal zone. An arbitrary line has been defined along the edge of the wetlands, including some of the main streams that flow off the Wolds. Within the study area there are 93 parishes (Figure 2.3, Appendix 2). These have been used as the basis for much of the historical data acquisition, as sources such as Historic Environment Records and Lincolnshire Archives use parishes to categorise their data. All of these parishes fall into the traditional northern regional division of Lincolnshire known as Lindsey.

2.1.2 Antiquarian research

Lincolnshire appeared blank on many distributions maps of archaeology until the 1930s. Unlike other regions, such as neighbouring Yorkshire, there had been no large-scale activity by early antiquarians; as Phillips notes 'there is no evidence that this barrow-digging mania ever spread very strongly to Lincolnshire, though many barrows have perished from other causes' (Phillips 1948: 42-43).

Refuse from the salt industry in the Marsh was one of the few subjects of interest to early historians, with notes appearing about discoveries in the 1850s and the first detailed description being undertaken in 1904 (Grant 1904, May 1976).

One form of early evidence that is available to the modern archaeologist is the numerous topographic descriptions and inventories. Notable early antiquarians included William Stukeley who was born in Lincolnshire (May 1976). The main topographic writers mention Lindsey and its coastal aspects, and then some discuss

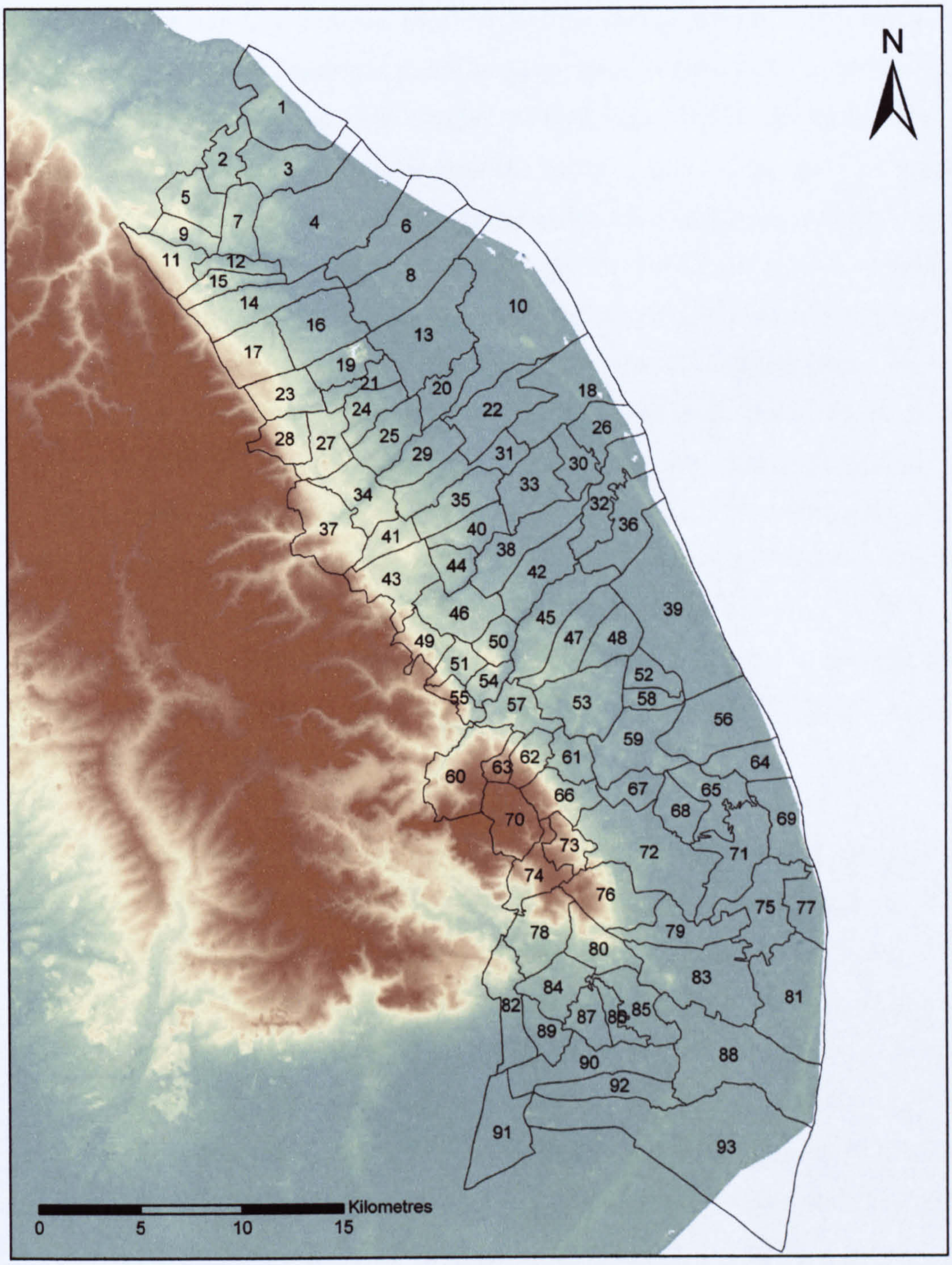


Figure 2.3: Study area of the Lincolnshire Marsh and the parishes included within the study (see Appendix 2 for a numbered list of the parishes)

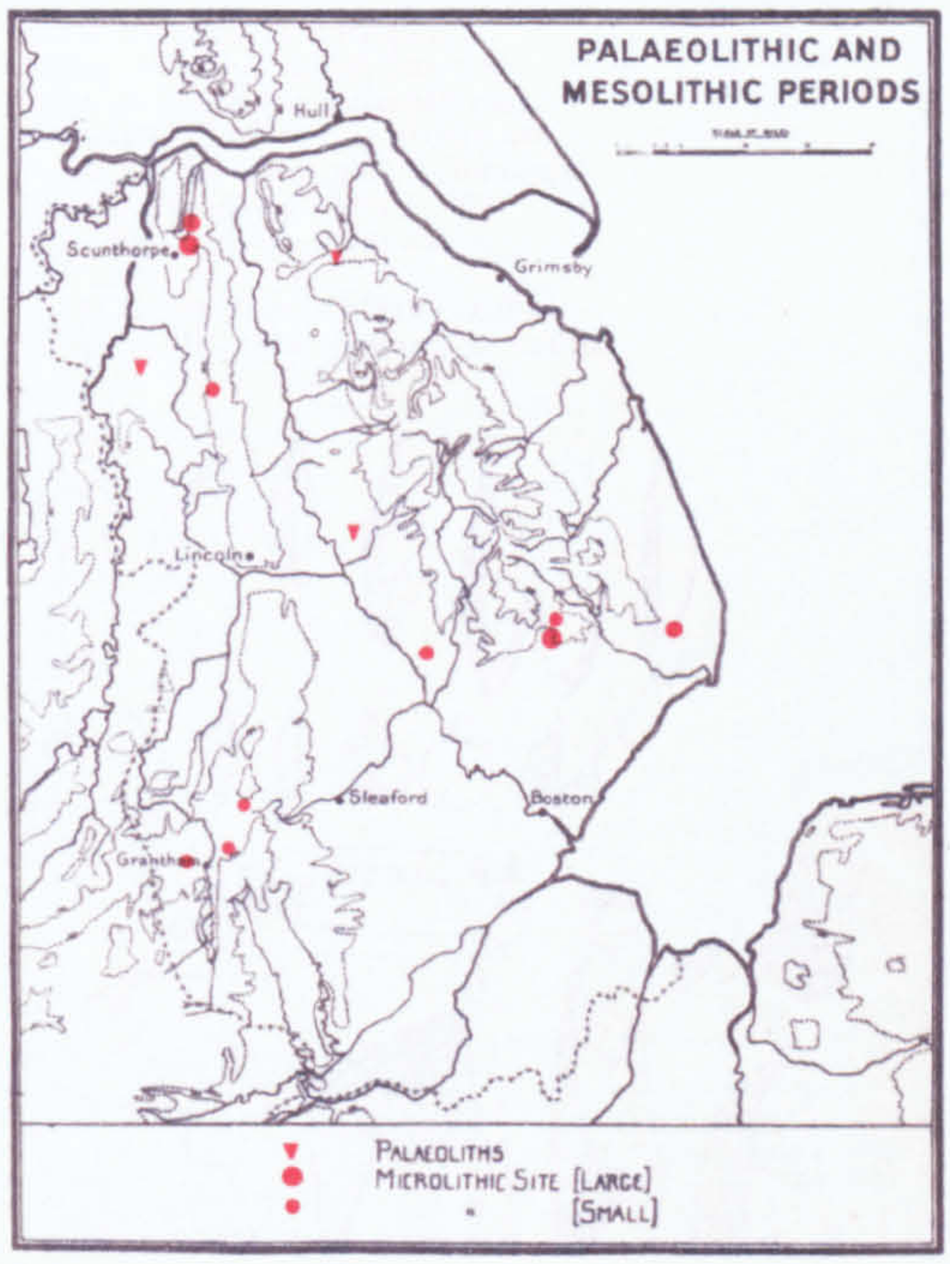
Wainfleet (due its good free school), Louth (noting the tall spire of the parish church), and Louth Park in a list of antiquities, with occasional mentions of Alford and Saltfleetby, but go no further (see, for example, Camden 1722, Simpson 1746, Luckombe 1767, Aikin 1788).

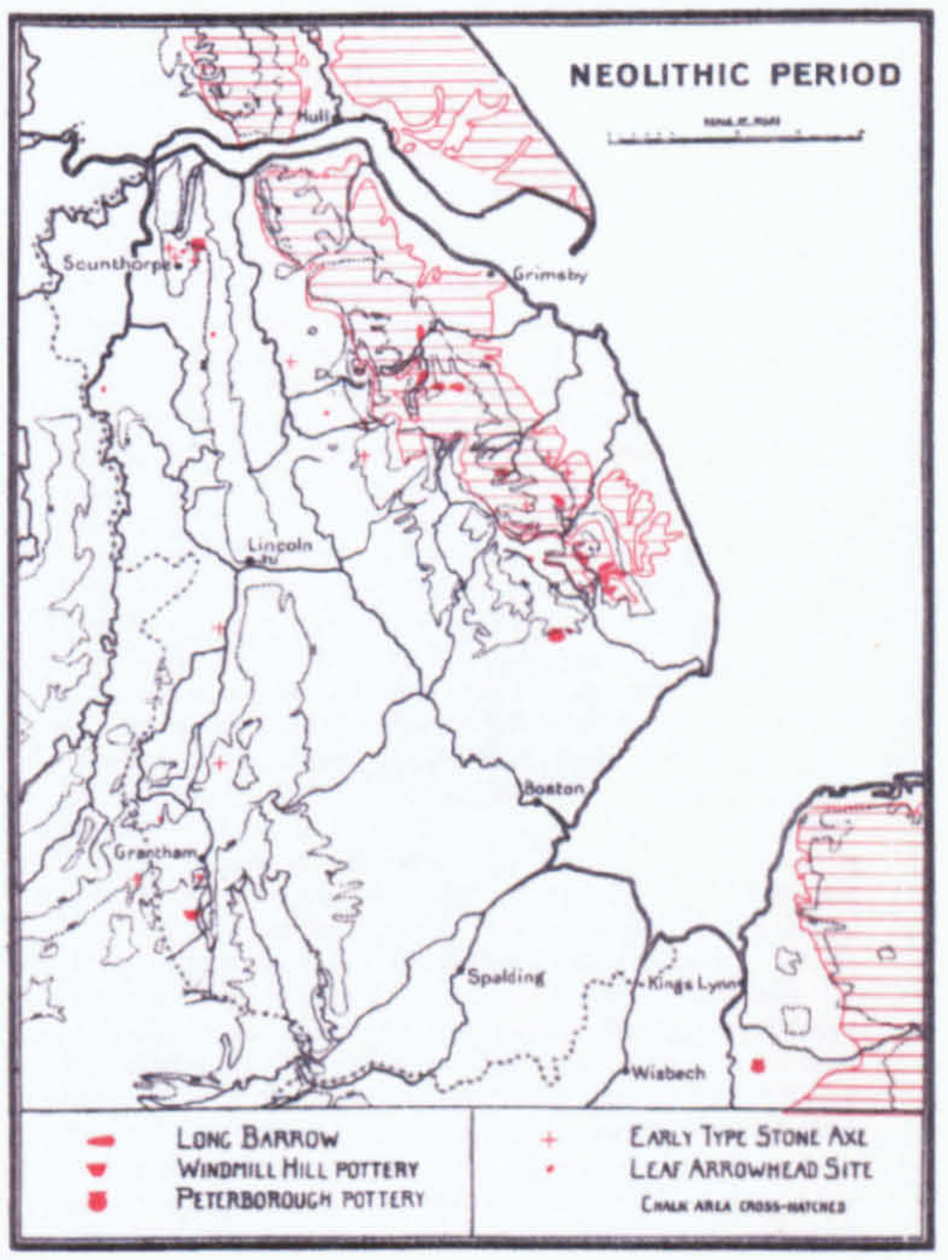
In small pockets in Lincolnshire, local work flourished on a small-scale such as that undertaken by Harold Dudley in the Scunthorpe area, and the early work conducted in Lincoln itself (Richmond 1946, Dudley 1949, Webster 1949). However, it was the work of Phillips in the 1930s that ignited the archaeological community's interest in establishing the basic patterns of occupation within Lincolnshire as a whole (Phillips 1933, 1934). In his two articles, Phillips (1933, 1934) provided a number of distribution maps in an attempt to 'populate' the usually blank area of Lincolnshire with evidence of early human activity (Figure 2.4). In the introduction to this work he concluded that 'there is a coastal strip called Marshland which seems to have carried very little population before later Anglo-Saxon times, although the coast was early the scene of a large salt manufacture' (Phillips 1933: 111). Interestingly, from over 300 records of known archaeological discoveries in Lincolnshire at the time, only 24 were located within the current area of study (Phillips 1934). In 1933, this statement of a low population was a sensible assumption to make, and the area on the distribution maps appeared quite blank. However, more recent findings suggest a more complex development.

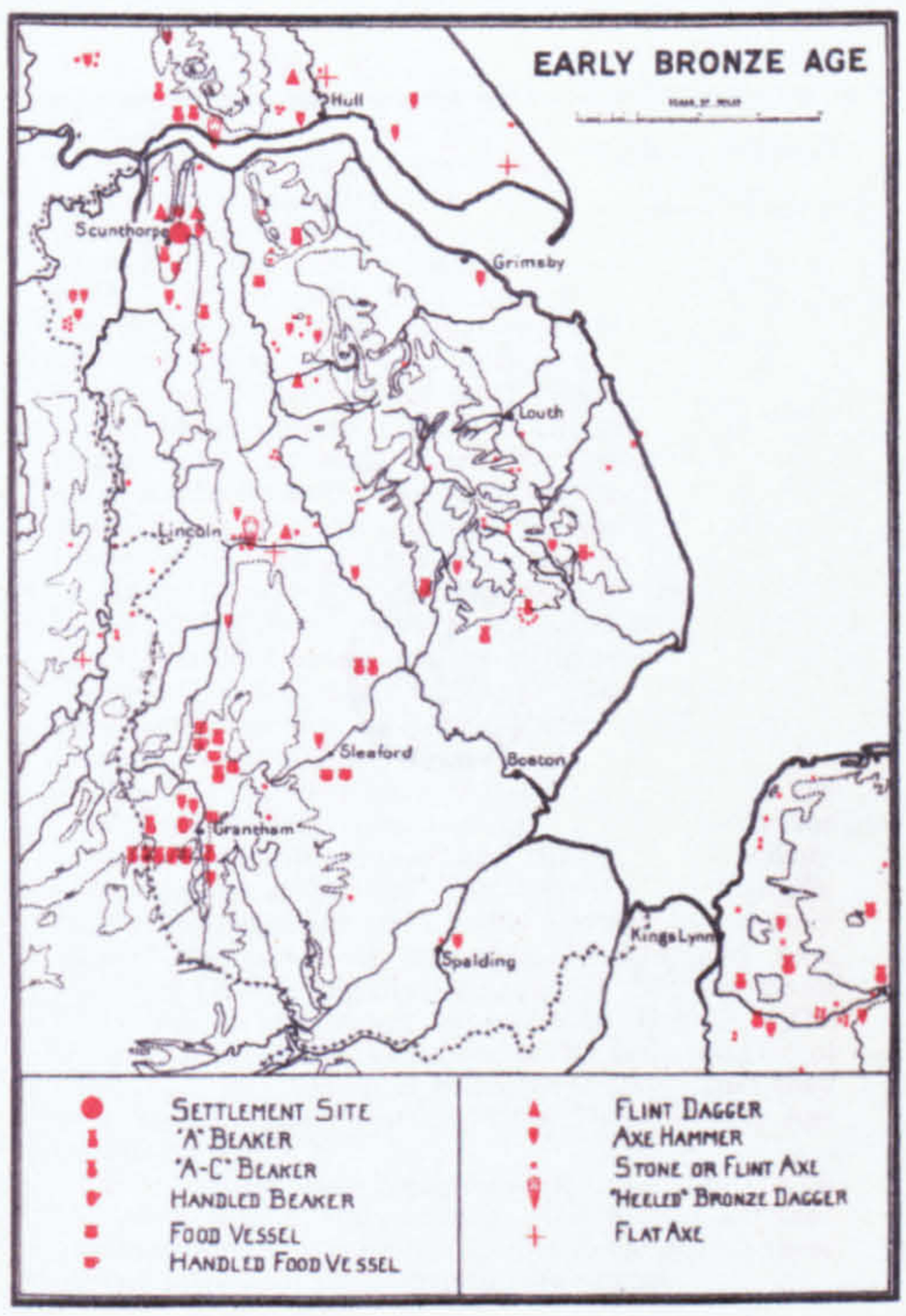
The next overview of the archaeology of Lincolnshire appeared 60 years later with the publication of *An Historical Atlas of Lincolnshire* (Bennett and Bennett 1993). Comparing the maps in this more recent publication to those included within Phillips' work, it becomes clear that knowledge has progressed considerably in the time between these publications (Figure 2.5). However, direct comparison between the two sources is not possible, as the atlas did not attempt to plot every single item of archaeology discovered, but only showed broad trends within the region. The atlas also does not present as many maps as Phillips' work, with a complete absence of any distribution maps for the Bronze Age. It nevertheless provides an excellent indication of the increase in our knowledge of the archaeology of Lincolnshire.

2.2 Research frameworks

> 'The mapping of local data should be considered in the context of such national maps as are currently available, so it becomes a commentary upon their reliability or deficiencies as seen at the regional level.' (Roberts and Wrathmell 2000: 39).







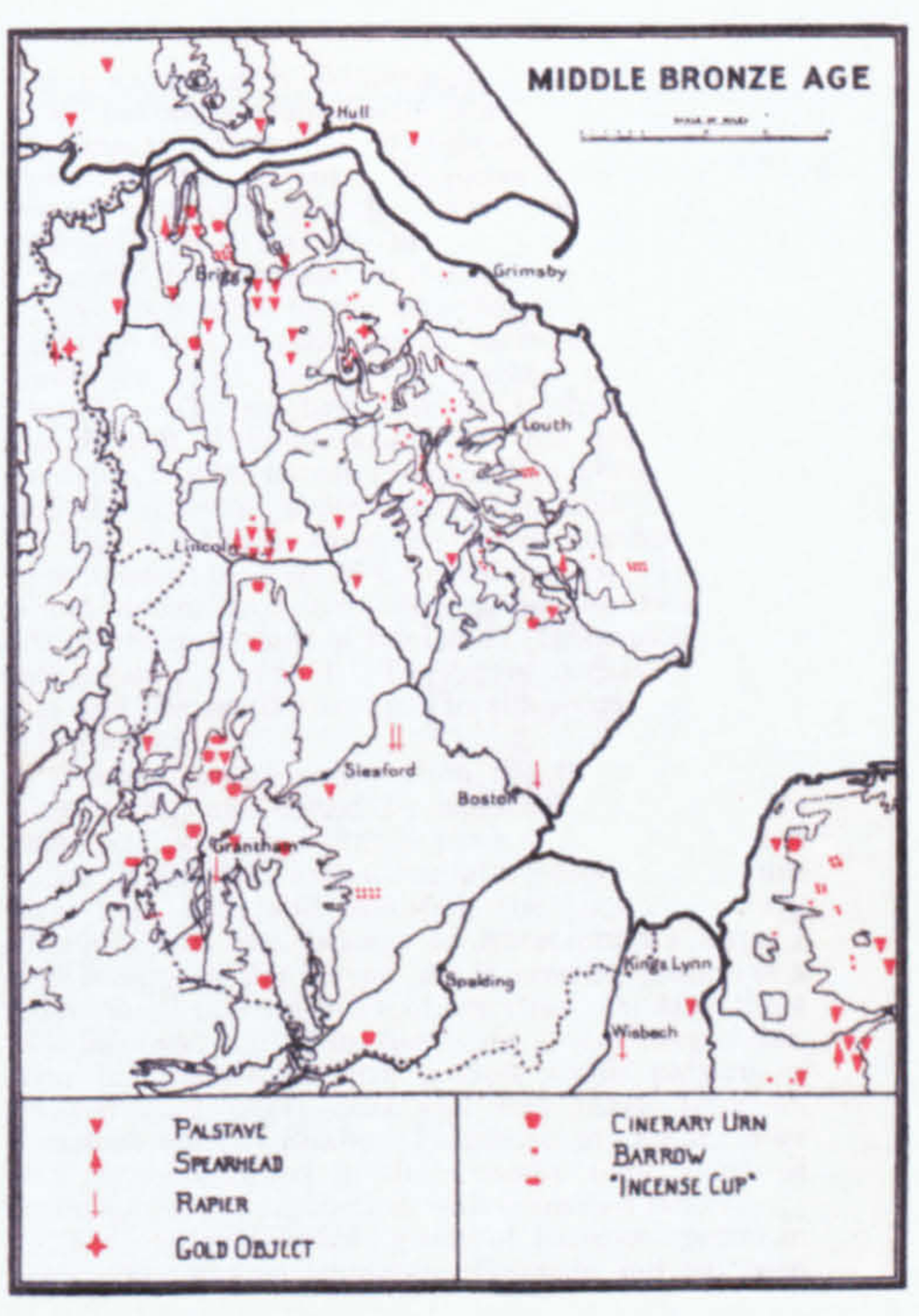
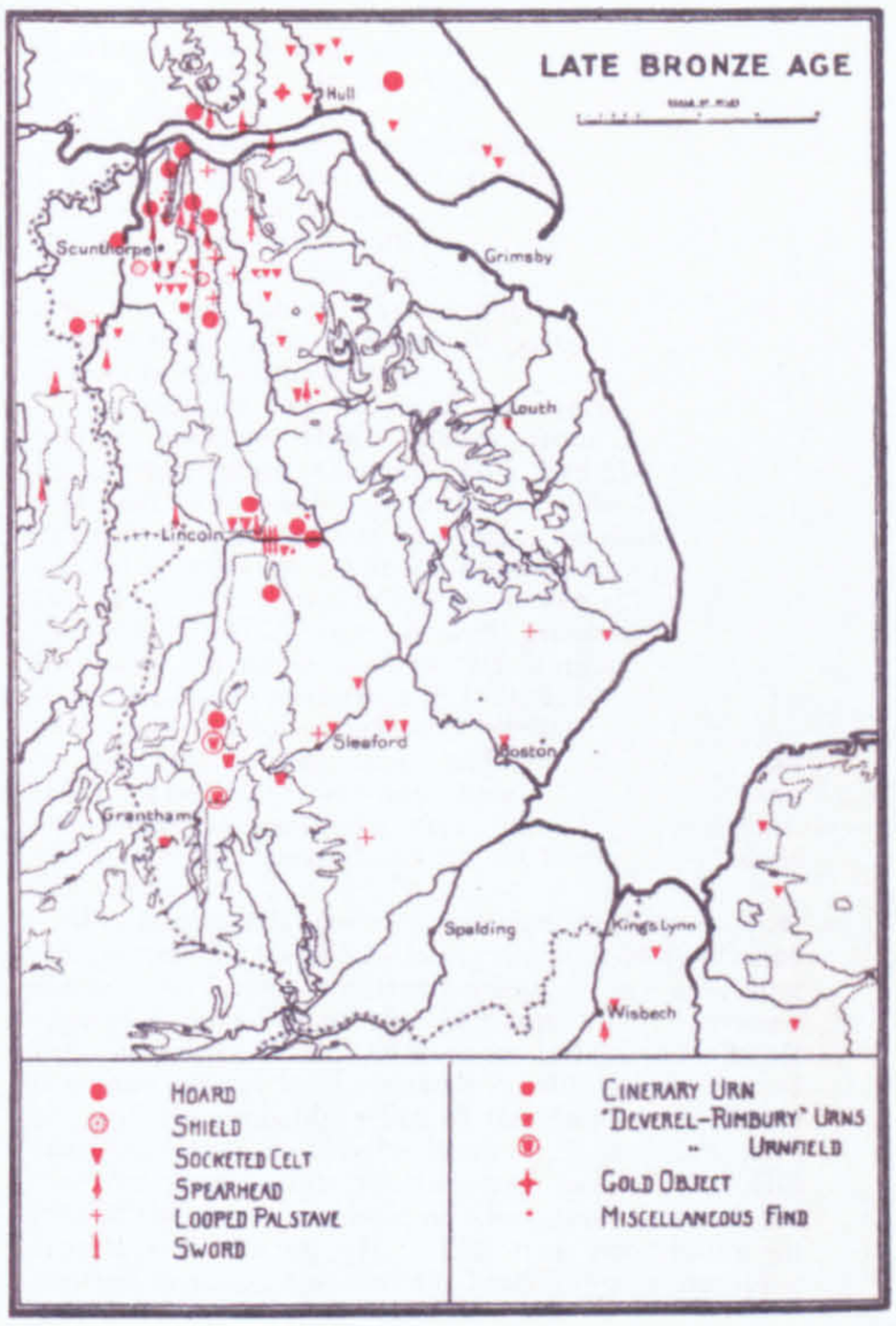
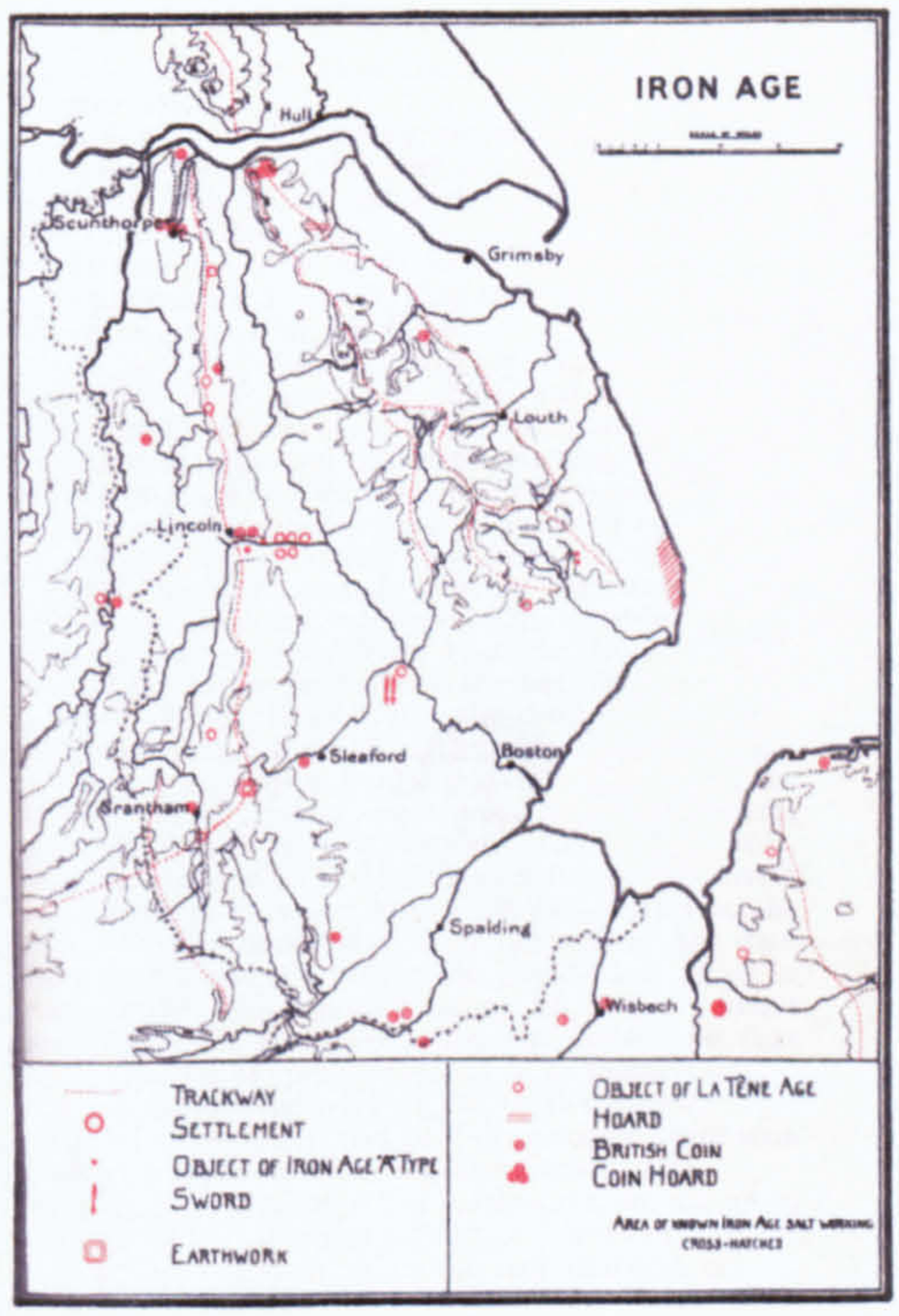
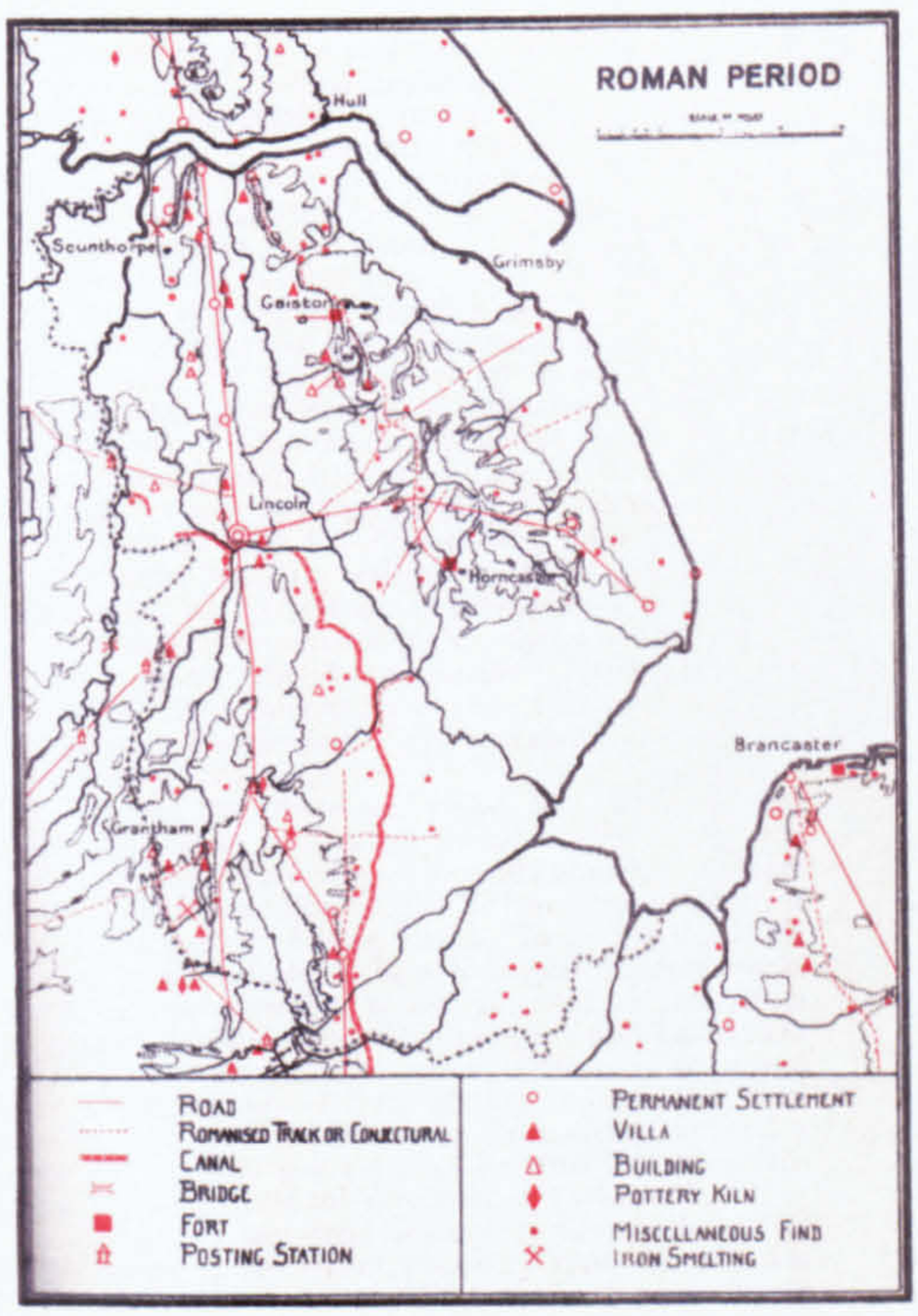


Figure 2.4: Distribution maps of the known archaeology in Lincolnshire in 1933 (Phillips 1933: Plates 1, 2, 5, 10, 11; Phillips 1934: Plates 17, 23, 27)







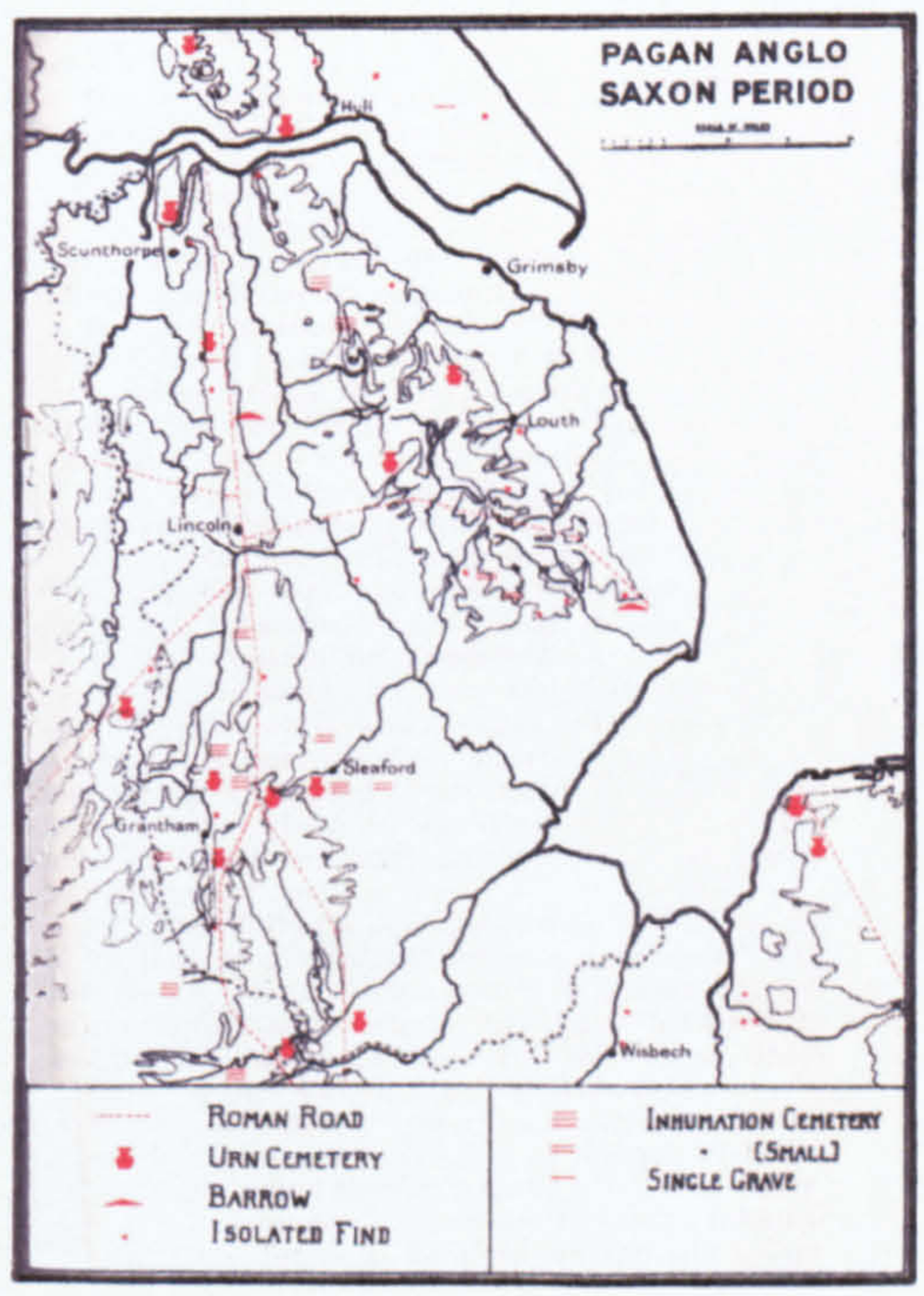
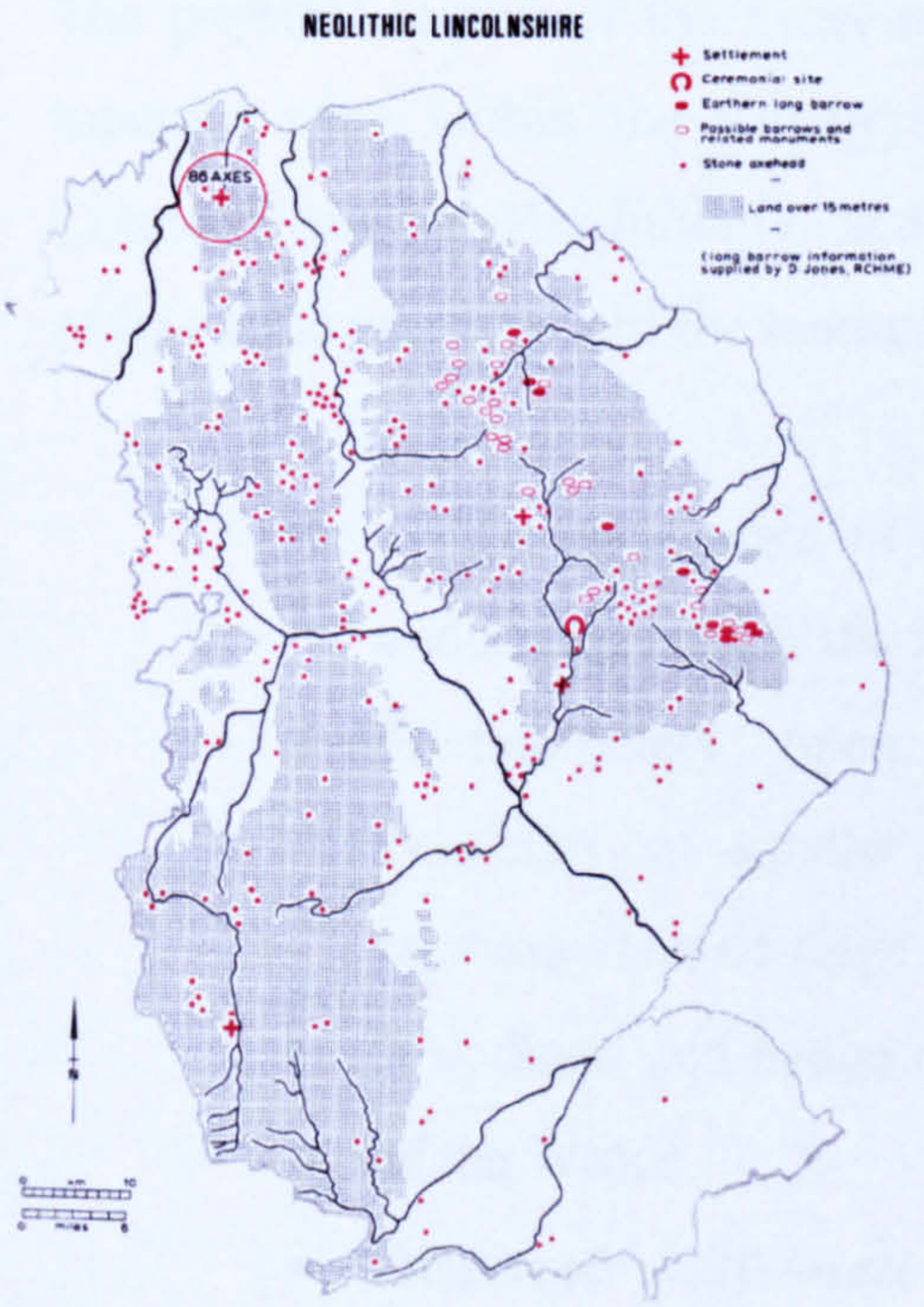
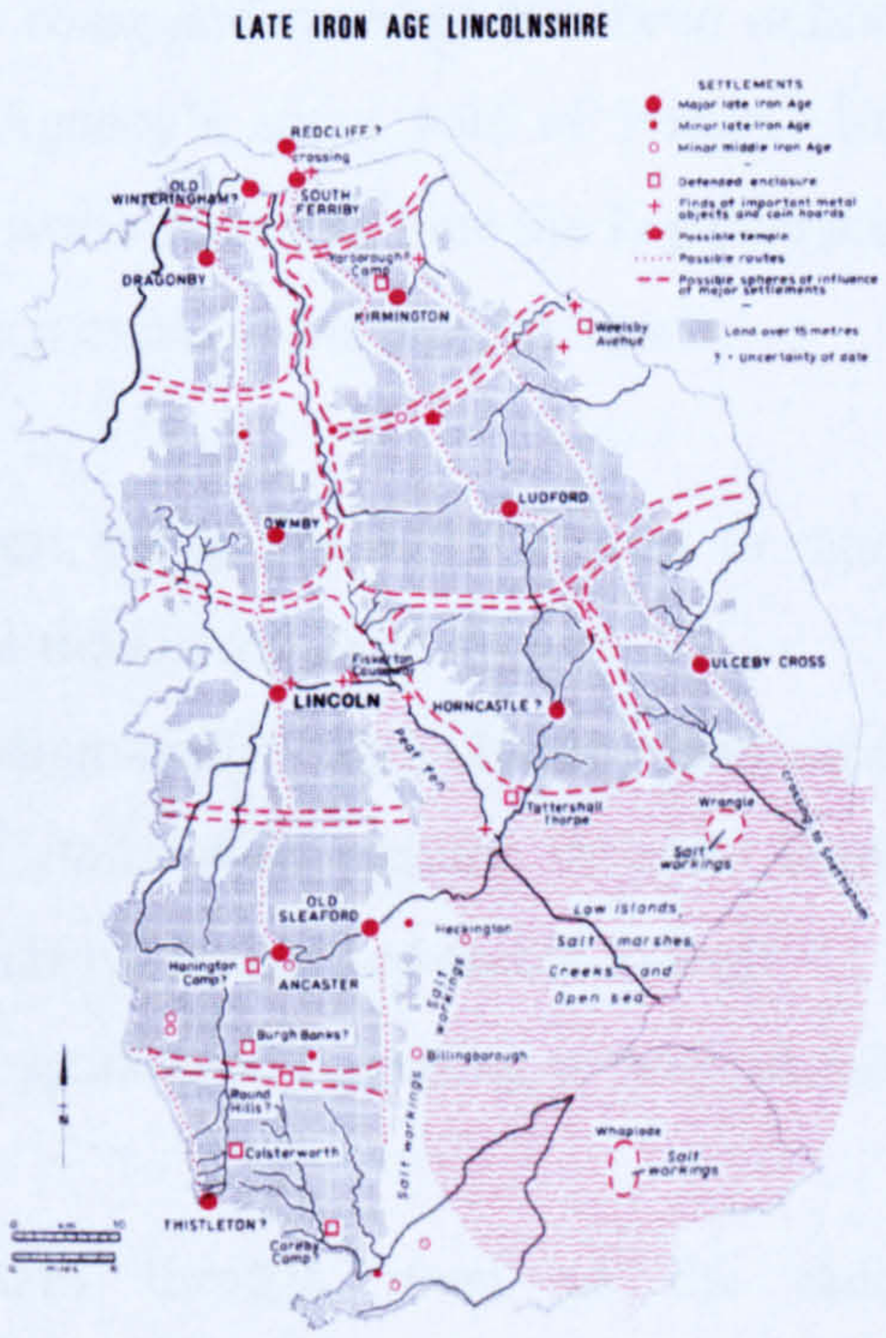
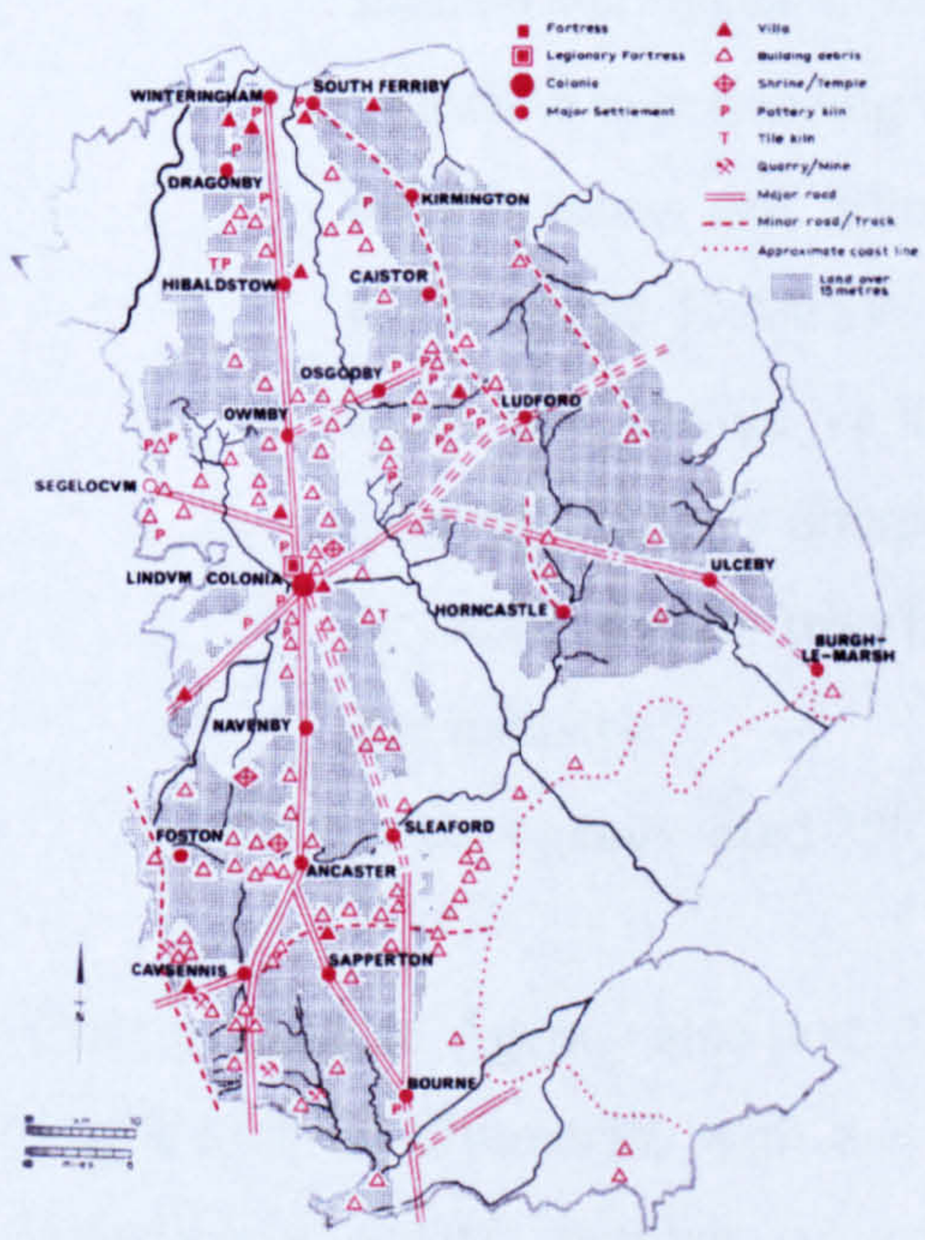


Figure 2.4 cont: Distribution maps of the known archaeology in Lincolnshire in 1933 (Phillips 1933: Plates 1, 2, 5, 10, 11; Phillips 1934: Plates 17, 23, 27)







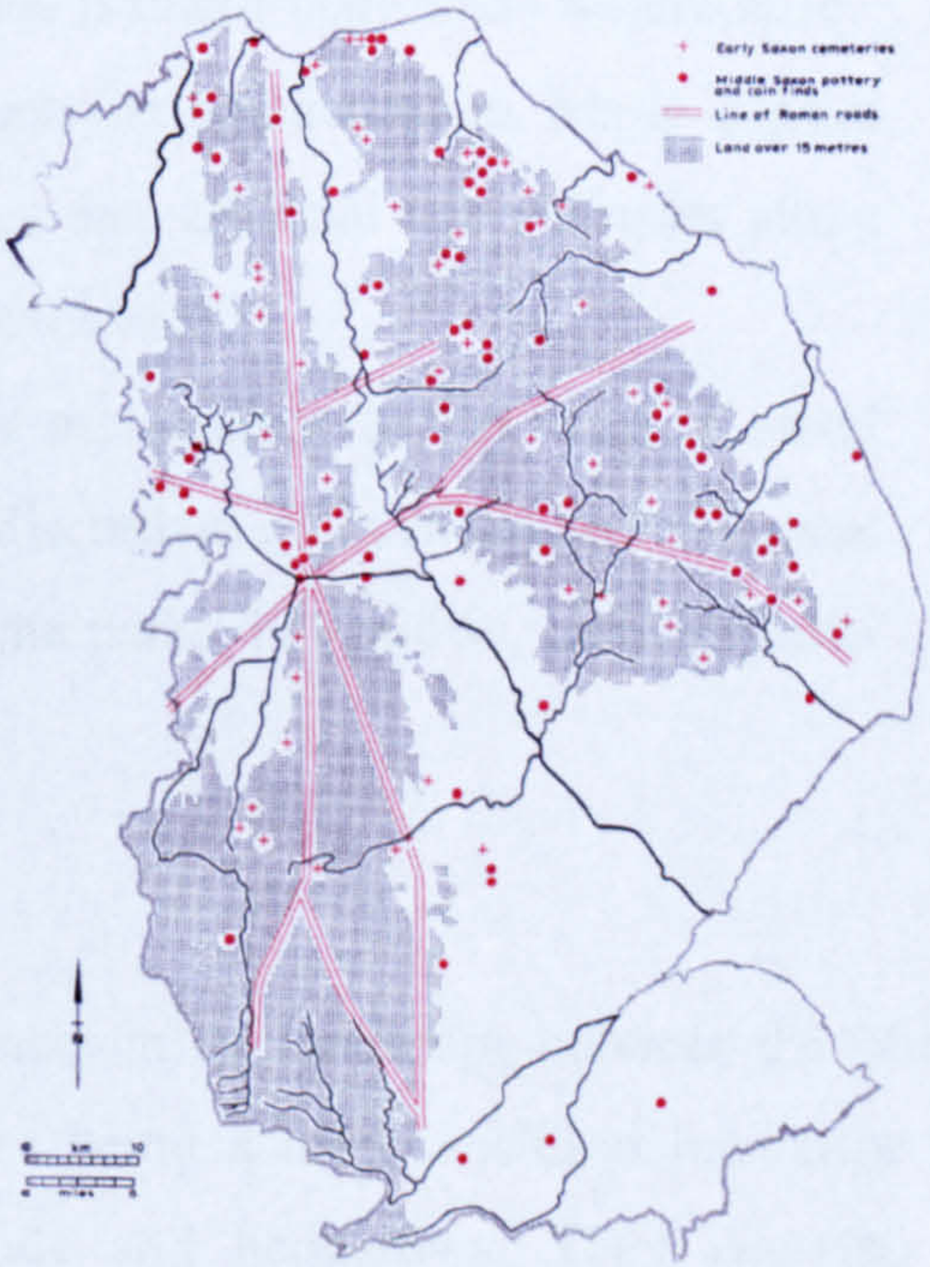


Figure 2.5: Maps highlighting the general knowledge of the archaeology of Lincolnshire in 1993 (May 1993a: 11, May 1993b: 13, Whitwell 1993: 15, Vince 1993: 23)

The physical region of the Lincolnshire coast and marshes has been defined as a separate zone within the Countryside Agency's (now part of Natural England) Countryside Character Initiative and it is worth repeating here the key characteristics of this zone which record the landscape as it exists at the present time:

> • "Flat coastal plain to the east, rising gradually in west to more undulating land at the foot of the Lincolnshire Wolds.
> • Predominately open, medium-scale agricultural landscape. Tendency to smaller farm units with pasture in east. Some remnant areas of ridge and furrow, and mixed arable to west.
> • Woodland and hedge cover sparse yet increasing to west at foot of the Wolds.
> • Dispersed settlement pattern through most of the area. Concentration of larger settlements towards the coast.
> • Land drained to coast by combination of irregular ditches, streams and dykes. Louth Canal is major man-made watercourse.
> • Coastline experiencing both erosion and accretion. Major coastal dune systems and saltmarshes and artificial sea defences along the coastline. Extensive shallow beach.
> • Brick and pantile vernacular architecture to the west. Coastal strip significantly altered by discordant 20th century development including seaside resorts, theme parks, bungalows, caravan parks and industry."
>
> (Countryside Agency cited 2003)

The Countryside Agency also note differences in the landscape between the Middle Marsh and the Outmarsh, with the former being a more enclosed landscape and including a greater number of woodlands and hedgerows. They describe the Outmarsh as being primarily rich pastureland with some remnants of ridge and furrow (Countryside Agency cited 2003).

In line with the current English Heritage Research Agenda and *Exploring Our Past 1998* (EOP98), Lincolnshire has been included within the East Midlands

Archaeological Research Framework Project. This project has been formulated 'to provide an effective, yet flexible structure, for decision-making regarding future archaeological research' (Cooper and Clay 2006: 1). The project was spearheaded by the Sites and Monuments Record Working Party for the five counties included within the region: Derbyshire, Leicestershire and Rutland, Lincolnshire, Northamptonshire and Nottinghamshire. A three-stage programme was planned following the outline proposed by English Heritage in *Frameworks for our Past* (Olivier 1996), with the stages being resource assessment, research agenda and research strategy.

The resource assessment was compiled by undertaking period-based seminars, with presentations on each of the five regions, followed by discussions. These were held between April 1998 and March 2000 and the regional summaries were published on the Internet (www.le.ac.uk/archaeology/research/projects/eastmidsfw). Once completed, the second phase saw the appointment of authors to write an overview chapter for the East Midlands for each period and to link this to a proposed research agenda.

These overviews were produced in draft form and made available over the Internet; finally reaching published form in the middle of 2006. Of most interest to the current study are the following suggestions for important research topics. Within the research agenda for the Anglo-Saxon period Vince highlights the need to produce a chronology for saltern mounds by archaeological investigation, and that archaeological fieldwork needs to be conducted at one of the known 'productive sites' within the region to 'establish its nature ... its bounds, and its relationship to the salt-hills and with inland routeways' (2006: 177). He also urges that there is a need to establish and study 'settlement pattern and agricultural regime of every region of the East Midlands' (Vince 2006: 181).

Lewis, in her agenda for the Medieval period suggests that the 'understanding of the detailed pattern and evolution of rural settlements is still limited' and that a combination of sources needs to be studied to help elucidate the issue (2006: 212). She also highlights the fact that in some regions in the East Midlands, including the Lincolnshire coastal margins, there is a dispersed settlement pattern despite the fact

that the surrounding area is dominated primarily by nucleated settlement (Lewis 2006). The nature of this dispersed settlement has received little attention in the past and further multi-disciplinary work is one of the necessary aims of the East Midlands research agenda.

The national survey of rural settlement undertaken by Roberts and Wrathmell (2000, 2002) also provides a framework within which the Lincolnshire Marsh can be studied. The Lincolnshire Marsh falls within the area traditionally viewed as the woodland settlement areas or 'ancient' landscapes as described by Rackham (1986) (see section 1.2.4). The remainder of Lincolnshire falls with the 'planned' landscapes of open fields and nucleated settlement. Roberts and Wrathmell have adopted a similar strategy and have drawn a clear dividing line along the area of the Outmarsh, dividing the current study area in two between their Central Province and the South-eastern Province (Roberts and Wrathmell 2000). Thus the region straddles not only two of the three main provinces of England but also crosses two of the sub-zones as defined by the project. The two sub-zones are those of the EWASH(W) (Wash in the South-eastern Province) and CLNSC (Lincolnshire Scarplands in the Central Province) (Roberts and Wrathmell 2000, 2002). The schematic representations of these zones are presented in Figure 2.6.

The contrasting characteristics of each of the zones are illustrated further within the individual discussions of these sub-zones. The description of the landscape of the EWASH(W) sub-zones bears little resemblance to the Lincolnshire coastal landscape that is apparent from the record, and as distinct from the Fenland around The Wash (Roberts and Wrathmell 2000). The Wash sub-province as described by Roberts and Wrathmell (2000) is seen as distinctive, as the drainage is mainly into The Wash and it is characterised by the Fenland. The sub-province is further split into east and west, with the Lincolnshire coast falling within the western area. In the entire discussion of the EWASH province, there is no mention of the Lincolnshire coast, instead the focus is on the Fenland embayment.

In the discussion of the Central Zone, the structure of strip parishes sharing the different available resources applies more closely to that apparent on the Lincolnshire coast. This is highlighted in the later publication by Roberts and

Wrathmell who state that along the Lincolnshire coast (and elsewhere), parishes and townships form strips, crossing from the drier, higher ground to the saltmarsh, providing access to a range of resources, 'they cut across diverse terrains to give economic variety, with the nucleated settlements forming lines in the preferred settlement zones along the lower portions of the scarps' (2002: 137).

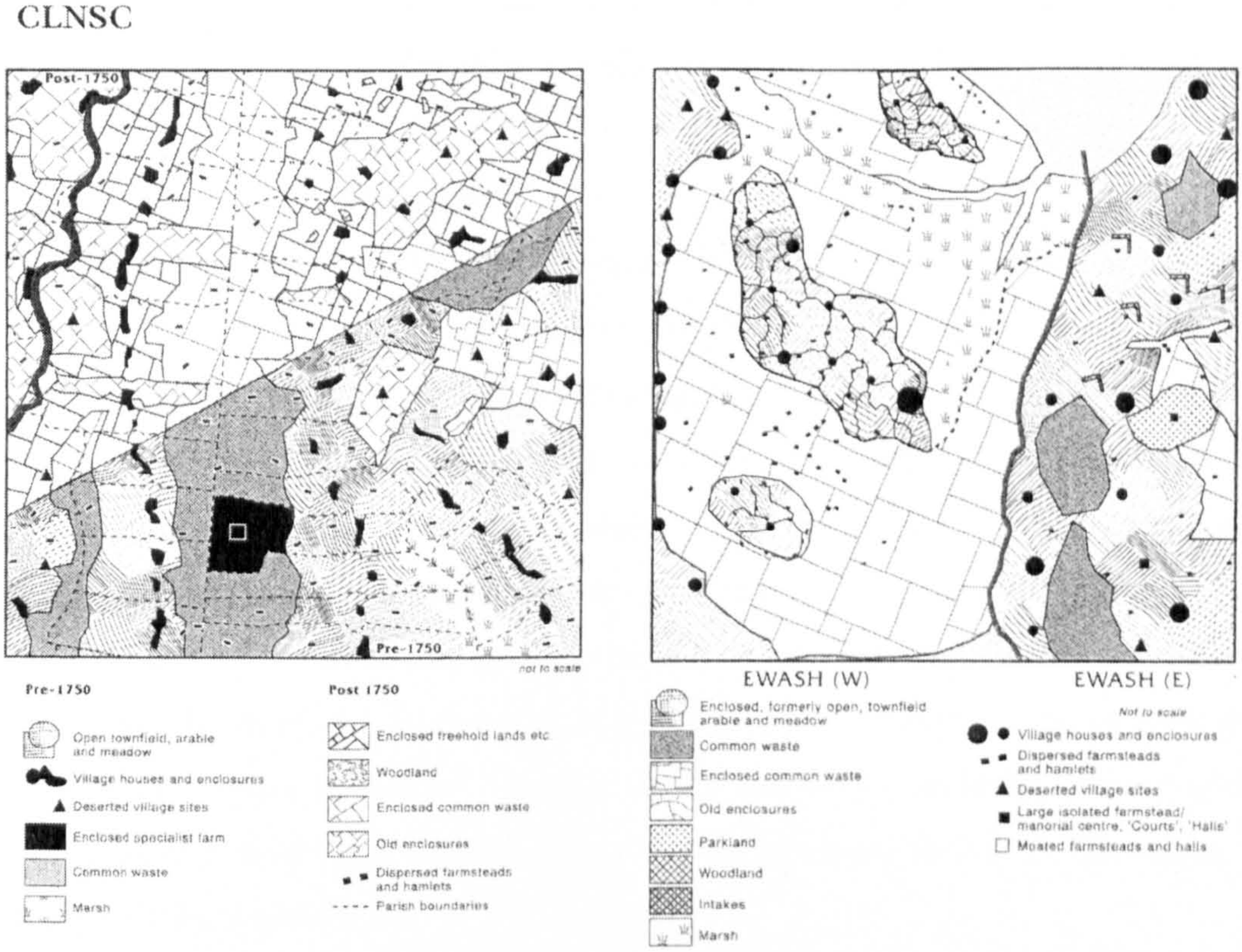


Figure 2.6: Schematic representation of the settlement characteristics of The Wash sub-province (EWASH) and the Lincolnshire Scarplands sub-province (CLNSC) (Roberts and Wrathmell 2000: 40, Figure 31; 48, Figure 40)

Distribution maps of pre-1086 woodland have been produced by Rackham (1986) and later augmented by Roberts and Wrathmell (2002). These show a lack of woodland within the current study area. This was compiled from place-name evidence suggestive of woodland, such as *-ley*, *-hurst*, *-thwaite* and *-field*. Furthermore, maps of surviving cruck-framed buildings in England also reveal a dearth within the Lincolnshire Marsh study region, perhaps suggesting that the large mature trees needed for the crucks were not available in the local area. The sub-

zones, that include the Lincolnshire Marsh and The Wash, appear distinct from those of the rest of the South-eastern Province, which show evidence of woodland and large amounts of timber framing within building construction.

The Lincolnshire Marsh is, on occasion, overlooked in national and even regional research agendas, often being placed within the Fenland and then not explored in any great detail. However, despite this, these research frameworks do provide an opportunity to place the results of this thesis in a wider, national research agenda.

2.3 Environmental background

The underlying geology of the Lincolnshire Marsh is Cretaceous Chalk which dips eastwards, forming the Wolds escarpment (Aram 1993, Ellis 2001). Overlying this chalk is a variety of Quaternary deposits (Figure 2.7). The undulating till (boulder clay) landscape is still visible in the area of the Middle Marsh. The flat nature of the Outmarsh was developed during the Holocene transgression with the deposition of a sequence of marine and estuarine sediments (Brew 1997). The main watercourses running from the Wolds to the sea are the Waithe Beck, Great Eau and the River Lymn (which becomes the Steeping in its lower reaches), however, none of these can be classed as a major waterway. The till surface was very undulating and a number of small lakes would have formed within the depressions, similar to the meres of Holderness (Sheppard 1956).

Rapid warming at the end of the final cold period of the last glaciation at *c.* 11,700 cal years BP, produced a landscape of birch, with later introductions of pine and deciduous forest. This environment covered the North Sea Basin and across Doggerland, to the North German Plain (Huntley and Birks 1983). This warming into the Holocene was not continuous, fluctuations occurred in very short periods of time, and evidence from the Greenland ice sheet suggests that the transition to typical Holocene temperature values took no more than 50 years (Taylor *et al.* 1997, Bell and Walker 2005). Within the Holocene sea-level rise and fluctuating temperatures produced a complex development of deposits throughout the Marsh.

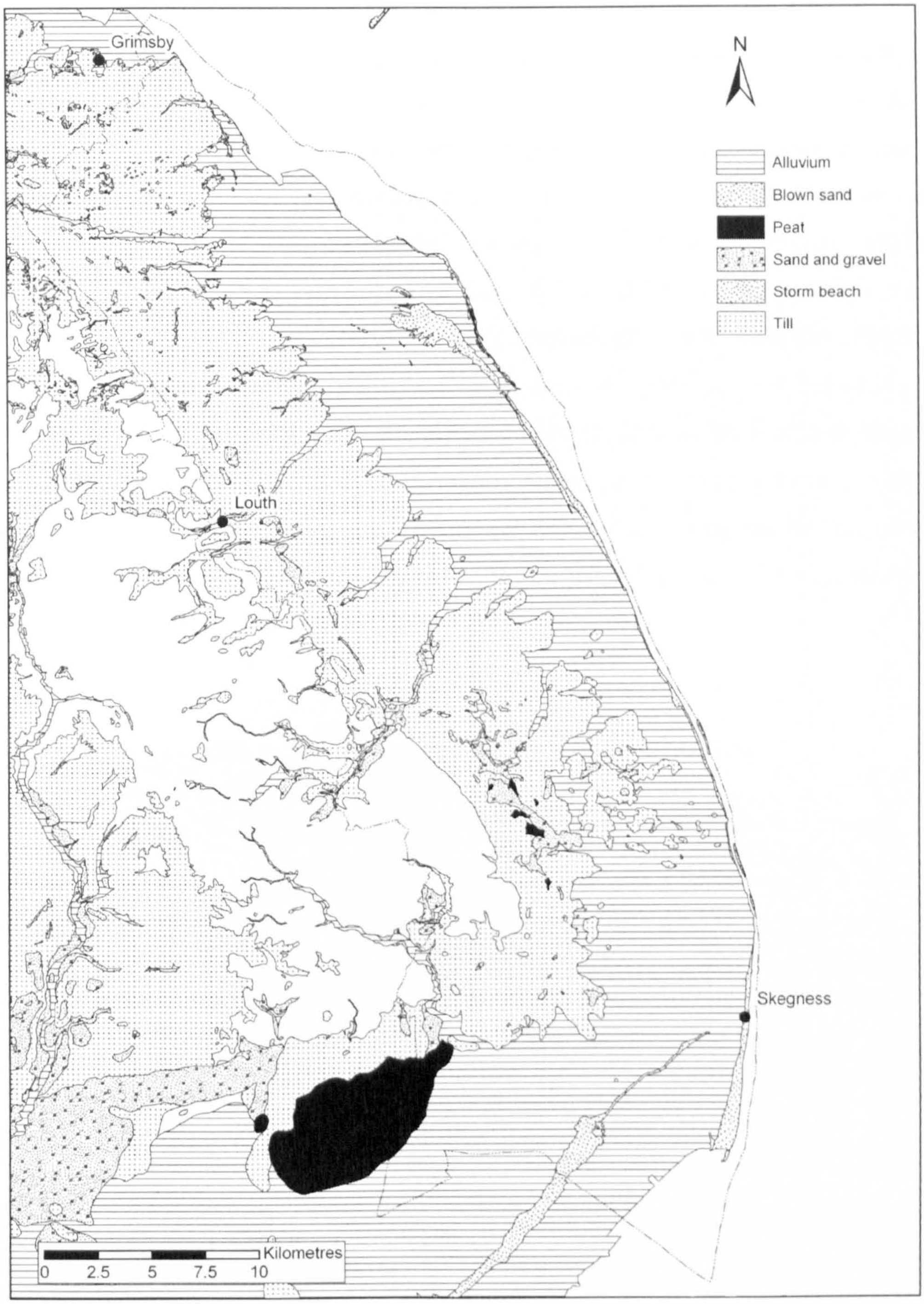


Figure 2.7: Quaternary geology of the Lincolnshire Marsh (Derived from British Geological Survey data, Licence 2001/173 British Geological Survey. ©NERC. All rights reserved)

Swinnerton has described a 'typical' sequence of deposits along the Lincolnshire coast (Swinnerton 1931, 1936) (Figure 2.8). The sequence highlights the undulating glacial till upon which a forest bed developed. Over this forest bed a lower peat formed due to increasingly wet conditions as sea-level rose. There are two episodes of regression and transgression identified at most locations along the Lincolnshire Marsh, with a phase of positive sea-level tendency identified in the Early to Middle Bronze Age and subsequently in the Iron Age (Schofield 2001). The initial deposit over the basal peat is a saltwater clay (*Triglochin*) which indicates marine inundation. This is then overlain by a freshwater clay (*Phragmites*) indicating a period of marine regression. During a still-stand period, another layer of peat (upper peat) was allowed to form due to an increase in vegetation colonising the area which was inundated as run-off was impeded in advance of a subsequent transgressive episode. A final layer of *Scrobicularia* clay buried these deposits indicating another marine incursion.

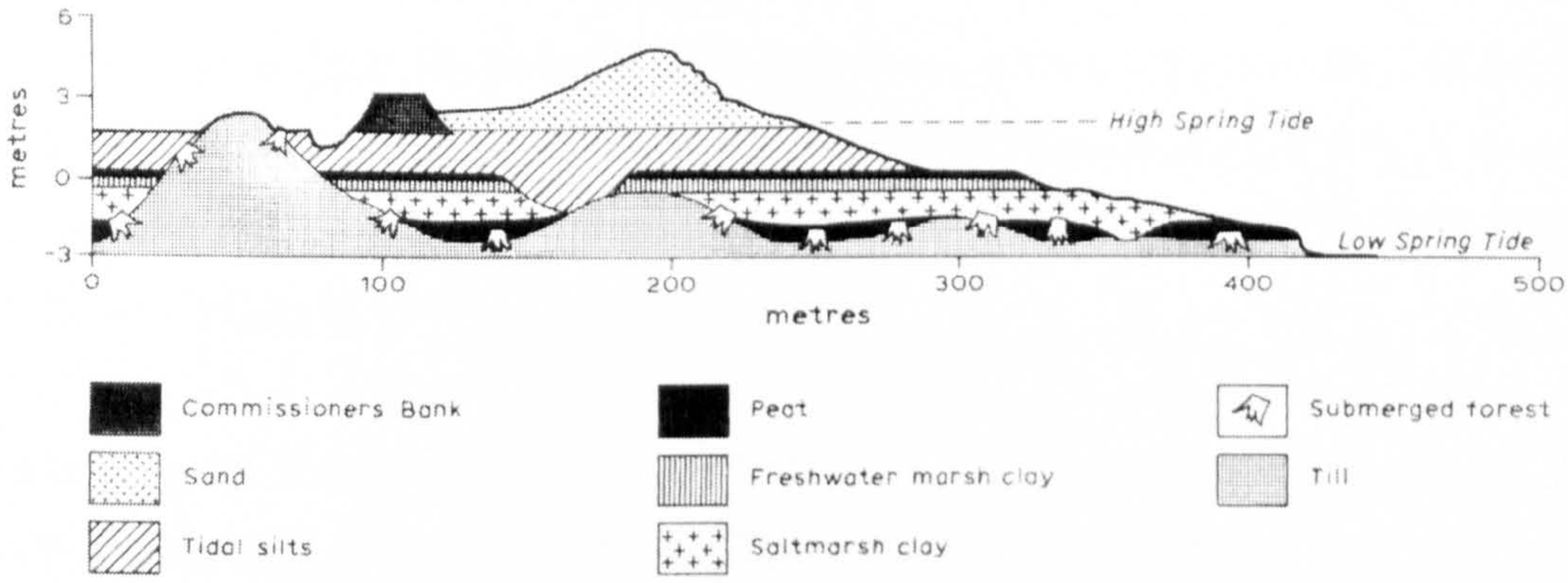


Figure 2.8: Geological cross-section of the Lincolnshire coast based on Swinnerton (1936) (Ellis 2001: 10, Figure 2.4)

A lack of extensive work and sampling in the region results in an incomplete record, and the Marsh has suffered somewhat due to the focus of the major research initiatives undertaken on its two well-studied neighbours - the Humber Estuary and the Fenlands. It has often been assumed by researchers that the coastline will have experienced a similar evolutionary history to one of these two regions, or even a combination of both situations. However, work on comparative samples from the Marsh and the River Ancholme to the west, suggests that the pollen evidence more closely resembles the Humber developmental sequence than that of the Fenland

along much of the coast (Smith 1958). In addition analysis of lithostratigraphy has shown that the Fenland classifications cannot be applied to the Lincolnshire Marsh (Brew 1997).

Modern investigations have shown that the deposits throughout the region are very varied (Brew 1997). The work outlined above, has in recent times, been extended by the Humber Wetlands Project and the doctoral research of Schofield (Lillie and Gearey 2001a, Schofield 2001).

The dating of the sequence is varied along the coast from its initial formation onwards. Absolute dates for the submerged forest vary at different locations, with samples from Immingham within the Humber Estuary being dated to 5850-5370 cal BC (Q-401) (Wright and Churchill 1965), and from Wolla at Chapel St Leonards to 3370-3020 cal BC (OXA-5996) (Wilkinson *et al.* 1997). The sampling at Wolla also indicated that this mixed woodland of alder, oak and ash was not as dense and devoid of an understorey as had been previous suggested, with bramble, blackthorn, and sedges (Cyperaceae undiff.) being identified (Wilkinson *et al.* 1997). A date for the submerged forest bed on Cleethorpes beach is in the range of 2950-2250 cal BC (OXA-132) (Leahy 1986).

According to Wright and Churchill (1965) the end of the peat formation that submerged this forest can be dated at Chapel Point to 2900-2100 cal BC (Q-685), the boundary of the Late Neolithic/Early Bronze Age. However, a peat horizon near a regressive contact north of Sandilands provides a date of 3510-3010 cal BC (A-7504) (Brew 1997), thus providing an earlier date for the inundation for this section of the coast. It is suggested that the submergence of the woodland would have only affected those areas located in depressions within the till surface, and the possibility exists that trees on the elevated sections of till survived (Davies and Van de Noort 1995). Although there is a range of dates for the submergence of the forest, it would appear that the Neolithic landscape was very dynamic, and that the precise timing of the changes would appear to depend on the exact location along the coast.

The upper part of the sequence also shows variability. The upper peats have been dated at Ingoldmells to *c.* 2450 BP (Van de Noort and Davies 1993), and at Chapel

Point to 1900-1400 cal BC (Q-686) (Wright and Churchill 1965, Gaunt and Tooley 1974). A second marine transgression occurred in the Late Bronze Age/Iron Age when the upper peat was overlain by marine (*Scrobicularia*) clays with dates of 1270-800 cal BC (Q-844) and 1050-400 cal BC (Q-687, Q-688) at Chapel Point (Wright and Churchill 1965). This transgression is also recorded at Newton Marsh, Tetney where a transgressive contact has been recorded at 1210-840 cal BC (RCD-1598) (Long *et al.* 1998). Saltmarsh plants dominate the pollen from Newton Marsh, with the remaining 30-40% of the pollen coming from oak, hazel and alder woodlands (Schofield 2001). Once again, there is diachronous development of the upper peats and clays, which are absent in some areas, but the uppermost clays have generally been dated to a Roman or post-Roman date (Davies and Van de Noort 1995). Problems occur with the dating of these later phases of transgression and regression as they fall within the Iron Age period which has problems with the radiocarbon calibration curve relating to plateaux along the curve.

It is apparent from the discussion above that the model proposed by Swinnerton cannot be applied wholesale to the Lincolnshire Marsh, and work by the British Geological Survey has added to this schematic picture through the investigation of 129 onshore boreholes, 22 offshore boreholes and an offshore seismic reflection profile (Brew 1997).

The offshore borehole transect from Theddlethorpe St Helen has revealed a continuation of the Outmarsh deposits for a distance of 4.7 km across the North Sea bed (Brew 1997). The study also revealed that the marine transgression identified at Chapel Point as occurring at *c.* 3943 BP occurred earlier at other locations in the Outmarsh, with a peat from the north of Sandilands dated to 3510-3010 cal BC (Brew 1997).

The most recent deposits in the region are sands along the coast which were created by wind action on very wide, low angled beaches. The wind would have moved finer grained sands landwards until their progress was halted by vegetation. The Lincolnshire coast was protected until the thirteenth century by offshore gravel islands. These were breached by stormy weather, which resulted in the formation of the dune system present today, especially in the area around North Somercotes

(Robinson 1993). Due to the soft nature of the sediments, the region was affected by coastal erosion, but after the devastating floods of 1953, the coast was protected by large sea walls (Ellis 2001).

Few sites within the Marsh have received detailed palaeoenvironmental study, but a general sequence of landscape and vegetation changes can be established from the available published reports. Along the coast, dated environmental sequences have been recorded on the foreshore at Chapel St Leonards (Wright and Churchill 1965, Gaunt and Tooley 1974, Wilkinson *et al.* 1997), Vickers Point and Chapel St Leonards (Hunt *et al.* 1990), Sandilands (Brew 1997), Ingoldmells (Fenwick *et al.* 2001b) and Cleethorpes (Leahy 1986), the latter in association with the discovery of an axe-hammer in the forest bed (see Figure 2.1 for location of the sites). A core has been studied from an inland section of the Outmarsh at Tetney Lock (Long *et al.* 1998), and at Withern, on the edge of the Outmarsh and Middle Marsh, a sequence across the Great Eau has been recorded (Schofield 2001). In the Middle Marsh sequences have been recorded at Butterbump (in a kettle hole adjacent to the barrow cemetery) (Greig 1982, Lillie and Gearey 2001a) and Aby Grange (Suggate and West 1959). The sequence at Aby Grange only provides a Late-glacial record with no Holocene material present. The only real environmental record from the Wolds has been recorded in association with the excavation at Giants' Hills 2 long barrow. Molluscan analyses provide information relating to the development of the vegetation on the Wolds (Evans and Simpson 1991).

The work of the Humber Wetlands Project added only limited data to the pre-existing environmental evidence, as the majority of the coring locations investigated would appear to have been heavily re-worked during the Holocene, and very few organic deposits were encountered (Lillie and Gearey 2001a). This can be clearly seen from the coring transect excavated across the Great Eau valley, 3 km to the north-west of that undertaken by Schofield (2001). This transect revealed no organic deposits in its 1 km length, unlike that recorded at Withern (Lillie and Gearey 2001a). One location that was studied in more detail by the Humber Wetlands Project was that of the kettle hole next to the Butterbump Bronze Age barrow cemetery, originally studied by Greig (1982). However, at this location uneven pollen preservation precluded the recovery of a full environmental sequence.

The one site mentioned above, where a more complete sequence of Holocene development has been obtained, is that at Withern (Schofield 2001). This is discussed in more detail below as it provides an overview of changing vegetation in the immediate region, and considers the evidence for human impact on this landscape.

Schofield (2001) has suggested that lime (*Tilia*) dominated woodlands were often succeeded by a mixed alder and oak woodland, to be replaced by alder fen carr as the region became wetter. This was due to paludification, with water tables rising due to the rising sea-level and ponding back into the Middle Marsh area. The alder carrs were then replaced by reedswamp, followed by saltmarsh as sea-level transgression occurred. This resulted in an unvegetated or fully marine environment. Local variations to this model were also identified (Schofield 2001).

This sequence of vegetation succession was supported by pollen analysis of two cores taken from the Great Eau at Withern. Combined with a radiocarbon dating programme, this investigation has helped to elucidate the nature of the vegetation in the zone between Outmarsh and Middle Marsh and also the vegetation development along one of the few river channels in the region. This vegetation succession is summarised in Table 2.1 (Schofield 2001).

2.4 Archaeological background

Previous archaeological work in Lincolnshire had shown a bias towards the higher ground of the Lincolnshire Wolds. As has been highlighted above, even the early topographic writers have largely ignored much of the Lincolnshire Marsh zone. The work of Phillips in the 1930s was the first to assess the potential of the archaeology. The following sections provide a brief introduction to the main archaeological sites and finds from the current study area, and an introduction to the survey and excavation work that has been conducted to date. Further analysis of the interpretation and significance of the evidence will appear in Part 3 of the thesis.

LPAZ	Calibrated date BP	Wetland vegetation	Dry land vegetation
GE1	Pre-11,000 *Late-glacial*	Peat formation, selaginella selaginoides (moss), includes plants of poor fen uplands and upland grasslands	Poorly vegetated and open. Small strands of birch-pine woodland with possible juniper (*Juniperus communis*). Ground cover of grasses and ruderal herbs
GE2	11,000-10,150	Moss community disappears succeeded by fen carr including willow (*Salix*) and birch with ground sedges and grasses. Increase in *Sphagnum* occurring in patches rather than full cover. Possible small streams in the floodplain	Birch-pine woodland dominate the dry land landscape
GE3	10,150-9800	Primarily *Sphagnum*, ferns and grasses. Reduction in willow and beach and increase in pine	Appearance of hazel (*Corylus*) as possible shrubs growing in birch-pine woodlands
GE4	9800-8400 *Mesolithic*	*Sphagnum*-dominated poor fen disappears, increase in hazel and elm (*Ulmus*) - development of hazel-elm woodlands implying the drying out of the land surface	Arrival and expansion of elm, replacement of dry birch-pine woodlands by elm-hazel woodlands with ivy (*Hedera helix*) and bracken (*Pteridium aquilinum*) under storey
GE5	8400-5350 *Mesolithic to Early Neolithic*	Appearance and rapid increase in alder suggesting that soils are becoming wetter – rising sea-levels causing water logging. Increases in mineral content and charcoal may indicate flooding and burning which may have aided the alder growth	Expansion of lime dominant woodland
GE6	5350-5000 *Neolithic*	Alder fen carr remains dominant with a change from peat to silty clay as a result of ponding back of freshwater discharge	Fall in elm signifying the Elm Decline. General decline in all tree pollen possibly suggesting Neolithic land clearance but no evidence for openings in woodland, so possibly due to increase flooding or increasing size of the wetland
GE7	5000-3750 *Neolithic to Bronze Age*	Open vegetation communities found in or close to coastal environments – positive sea-level tendency	Oak becomes dominant, replacing lime which may have been cleared to provide agricultural opportunities
GE8	3750-3600 *Bronze Age*	Alder fen carr re-established with suggested fall in sea-level	Oak dominated woodland continues

Table 2.1: Summary of the local pollen assemblage zones (LPAZ) identified at Withern (after Schofield 2001)

LPAZ	Calibrated date BP	Wetland vegetation	Dry land vegetation
GE9	3600-3250 *Bronze Age*	Fen carr replaced by reedswamp with pollen from saltmarsh communities present – positive sea-level tendency. Towards the end of the zone alder fen carr increases again suggesting negative sea-level tendency	Oak-hazel woodland with evidence of thinning of the woodland possibly through clearance. Cereal-type grains are recorded (oats and/or wheat)
GE10	3250-2800 *Bronze Age*	Alder fen carr remains stable until 2900 BP when another period of positive sea-level is indicated	Hazel replaces oak and further cereal-type pollen suggests further deforestation
GE11	2800-2500 *Bronze Age to Iron Age*	Poorly vegetated and frequently inundated with a gradual increase of saltmarsh communities	Problems with pollen record but signifying open areas
GE12	2500-1600 *Mid Iron Age to Late Roman*	Saltmarsh and reedswamp communities replaced by fen carr – negative sea-level tendency	Very open environment free from woodland with pastoral and arable farming. A single pollen grain from a grape vine suggests possible grape cultivation
GE13	Post-1600 *post-Roman*	Willow dominated fen carr suggested post-Roman abandonment	Partial regeneration of oak-hazel woodlands, but cereal also still recorded
GE14	Post-1600 *Medieval*	Re-establishment of sedge-dominated fen communities	Open grassland with near absence of trees and shrubs with continued cereal pollen

Table 2.1 cont: Summary of the local pollen assemblage zones (LPAZ) identified at Withern (after Schofield 2001)

2.4.1 Mesolithic

On the whole, Mesolithic evidence from Lincolnshire is rare (Membery cited 2004a). Mesolithic flints were uncovered during the excavation of the Anglo-Saxon barrow in Burgh le Marsh, and the finds inventory included several microlith cores and flakes (Phillips 1933). A Mesolithic flint core discovered in Louth was recovered from a depth of 3.3 m below the ground surface, highlighting the deeply buried nature of the prehistoric deposits within the region as a whole, and not just in the areas heavily affected by sea-level change along the coast, but also areas further inland which have also been affected by the deposition of Holocene deposits (Wymer and Bonsall 1977).

2.4.2 Neolithic

The majority of evidence for Neolithic activity in the region is in the form of burial activity. The overall pattern of Neolithic burial in Lincolnshire follows that of many other areas of Britain. Numerous long barrows have been recorded, all situated on the high ground of the Wolds. This initially led to the assumption that settlement was also concentrated in these areas (May 1993a), but recent study has suggested that the long barrows had been placed where they could be seen from the lowlands, on the skyline, thereby suggesting settlement in the lower-lying areas (Jones 1998a). Pollen analysis from different areas of the Middle Marsh and Outmarsh suggests that this area was still heavily wooded during the Neolithic, so the extent of settlement is not known. Palynology carried out in conjunction with the excavations of the Bronze Age barrows at Butterbump (see section 2.4.3) revealed little evidence of human activity in samples dated to the Early Neolithic period, which suggested that the 'forest cover here seems to have been very nearly in its primeval state' (Greig 1982: 13).

The earliest work on the long barrows of the Lincolnshire Wolds was undertaken by Phillips (1932a, 1936) who identified eleven upstanding barrows, noting that two had been destroyed and that there were a further two possible examples. Long barrows were first suggested to be located on the Lincolnshire Wolds by Crawford in 1924, a relatively late date for the first identification, again reflecting the absence of any great antiquarian work in the area. This situation contrasts markedly with the

Yorkshire Wolds and the work of individuals such as Mortimer and Greenwell (Phillips 1932a).

Phillips' early work on the barrows identified two separate groups and two outliers (Phillips 1932a). The northernmost group included the barrows at Cuxwold, Ash Hill and Hoe Hill, surrounding the Waithe Beck. The southernmost group is located on the south-eastern edge of the Wolds, and includes barrows at Claxby and Skendleby. The two outliers are located in the central area of the Wolds between these two groups. Phillips (1932a) also noted that the majority of the barrows were closely associated with water, with the outlier at Tathwell being the only barrow to be any distance from a water source.

In order to investigate the nature of the Lincolnshire long barrows fully, and to compare them with the examples previously excavated on the Yorkshire Wolds, Phillips (1936) excavated Giants' Hills 1, Skendleby. Located at the southern end of the Wolds, this barrow overlooks the Lincolnshire Marsh. It is one of a cluster at this southern end, which is the greatest concentration of barrows on the Lincolnshire Wolds. Four months of investigation were undertaken during 1933 and 1934, resulting in the complete excavation of the barrow (Phillips 1936). The excavations revealed that unlike the long barrows of Wiltshire, where flanking ditches had been uncovered, those on the Lincolnshire Wolds appeared to have outer ditches which could be linked, forming enclosures around the barrows (Phillips 1932a, Jones 1998a). The barrow construction was also lacking any stone, with a range of timber posts and possible fences being uncovered during the excavations (Figure 2.9).

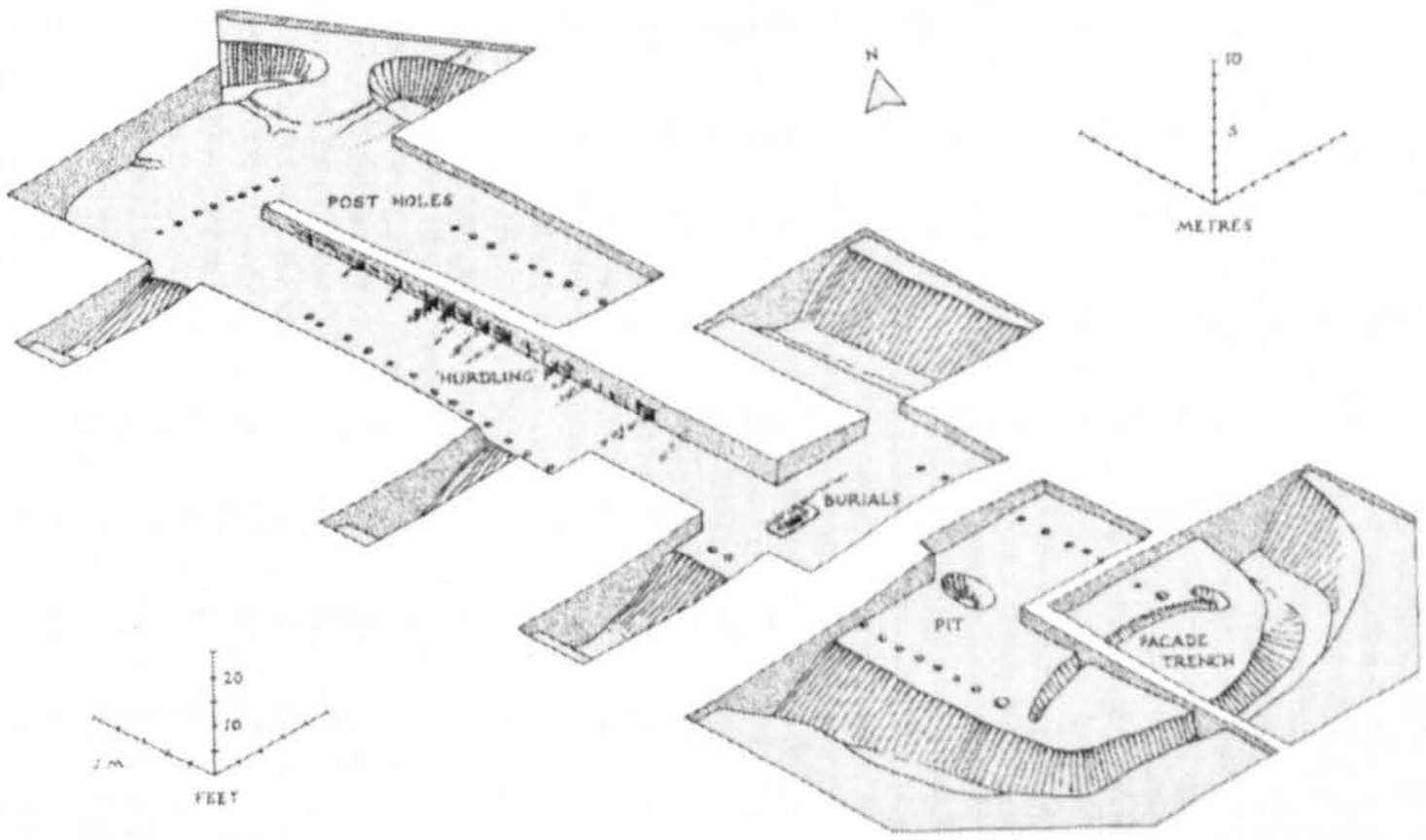


Figure 2.9: Isometric view of Giants' Hill 1 long barrow (May 1976: 47, Figure 24)

Total excavation of the adjacent barrow at Giants' Hills 2 was undertaken during 1975-76 due to plough damage (Evans and Simpson 1991). These excavations revealed two phases of mortuary activity at the site, beginning with a timber façade and a mortuary area defined by two split tree-trunk posts, dated from 4250-3700 cal BC (OXA-642) and 3980-3620 cal BC (CAR-822) (Evans and Simpson 1991). At some time around 3600 cal BC the façade was burnt, at least three individuals were placed on the ground in the mortuary area and the mound was constructed. Mollusc evidence from the pre-barrow surface and ditch fills has enabled a pattern of local activity to be established. There is evidence for clearance of the landscape and cultivation before the first phase of barrow activity. During the use of the monument there is little evidence for cultivation in the area, and a phase of later Neolithic re-use after the construction of the mound, indicated by pottery in the ditch fill, suggests that the area was, by then, covered with secondary woodland. This woodland therefore may have blocked the visibility of these monuments from the lowlands in the later periods of use. A short period of woodland clearance and cultivation occurs alongside evidence of Beaker period activity, but this is followed by further abandonment of the landscape with evidence for grassland, with no evidence for grazing. This situation continued into the Iron Age until evidence for the cultivation of the area was seen again in the Roman period (Evans and Simpson 1991).

Since the seminal work of Phillips, much work has been undertaken on the analysis of aerial photographic evidence for the region. This has revealed a wide variety of sites and dramatically increased the number of possible long barrows, by the discovery of many ploughed-out examples of cropmark enclosures (Jones 1998a). The majority of these enclosures have been identified from the enclosure ditches (Jones 1998a). In total 56 cropmark enclosures were identified in Lincolnshire, the majority of which were located on the Wolds, but this distribution has been affected by the variety of soils in the county, the availability of aerial photographic cover and the impact of no-fly zones around the commercial and military airfields in the region (Jones 1998a). Even with these factors considered, Jones still concludes that the distribution of the cropmarks 'is a reflection of positive and deliberate placement of these funerary monuments in more upland areas during the Early Neolithic period.' (Jones 1998a: 91).

Analysis of the distribution of these newly discovered sites supplements the work of Phillips by highlighting the clustering of monuments around the main water courses on the eastern side of the Wolds, namely the Waithe Beck, Great Eau and Fordington Bottoms (Jones 1998a).

Analysis of these cropmark enclosures reveals that they have similar dimensions to the extant examples of long barrows within the region, as well as similar topographic settings. Jones concludes that 'the long barrow interpretation is appropriate for the majority' of the cropmark enclosures (1998a: 98).

The most numerous Neolithic finds from Lincolnshire are stone axes, the distribution of which suggests that many areas of the county were being cleared for farming. Although the number of axes from the Marsh itself is low, this may be a consequence of the deep burial of prehistoric land surfaces as opposed to a lack of artefacts (May 1993a). However, this assertion needs to be considered alongside the pollen evidence presented above, which suggests that there is little evidence of woodland clearance on the Lincolnshire Marsh during the Neolithic. All finds of axes from the Marsh have been made in disturbed contexts - either on the beach or on cultivated land, and include stones axes from Skegness (Wilson 1970) and an axe-hammer from Fulstow (Whitwell 1966).

2.4.3 Bronze Age

> 'whatever may have been the situation in the Neolithic period the Wolds do not seem to have carried much population in the Bronze Age, the newcomers contenting themselves with the slopes and lower ground, and living in close relationship to the rivers.' (Phillips 1932a: 180).

Evidence for the Late Neolithic to Bronze Age transition comes in the form of discoveries of sherds of Beaker pottery. Sherds from a Beaker were uncovered in 1894 whilst digging a hole for a post, from an area known as Beacon Hill in Grainthorpe. The pottery has been identified as Clarke's final South British group (White 1979). A further Beaker burial has been discovered on the edge of the region at Claxby. The barrow was excavated in the 1920s during quarrying activity and a crouched inhumation burial was uncovered with Beaker pottery of Southern British

group in association (Marjoram 1974). Beakers of the Southern British group are often seen as 'later beakers' and as such usually belong to the Bronze Age (May 1976). Since Clarke's initial classification of Beakers, there has been some debate on the dating and regional groupings of the Beakers, but no real progress has been made in this field of research (Gibson and Woods 1997). Beaker pottery was also recovered from a pit at Well, excavated during development work ahead of a new water main (Field and George 1994).

From his work, initially on long barrows, then on the distribution maps produced in 1933, Phillips concluded that the majority of prehistoric settlement activity was located close to the rivers, particular in the Bronze Age (Phillips 1932a, 1933, 1934). Finds of individual stone implements continue into the Bronze Age. An axe-hammer recovered from the sunken forest bed on Cleethorpes beach was dated to the Bronze Age, as it was possible to obtain a radiocarbon date from the axe haft of 1940-1450 cal BC (OXA-130) (Leahy 1986). A number of other axe-hammers and battle axes have been found at a variety of locations within the Marsh, including Alvingham and Alford.

When compared with the rest of Lincolnshire, the Marsh has little evidence of Bronze Age metalwork (Davey 1973). However, evidence from find distributions has confirmed that the pattern of settlement in the Bronze Age was concentrated around the river valleys, particularly those of the Rivers Trent, Ancholme and Witham (May 1976). May (1976) also suggests that the apparent absence of settlement in the Marsh may be more to do with the later sedimentary history of the region which sees a marine transgression followed by regression occurring in the Bronze Age, depositing alluvium over any evidence for occupation.

Bronze Age ritual activity within the wetland zone is represented by the presence of round barrows, including the cemetery at Butterbump. Cemeteries of round barrows are not unusual in Lincolnshire, and a number have been identified in wetland contexts, such as along the River Witham at Barlings (Everson and Stocker pers. comm.). However, the cemetery at Butterbump is the only firmly identified site within the current study region, although a concentration of barrows occurs around

Cleethorpes, which may suggest a further possible cemetery. Clusters of ring ditches on aerial photographs may suggest that cemeteries were once more common.

Butterbump is situated on a small area of glacial sand and gravel in the Middle Marsh, and a possible total of eleven round barrows have been located, surrounded by an elongated area of wetland (Figure 2.10). Field walking in the area of the barrows has also identified extensive evidence of Mesolithic and Neolithic activity (Fenwick *et al*. 2001b). Excavations carried out between 1972 and 1975 investigated one of the barrows and revealed several phases of activity. Although the excavations have not been fully published, an early barrow phase was identified consisting of an irregular turf ring with a central cremation burial including a bronze dagger of possible Early Bronze Age date (Fenwick *et al*. 2001b). The barrow was later re-used with the addition of at least seven further cremations, possibly continuing into the Early Iron Age (Fenwick *et al*. 2001b). Analysis of pollen from the adjacent wetland has shown evidence of woodland clearance and an increase in cereal pollen in the area, which is thought to date to the Bronze Age (Greig 1982).

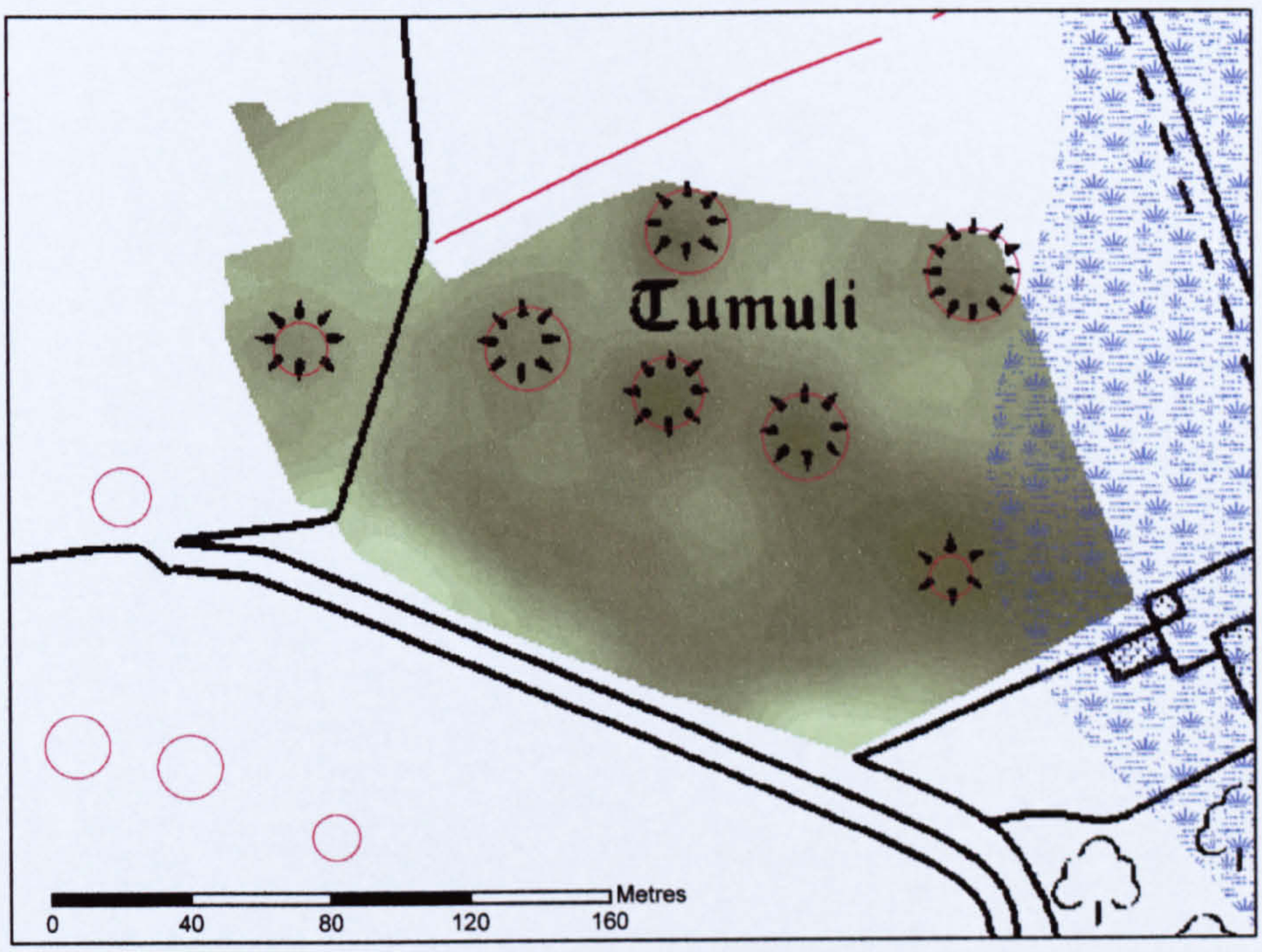


Figure 2.10: Butterbump barrow cemetery showing the outline of the known and possible barrows plotted by the National Mapping Programme (in red), the barrows as plotted by the Ordnance Survey, and the topographic survey undertaken by the Humber Wetlands Project. Ordnance Survey map © Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service

During palaeoenvironmental work carried out by the Humber Wetlands Project, a small trench was excavated in the wetland area adjacent to the barrow cemetery. This excavation revealed evidence for a number of worked wooden stakes, dated to the Bronze Age, suggesting some form of platform or structure in the area of the wetland which is contemporary with the burial activity in the surrounding area (Fenwick *et al.* 2001b).

Further Bronze Age barrows have been identified in the Cleethorpes/Grimsby area, including Beacon Hill, which is within the current study region (Wise 1990). The barrow was excavated in 1935 and a large urn was discovered in the centre. This contained cremated remains along with a further four vessels. Another vessel was discovered 1 m away from the central urn, and is considered to be part of the same burial (May 1976).

The earliest evidence for salt-working in the Lincolnshire Marsh is Bronze Age in date. Revealed during excavations at Tetney, the evidence consists of a natural pool that was utilised to collect seawater after the spring tides, with a fire pit at the edge which suggests that processing was carried out at the edge of the pool (Palmer-Brown 1993). A number of fragments of clay vessels and briquetage were also recovered, and a charcoal sample provided a date of 980-540 cal BC (RCD-1305), placing it within the Late Bronze Age (Palmer-Brown 1993).

2.4.4 Iron Age

Lincolnshire was part of the vast territory of the people known as Corieltauvi. Though lacking large hillforts such as those found in the south of England, Lincolnshire has produced evidence of a number of large nucleated settlements such as Dragonby and Ancaster (May 1984). May (1993b) has suggested that the archaeological evidence for the Iron Age reveals possible major settlements whose distribution suggests a regular pattern of smaller districts and subordinate villages and farms. For the area of the Lincolnshire Marsh, the major settlements are located at Ludford, Spilsby and Ulceby Cross, all located on the Wolds, but whose territory stretches into the Marsh. At Ludford, 64 Iron Age coins have been discovered along with metalwork of possible Iron Age date (May 1984). At Spilsby, scatters of Iron Age material have been recovered from ploughed fields, including 38 coins.

Excavations ahead of development in a number of areas have revealed ditches of Late Iron Age date, suggesting smaller settlements scattered throughout the region.

Just to the north of the current study region, in the area now occupied by Grimsby, there is extensive evidence of Iron Age activity. A number of coin hoards have been uncovered and a small, enclosed settlement has been excavated at Weelsby Avenue (Wise 1990, Fenwick *et al*. 2001a).

There is a near-complete absence of Iron Age burials in Lincolnshire. Phillips (1934) suggested that small ring-ditches seen on aerial photographs in the Skegness area may be ring-ditch burials associated with the Iron Age salt-workers of the region, but these are much more likely to be associated with the salt-extraction process. The absence of excavation of any of the features has not helped clarify the situation.

It has been suggested that prehistoric routeways run along the edge of the region. In particular, Barton Street followed the edge of the Wolds from Barton upon Humber in the north to Alford and possibly on to Burgh le Marsh (May 1976). Although undated, they were probably in existence before the Iron Age.

The most extensive evidence for Iron Age activity in the region comes from the area of Ingoldmells and consists of waste products from the salt-working industry. The early discoveries were those of salterns revealed on the coastline (Grant 1904, Hazzledine Warren 1932, Swinnerton 1932). Archaeological assessment carried out during dyke-cleaning has now identified more than 50 salterns within this immediate area (Kirkham 2001). All of the salterns in this region are buried under a layer of alluvium, and whilst not visible from the ground, they can be seen in section. The evidence from sites such as Hogsthorpe highlights the fact that the salt-working industry in this region possibly began in the Late Bronze Age or very Early Iron Age (Kirkham 1981, 2001). The archaeological evidence for the industry usually takes the form of briquetage 'handbricks' (the roughly made clay supports and vessels) and other burnt and waste material.

2.4.5 Roman

Three Roman roads have been identified within the study area, one running from Lincoln to Burgh le Marsh (Margary 27), and suggestions have been made that somewhere in the vicinity a ferry crossing was used to traverse The Wash (Phillips 1932b, Margary 1973). An offshoot from this main route has been identified with a road running to Ludford, and then out onto the Marsh (Margary 272), straight to the sea. This route passes through Fulstow and Grainthorpe parishes, forming part of their parish boundaries in later periods.

A third road has been identified running from the Wolds through Grimoldby to the coast at Saltfleetby (Margary 273), although any links with 27 are unclear and some of the conjecture for this road has been based on the evidence of straight parish boundaries. However, in parts there is a recorded raised bank, which may indicate a road surface (Phillips 1934, Margary 1973).

Major settlements have been identified at Ludford (located just outside the current area of study), Ulceby and Burgh le Marsh, with the latter being the only large-scale Roman settlement identified within the area of the Marsh (Whitwell 1993). The majority of Roman evidence for Lincolnshire has been located on the uplands - notably the Wolds and the Lincoln Edge - including the only evidence for villas. The *colonia* at Lincoln forms the centre of activity, with the road system radiating from this central core. Excavations at Ulceby have shown evidence for settlement situated on both sides of the road, with wall foundations and floor surfaces uncovered, and finds from the site have been dated from the first to fourth centuries AD (Whitwell 1970).

There have been suggestions that a sizeable Roman settlement may have been lost to the sea at Skegness (Whitwell 1970). That there has been loss of land at Skegness is well attested, with Leland in the mid 1500s noting that Skegness was 'clene consumed, and eten up with the se' (Smith 1964). The town is also described as containing a castle and being walled. Further evidence to support Roman settlement within the area has been suggested from the presence of lands recorded as 'Chesterland' in Medieval documents, with *chester* being a place-name with Roman connections (Tatham 1911).

A number of other Roman occupation sites have been identified through discoveries of pottery scatters, building material and isolated finds. However, no further archaeological work has been undertaken in order to establish the exact nature of these sites. The only excavation work that has been carried out has been associated with the salt industry which appears to continue in the area. Many of the salterns dating to the Iron Age period continued in use at the beginning of the Roman period, but climatic change seems to have affected the industry, with evidence of marine inundation of many of the sites, and there is little evidence of later Roman salt-working activity.

A considerable stretch of sea defences from Chapel St Leonards, around The Wash has been associated with Roman occupation, and in places is known as 'Roman Bank'. This is a misconception however, and the bank is not Roman in date; the theory was dismissed during the beginning of modern archaeology in Lincolnshire by Phillips (1934). The age of the bank varies depending on location but is thought to be mainly sixteenth century and later in date.

2.4.6 Early Medieval

Unlike the areas of the Wolds and Lincoln Edge, no large Anglo-Saxon cremation cemeteries have been found within the Lincolnshire Marsh. The closest example is from South Elkington, on the Wolds to the west of Louth just outside the current study area. Here over two hundred cremations were uncovered from an area that is estimated to encompass 25% of the cemetery (Webster 1951, Leahy 1993). Leahy (1999) has suggested that the known large cremation cemeteries in northern Lincolnshire are quite evenly spaced and may represent the original folk groups of the initial settlement of the region. He also links this organised burial landscape with central control from the Late Roman command still based at Lincoln. If so, it may be assumed that the area of the Lincolnshire Marsh was not widely settled in the initial period after Roman withdrawal. Burial customs changed to inhumation in smaller, more local cemeteries, but there are still no examples within the Marsh, with the exception of a small number of Saxon burials within Bronze Age barrows and the single supposed Saxon mound burial from Burgh le Marsh. Leahy (1999) also notes that although the evidence suggests that northern Lincolnshire was one of the most intensively settled areas by the Anglo-Saxons, there is evidence for a continued

'British' presence from the recovery of penannular brooches and the preponderance of hanging bowls discovered in Lincolnshire.

During excavations at Cock Hill, Burgh le Marsh in 1933, a suggested Anglo-Saxon inhumation mound burial was uncovered, and this had a late sixth or early seventh century bronze buckle plate in association (Meaney 1964). More recent reassessment of the site has suggested that the mound was a Medieval or Post-Medieval windmill mound and that the Anglo-Saxon finds were re-deposited during its construction (White 1977). Possible re-use of the Bronze Age barrow at Beacon Hill in Cleethorpes was indicated by the discovery of a small Anglo-Saxon pottery vessel during the excavations (Leahy 1993).

A more enigmatic site is suggested from the report that in 1882, armour, shields and swords were uncovered in Candlesby, but no further information is known concerning these finds, although the site has been suggested to be an Anglo-Saxon inhumation cemetery (Meaney 1964, Leahy 1993).

The area of northern Lincolnshire was part of the kingdom of Lindsey. The first documentary references to Lindsey appear in Bede's *Ecclesiastical History* and show that by the 620s it was a separate political unit, being subservient to Northumbria, then to Mercia (Vince 1993). The first record of the extent of Lindsey comes from the twelfth century. This corresponds closely to the pre-1974 Lindsey sections of Lincolnshire (Leahy 1999). Bede also describes Lindsey as a 'prounicia', a term he uses to describe kingdoms elsewhere, and it features in the seventh century Tribal Hidage, with a similar size to other kingdoms (Leahy 1999).

Very little evidence has been uncovered for Early and Middle Saxon settlement within the Lincolnshire Marsh, but more evidence is gradually being revealed for Late Saxon settlement. Evidence is gradually expanding for the presence of Early and Middle Saxon activity with the identification of pottery found in isolated scatters or in ditch fills, but associated structural remains have been lacking. The main settlements from which there is evidence for earlier occupation are those of Holton le Clay, Cumberworth and Huttoft (Sills 1982, Fenwick *et al.* 2001b).

It has been suggested that the village of Holton le Clay is of Late Saxon origin, if not earlier; excavations in the churchyard have revealed pottery of Early to Middle Saxon date and a range of Saxon burials (Sills 1982). The pottery, dating to the seventh century, was found in the backfill of graves, which most likely date from the ninth to early eleventh centuries. In addition sherds of Roman pottery were also recovered from the excavations (Sills 1982). It is suggested that there was occupation dating to the Roman period in the locality, and that the site was occupied before the construction of the Late Saxon church and the burials appeared. This activity would allow for the incorporation of the seventh century pottery in the grave fill (Sills 1982). Analysis of the standing structure of the church confirmed the Saxo-Norman date of the present tower but revealed little further evidence of the Late Saxon church (Sills 1982).

Excavations carried out at the church at Cumberworth revealed the first structure on the site to be a sunken featured building dating to the seventh to ninth centuries, and the pottery from the site expands the occupational evidence in the area to the fifth to ninth centuries (Green 1997). The first evidence for a church occupying the site is a number of ninth to tenth century burials at the west end of the current nave (Green 1997).

Evidence from excavations in two separate parts of Huttoft has suggested that it developed as a polyfocal settlement. Finds include Late Saxon pottery and ditches, but a small collection of Early Saxon pottery has also been recovered, suggesting early settlement in the area (Fenwick *et al.* 2001b).

Recent work investigating finds from metal detectorists is improving the picture of settlement within the region. Although many of the exact locations of finds are kept confidential, notable 'productive sites' have been located within the region for example in the area of 'Louth', 'Alford', and 'near Skegness' (Ulmschneider 2000a, b).

A number of finds of Anglo-Saxon coinage have been made across the area including that of a hoard from Tetney discovered in 1945. The hoard, placed in an urn, included 420 silver coins and is suggested to have been deposited *c.* AD 970.

The coins included 417 from the mints of the kings of England (Eadred, Eadwig, Edgar) and three of the Viking kings of York (Eric, Anlaf Sihtricsson and Elangerht) (Blackburn *et al.* 1983). A late tenth century mint is known to have existed at Louth, although there is little evidence for the nature of the Anglo-Saxon settlement in the area of the town (Stafford 1985).

Late ninth century Scandinavian influence is shown by place-names, names of people recorded in documents, names of moneyers on coins produced in Lincoln, and material culture (Vince 1993). Lincoln was one of the five boroughs of the Danelaw, and as such evidence of Anglo-Scandinavian occupation within the local area would be expected (Leahy and Paterson 2001). A small number of metalwork finds have been recovered from the area of the Lincolnshire Marsh, but not in large enough quantities to help elucidate the nature of the Anglo-Scandinavian influence in the area. The best evidence for an influence comes from place-names, with several examples occurring within the Lincolnshire Marsh. The parish division within the county seems to reflect a pattern of landholding which is established, at the latest, by the tenth century (Vince 1993).

Evidence for Anglo-Saxon salt-working has, until recently, been absent from the Lincolnshire Marsh. However, during the Humber Wetlands Project a saltern site was discovered at Marshchapel. At this location a number of pits and channels were uncovered with associated pottery dated to the tenth to twelfth centuries (Fenwick *et al.* 2001b). Any evidence for earlier Anglo-Saxon salt-working on the Lincolnshire Marsh has yet to be uncovered.

Some time between 1016 and 1086 Lindsey was merged with Kesteven and Holland to form the county of Lincolnshire, as the Domesday Book records all these areas within the county (Platts 1985).

2.4.7 Medieval

Medieval villages in the Marsh developed in many areas as daughter settlements to the earlier communities on the adjacent higher, drier areas (Owen 1975, 1984). These new villages themselves often generated additional new settlements. Some of the daughter villages may have originated as seasonal settlements, as indicated by

place-names such as Somercotes (summer huts) (Owen 1984). Deserted villages are rarer on the Marsh than the neighbouring Wolds, but do occur as a result of settlement shift and depopulation. This is most noticeable at Skidbrooke, which is now visible as an isolated church (Fenwick *et al.* 2001a). Earthworks and aerial photographs provide evidence for the shrinking or shifting of occupation at many of the sites of current villages.

The agricultural regime of the region saw each township having a share of the available resources. This often consisted of good arable land close to the village, with the land beyond used for hay meadow, and finally the lowest and least drained land being exploited for common pasture (Fenwick *et al.* 2001a). This arrangement persisted until enclosure began. In many areas of the Marsh this enclosure occurred in the seventeenth century, but some areas maintained their open field patterns until the Parliamentary Enclosures of the late eighteenth and early nineteenth centuries (Fenwick *et al.* 2001a).

Havens along the coast facilitated trade, and unlike the inland market centres, which seem to have acted as more local trading centres, the havens had connections with a much wider area. Havens that are recorded as being used as ports include North Coates, Marshchapel, Grainthorpe, Saltfleet, Saltfleethaven and Wilgrip Haven at Theddlethorpe (Fenwick *et al.* 2001a). The main town within the Lincolnshire Marsh is Louth, but a number of smaller towns are in evidence, and some places were granted markets and fairs in the Medieval period, these included Burgh le Marsh, Great Carlton, Mablethorpe and Saltfleetby.

Two motte and bailey castles were erected in the Marsh, possibly located to control the waterways - Tothil on the Great Eau and Castle Carlton on the Long Eau. Castle Carlton consists of a motte and two baileys enclosed within a wide circular ditch. A market charter was granted in 1275 but no town developed (Fenwick *et al.* 2001a). A number of moated sites are also present within the Lincolnshire Marsh. Some villages on the edge of the Middle Marsh, have moated sites, such as Fulstow, Cockerington, Manby and Withern, and these possibly acted as the residences from which further exploitation of the wetter areas of the Marsh occurred (Fenwick forthcoming). Further moated sites are located within the area between Saltfleetby

and Mablethorpe and these may reflect the subsequent colonisation of this part of the Marsh (Fenwick *et al.* 2001a, Fenwick forthcoming).

Several monastic centres grew in the Marsh, including those at Louth, Covenham, Humberston, Legbourne, Alvingham, Greenfield, Hagnaby and Markby. Apart from the major house at Louth, most of these monastic sites remained as small rural communities, and no substantial standing masonry is visible at any of the locations.

No extensive archaeological work has been carried out on the Medieval features and sites of the Lincolnshire Marsh. To date, the most extensive archaeological investigations have been conducted with the aid of aerial photography (Grady 1998) and the most notable feature of the Medieval landscape is the remains of the Medieval salt-working industry.

Although no excavations have been carried out on the salterns within the northern area of the Marsh, they are clearly visible on aerial photographs and through the analysis of the historic landscape. Excavations to the south of the Marsh, and the careful study of documentary sources, have provided an overview of the techniques of salt-extraction which created the saltern mounds (see below).

2.4.8 Processes adopted for salt production in Lincolnshire

The earliest evidence of salt-working in the study area, from Tetney, suggests that the Bronze Age salt-workers utilised a natural shallow hollow on the saltmarsh (Palmer-Brown 1993). After the spring high tides, the hollow would fill with water (Figure 2.11), which would be left to evaporate, leaving a salt scum on the surface. The scum was then heated and washed through with saltwater to separate the clay from the salt in order to produce a strong salt brine. The brine would then be boiled on hearths on the edge of the pool to obtain salt.

No full-scale modern excavation has been undertaken on any of the Iron Age salterns from the Lincolnshire Marsh. The extensive evidence for Iron Age and Roman salt-working from the Lincolnshire Fens has suggested that a hearth was placed in a pit dug into the ground, lined with clay, and an oven structure constructed of wet clay (Morris 2001). The oven would be used to heat an evaporation trough, initially constructed of clay, although there appears to be a change to lead pans at some point

during the period. The troughs were supported over the ovens by a number of clay supports and saltwater could then be boiled in the troughs (Figure 2.12).

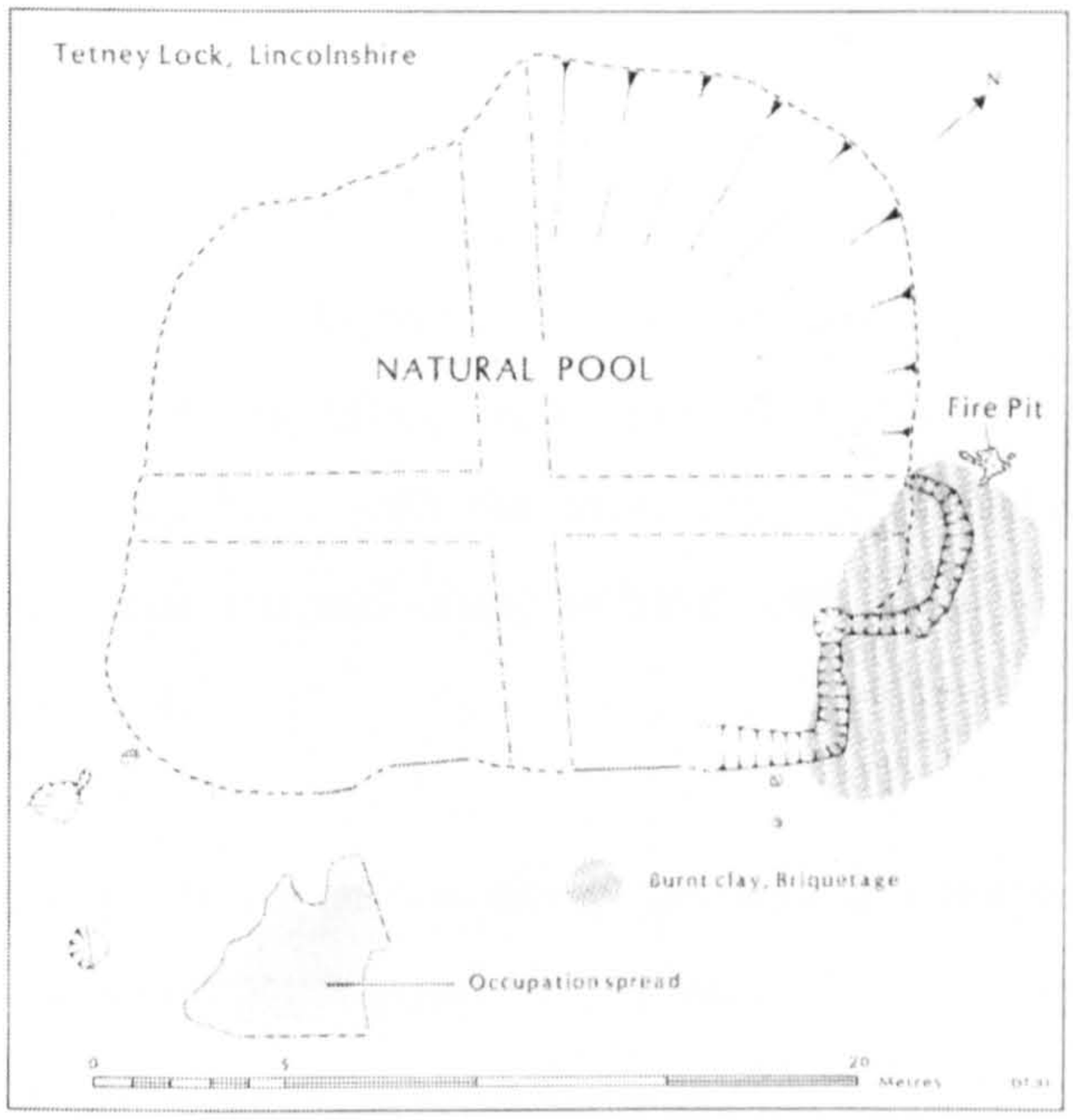


Figure 2.11: Plan of the excavations at the Tetney saltern (Palmer-Brown 1993: 143)

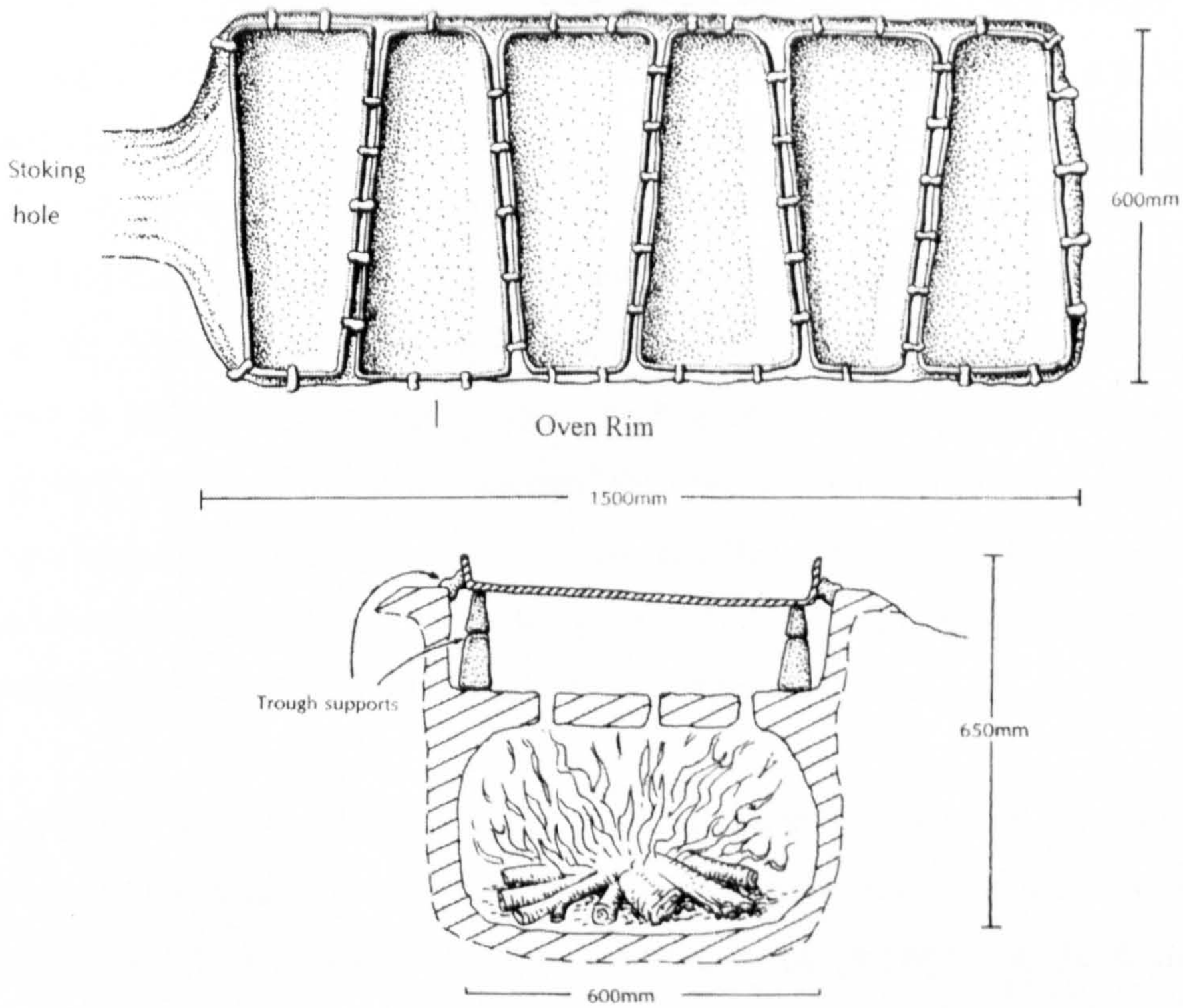


Figure 2.12: Schematic reconstruction of an Iron Age/Roman saltern based on the evidence recovered from Ingoldmells beach (Crosby 2001: 421, Figure 133)

The reconstruction of troughs discovered on the beach at Ingoldmells suggests that the pans used in the Lincolnshire Marsh differ from those used in the Fenlands. The Ingoldmells troughs lack any firm dating evidence although they have been seen as transitional Iron Age/Roman in date (Crosby 2001). They are shallow, trapezoid-shaped with a flat base, which would allow them to be placed over a rectangular hearth in a herringbone pattern (Figure 2.12). No evidence has been found within the Lincolnshire Marsh for settling pits or any other associated channelling structures. As such any activity concerned with the processing of the saltwater is unknown, although examples of such pits and channels have been found at several sites in the Fens (Lane and Morris 2001).

Little evidence for Anglo-Saxon salt-working has been discovered, however, the site at Marshchapel, excavated by the Humber Wetlands Project, provides an indication of the techniques in use at the end of the period (Fenwick, H. 2001). What would seem to be suggested from the excavated remains is a form of salt production more similar to that of the preceding Roman period than to that of the subsequent Medieval period. The evidence for channelling of water and possible storage tanks would suggest a method of boiling the seawater more akin to the open-pan processes discussed above. This would suggest quite a dramatic change in the salt production method by the time of the Medieval industry in the Marsh. Solar evaporation is the other method that uses storage tanks, but these are usually shallow, a feature which is not seen at Marshchapel. During the excavations of the Medieval salterns at Wainfleet St Mary, filtration units were found which consisted of a shallow clay-lined pit with a sloping bottom that allowed the brine to drain off into a vat (McAvoy 1994). At Marshchapel there is no evidence that the clay-lined pits excavated had sloping bottoms or any means of allowing the liquid to flow out, therefore it would seem that these features cannot be interpreted as filtration units.

Baked clay was also found in the excavated features at Marshchapel. Much of this material occurred as amorphous lumps, but some pieces were quite substantial and of a distinctive form. Two different forms appear to be present - a flat-bottomed cylinder type, and a more wedge-shaped piece. No complete pieces were recovered, which makes it difficult to infer their usage, but on the basis of their form they may have acted as some type of support. The fabric from which they were constructed is

of a high quality with only a fine tempering of sand, unlike the briquetage from the preceding periods which was heavily tempered with a range of organic components. The pieces from Marshchapel also seem to have been well made, with more care taken over their production. Little evidence for burning was recovered from the area of the Late Saxon features so the next stages of processing involved with salt production are unproven, but probably involved some form of boiling.

From the available evidence it would appear that seawater was being channelled into various storage pits at the site (Figure 2.13). In another area of the site it was probably being boiled to produce salt using a method akin to the open-pan process. The pans have been lost, and the possibility that lead pans were being used could mean that these items were likely to have been re-used and not discarded. The pans may have been raised up on the clay supports recovered from the excavations. Alternatively the supports may have been used in a process more akin to the filtration process seen in the Medieval period, supporting wooden trays, particularly since there is a lack of evidence for burning.

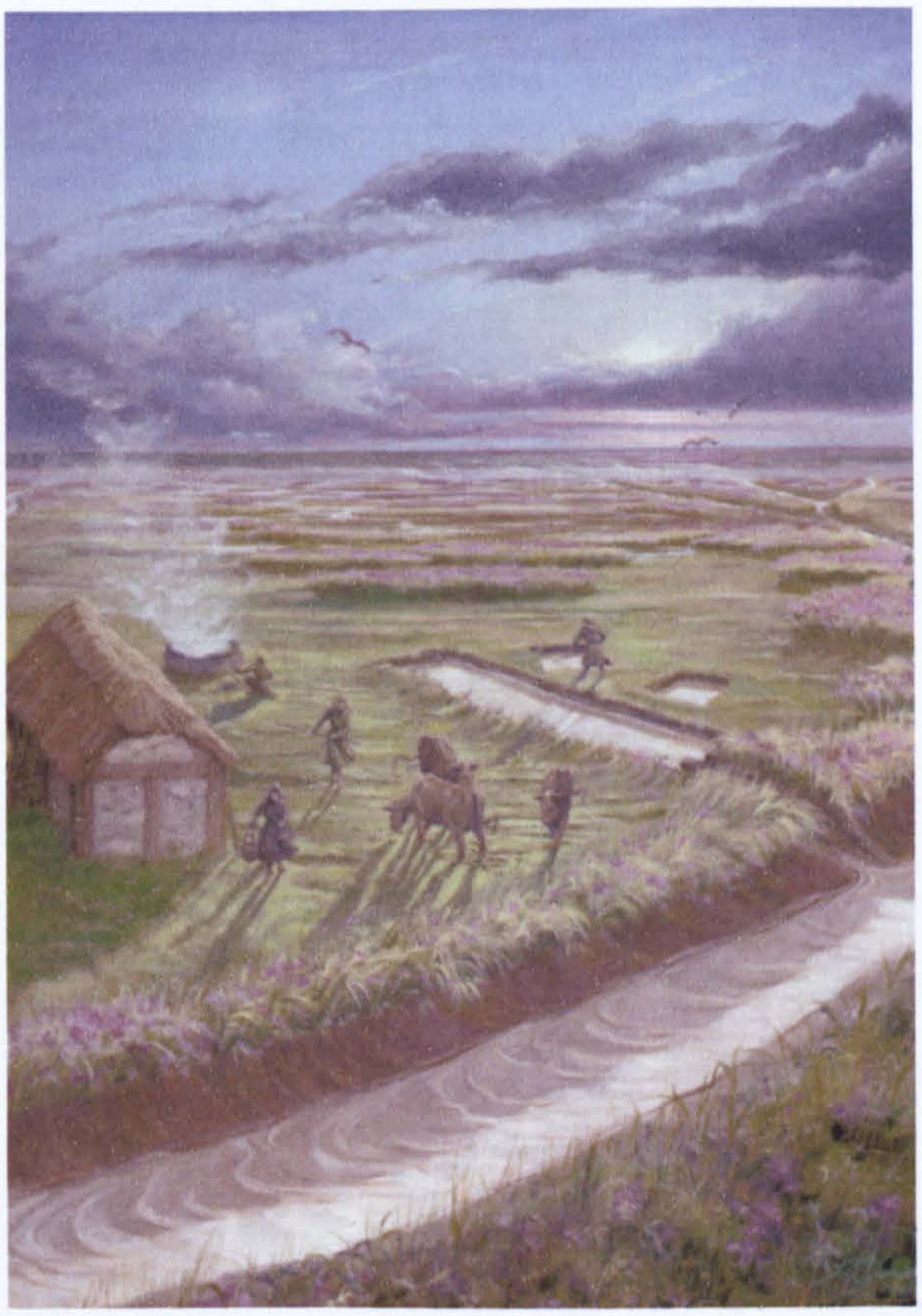


Figure 2.13: Reconstruction drawing of the Late Saxon salt production site at Marshchapel (Ellis *et al.* 2001)

This would suggest a slightly different evolution of the salt manufacturing process in the region. Initially it had been inferred that the change from the open-pan process to the sand-washing method used in later periods, occurred as new techniques of production were brought from the continent by the Anglo-Saxon immigrants (Holden and Hudson 1981). The evidence from Marshchapel would, however, appear to suggest a more complex shift from one method to the other, with a possible hybrid method occurring in the period between open-pan processing and sand-washing. The assumption made by many (including Sawyer 1998), that sand-washing was the technique used at Domesday, now seems not to be the case. As more sites are discovered a more detailed picture will evolve which, on the present evidence, will no doubt highlight a variety of techniques being employed during the Anglo-Saxon and Medieval periods. This is already the case for the Medieval period in the Fenland where, on the basis of the evidence from Parson Drove in Cambridgeshire, an open-pan type of process is suggested. This method is more akin to that of Iron Age salt production, rather than the Medieval sand-washing (Pollard *et al*. 2001).

By the Medieval period the method of sand-washing to produce salt was wide spread through the region. This involved the filtering of salt from salt-laden sand and boiling of the resultant liquid. Three salt-working sites have been excavated - Bicker Haven (Healey 1999), Wainfleet St Mary (McAvoy 1994) and Wrangle Toft (Bannister 1983) - and these show different elements of the sand-washing processes. Only the site at Wainfleet lies within the current study area, but Bicker Haven and Wrangle Toft are located within the immediate hinterland.

At Bicker Haven excavations in 1968-9 revealed a pair of hearths and a small building, with the main period of occupation dated to the fourteenth century (Healey 1999). Spreading out from the hearths to a maximum distance of 10.7 m was a large area of ashy debris (Figure 2.14). Numerous lead offcuts were recovered but only one has been interpreted as part of a boiling pan (Healey 1999). No evidence for filtering was recovered from the site and this activity has been assumed to have taken place at some distance from the boiling process.

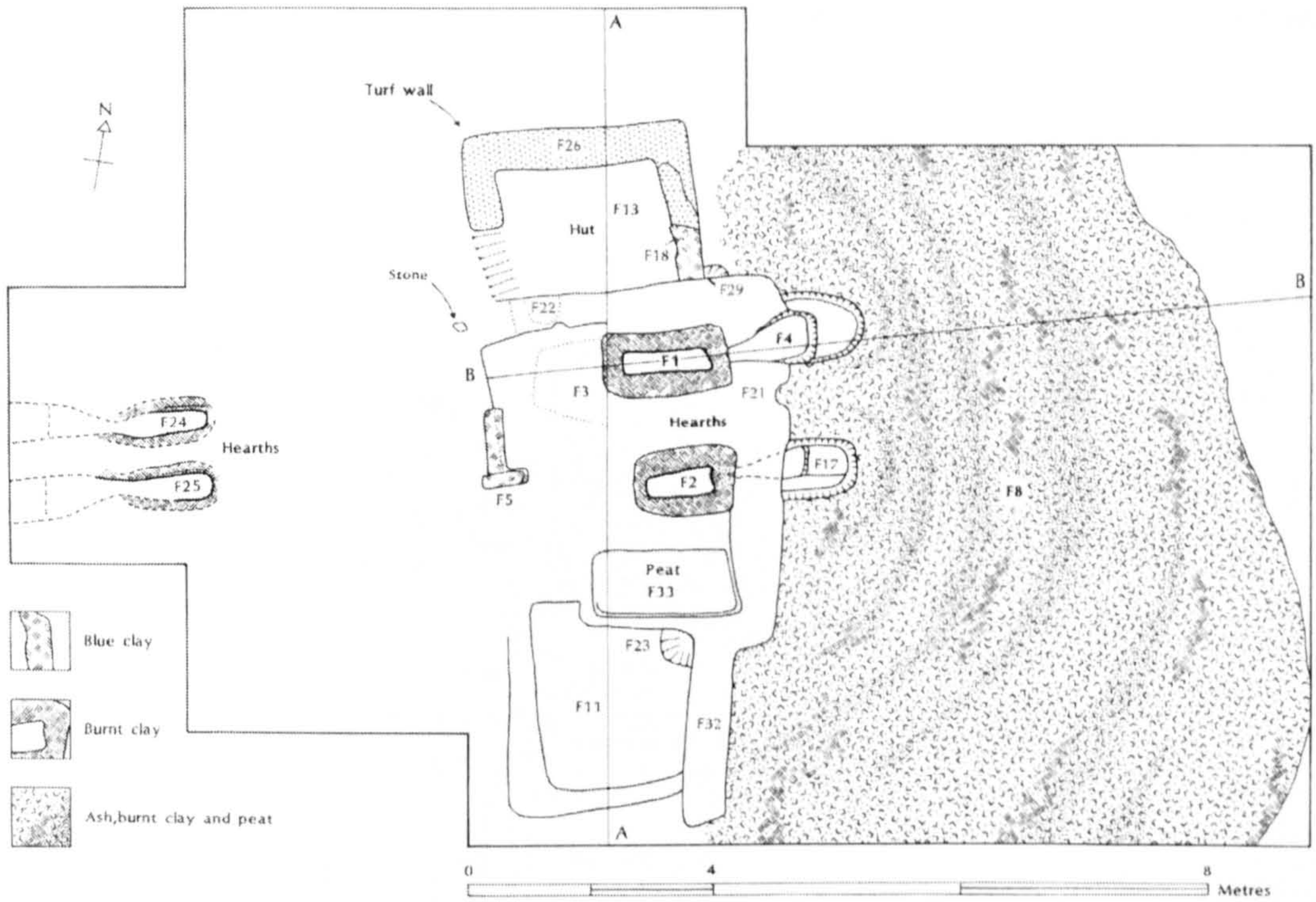
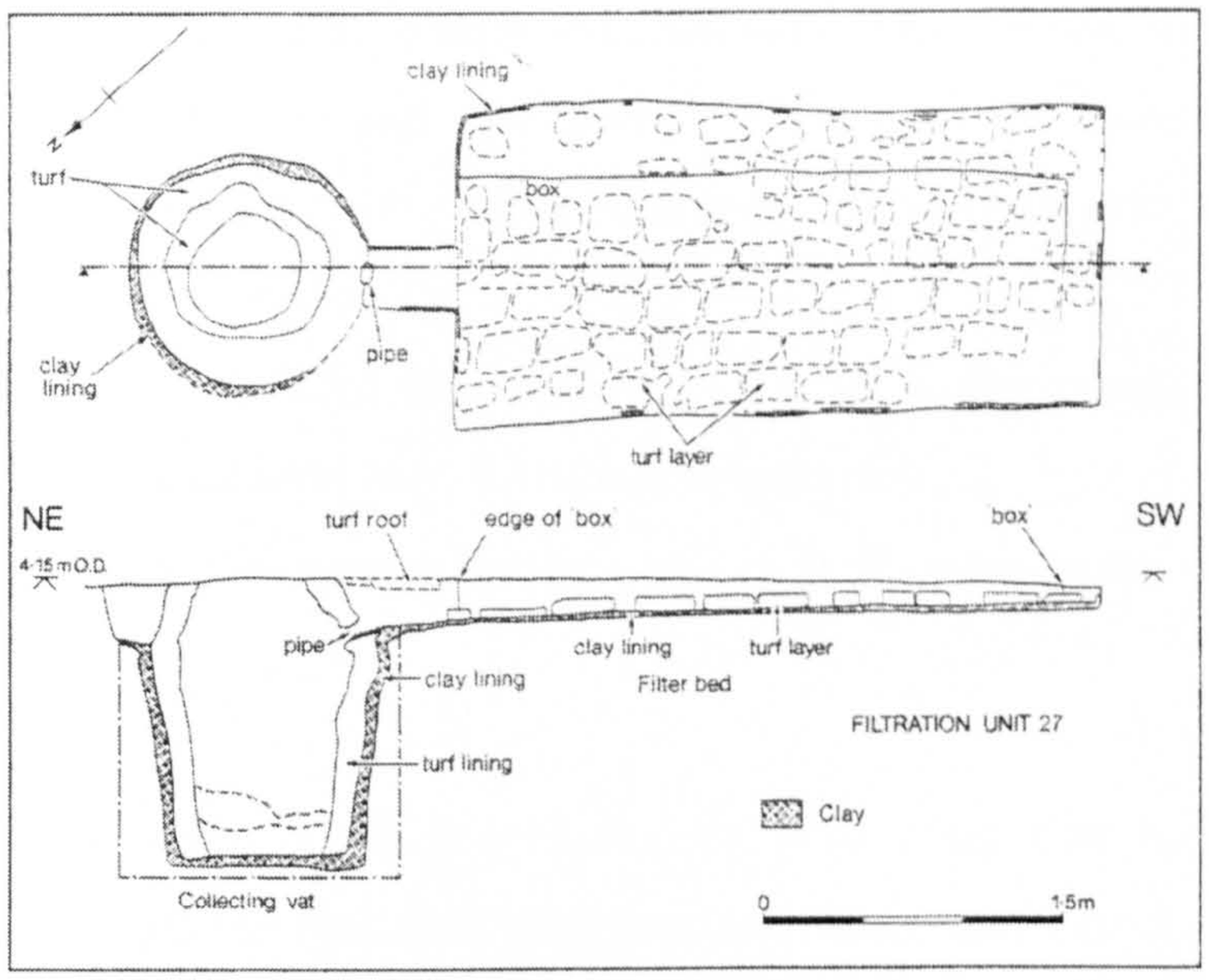


Figure 2.14: Plan of the excavated remains of the Medieval saltern at Bicker Haven (Healey 1999: 87, Figure 59)

At Wainfleet St Mary excavations were carried out in an area of earthworks, prior to a change of landuse from pasture to arable. When compared to the waste mounds seen to the north, the mounds in this southern part of Lincolnshire are smaller and thinner. Excavation of these features revealed that they were concealing filtration units, used to filter salt from the salt-laden sand that had been gathered from the inter-tidal zone (McAvoy 1994). These units consisted of a shallow tank, lined with clay and then turves, which was connected to a deeper vat where the salty liquid was collected (Figure 2.15). Other features discovered at the site were wells or sumps used to collect seawater, and one possible hearth (McAvoy 1994). The main evidence for the boiling of saltwater to produce salt comes in the form of lead offcuts, possibly from lead pans, but this part of the process is poorly represented at the site. The main period of activity was the later fifteenth to early sixteenth centuries.

Small-scale excavations at Wrangle Toft revealed clay-lined pits and a puddled clay platform, with the platform being connected to the pits by a small clay-lined channel

(Bannister 1983). Evidence for the boiling of saltwater took the form of slag-like material recovered during the excavations. Dating evidence is scarce but documentary evidence links activity in this area to the twelfth and thirteenth centuries.



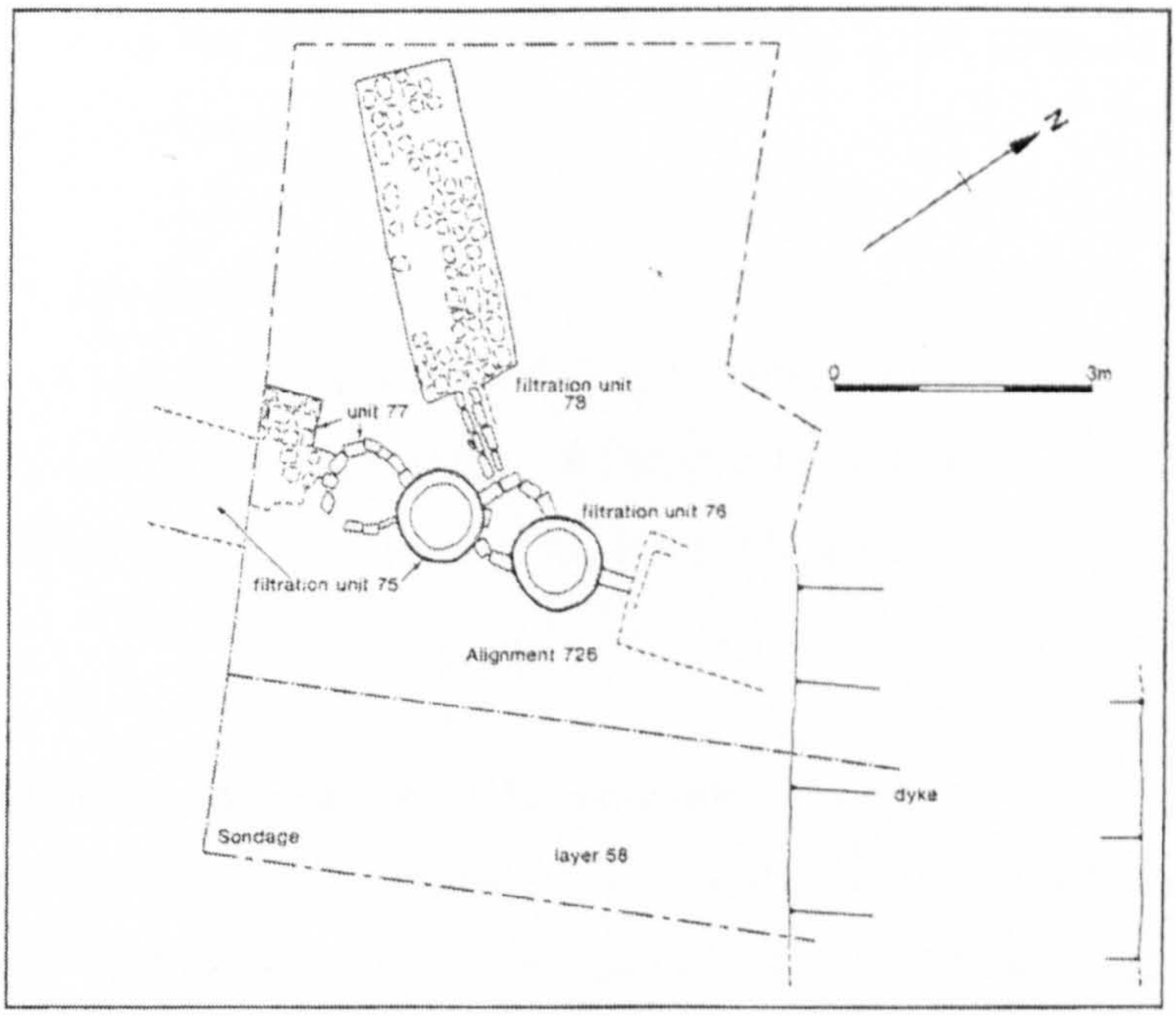


Figure 2.15: Filtration units associated with Medieval salt production excavated at Wainfleet St Mary (McAvoy 1994: 140, Figure 5; 143, Figure 7)

The method of salt production in the Medieval period, as inferred from the above sites and from documentary sources is as follows:

- Sand and silt laden with salt crystals were collected from the coast after spring tides.
- These were taken to an area, often associated with a small building called a salt-cote, where a process of filtration was carried out to separate the salt from the sand. The result of this stage was a salty water and waste material comprising sand and silt.
- The sand and silt were then disposed of close to the processing area, and resulted in the mounds seen in the landscape today.
- The salty water then went through various boiling processes to produce the salt.

A major resource required for this method of production was fuel, although it required less fuel than the open-pan processes seen in earlier periods. It is assumed that peat was the main source of fuel; whilst the local supplies were limited, many of the monastic houses that held rights to salt production on the coast also held turbary rights within the Marsh and further a field.

This method of salt production continued until the sixteenth century when it began to decline due to a number of factors, including European imports and severe flooding, but ultimately due to the appearance of cheaper imports from Scotland (Sturman 1984). The Medieval salt industry is considered in more detail in Chapter 5 (section 5.6.3).

2.5 The developmental zones of the Lincolnshire Marsh

The discussion above highlights the varied nature of the Lincolnshire Marsh. A concept which has been used to study regional variation across England has been that of *pays*. Developing from a French word for regions with their own identity, *pays* have been used to denote areas with similar characteristics, primarily based on physical grounds, but also on a number of other factors including cultural characteristics (Everitt 1985, Rippon 2004a). Everitt (1985) defines eight different types of countryside, which are then representative of numerous different *pays*

throughout England. These are fielden, forest, moorland, fenlands, marshlands, heathlands, downlands and wolds. As such the current study region falls within two of these initial divisions, with the Lincolnshire Marsh itself failing into the marshlands, and the edge of the region located in the wolds category.

Although the region is neatly divisible into three vertical physical zones – the Wolds, Middle Marsh and Outmarsh, it is apparent that these three regions did not develop in the same way for the entire length of the study area, and that there are a number of distinct horizontal developmental zones. As such consideration of the Lincolnshire Marsh as a single *pays* should be avoided, and instead a number of smaller *pays* have been identified. These have already been postulated for the smaller area considered by the Humber Wetlands Project, which highlighted the presence of three developmental zones (Fenwick, H. 2001, 2002). With the extension of the study area within the current study it is apparent there is a fourth zone to the south (Figure 2.16). These zones, although all part of a marshland, do have a number of physical characteristics that differ – such as the coastal processes in evidence and the presence/absence of gravel, sand and till outcrops.

The northernmost zone consists of two near-parallel sets of settlements running roughly north-south. The first line of settlement is situated on the edge of the Outmarsh region, on the 10 m contour, and corresponds to the edge of the till, where it meets the alluvial area of the Marsh. The settlements are recorded in the Domesday Book, and some have earlier origins (Fenwick, H. 2002). In contrast, the settlements in the second line are not mentioned in the Domesday Book and would appear to have developed in a later period. This zone contains extensive evidence for Medieval salt production. Preliminary investigation of this landscape zone indicated initial exploitation of the area for the natural resources, in particular, salt. Due to the amount of debris from this exploitation, the area was then modified with an increase in the amount of land which had been raised above the area of flood influence (Fenwick, H. 2001, 2002).

The second landscape zone stretches from Saltfleet to Mablethorpe. Whilst this area exhibits a similar development to the area to the north, the evidence of landscape change takes a different form. The settlements in many cases are again developments

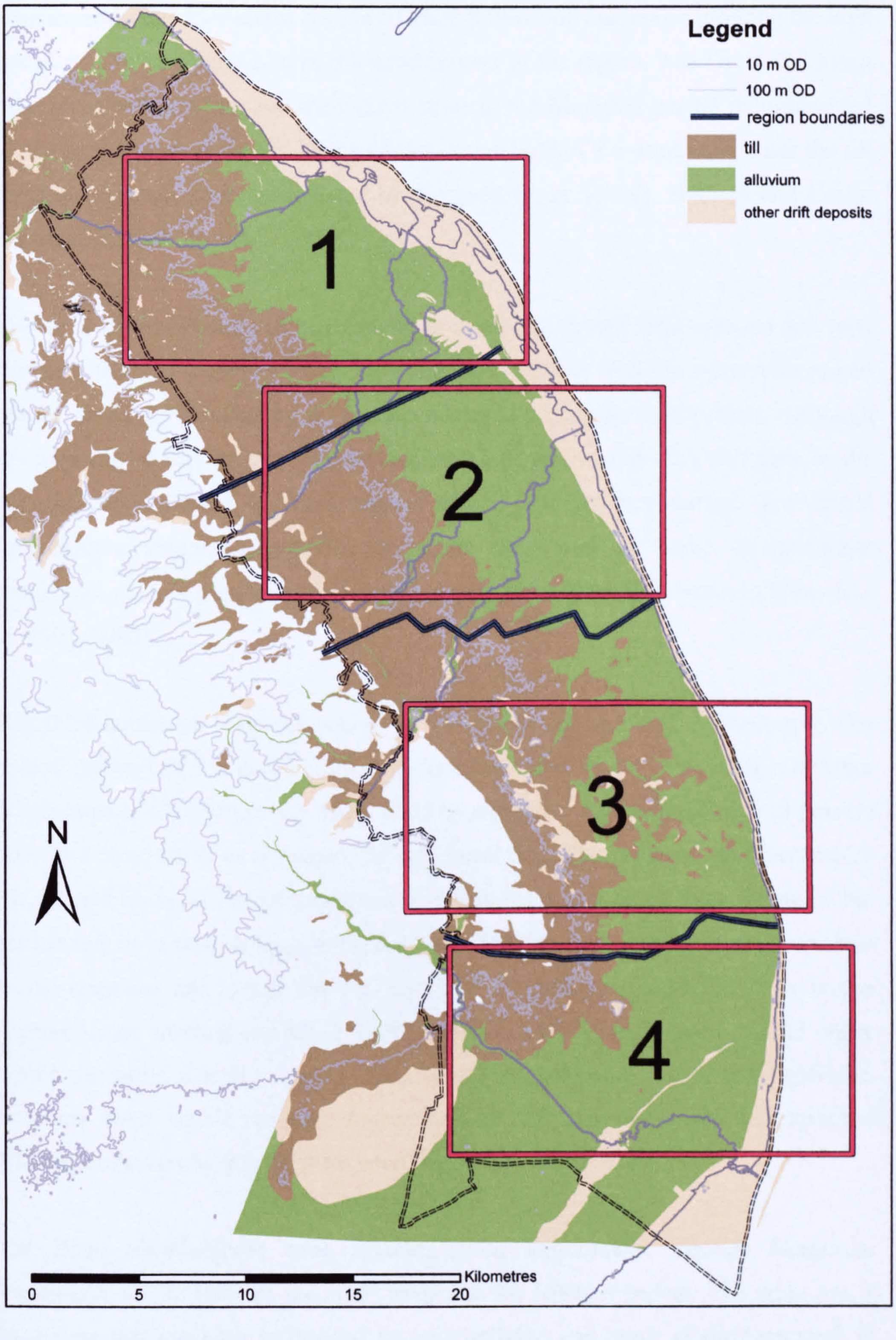


Figure 2.16: Location of the four sample areas discussed in Chapters 6-9. The limits of the four different development zones are shown in blue

from those on the drier areas, but the additional factor of waterways crossing the area has played an important role in the development of the region. The Great and Long Eau traverse the region, and their importance in the Medieval period is highlighted by the presence of motte and bailey castles where both of the waterways enter the till areas and become more constricted by the geology, at Tothill, Withern and Castle Carlton (Fenwick, H. 2001, 2002).

The most striking feature of this zone is its more regimented field systems and road network; the first zone has a very 'organic' field system with the watercourses and marshy areas surrounding the saltern mounds and an irregular field pattern. Although the majority of this more controlled landscape of the second area will date to the later Medieval period, it would appear that it was initiated earlier. The initial investigation suggested that this landscape zone was the result of landscape modification, even transformation with drainage and regular field systems (Fenwick, H. 2001, 2002).

The third landscape zone considered is between Trusthorpe and Addlethorpe. The natural geology of this area is different from that of the other areas, being a mixture of outcrops of till and gravels surrounded by alluvium. The areas of till and gravels provide a more stable environment for settlement than other areas of the Lincolnshire Marsh, and many of the settlements in the region are located on them. Some of the settlements have early origins in the Saxon period. The proximity of the till outcrops to the coastline has meant that the area of tidal influence is smaller than in the regions to the north (Fenwick, H. 2001, 2002). Areas of high, drier ground occur within the wetland zone. These islands of gravels and sands would have provided locations from which the surrounding area of the alluvium could be exploited without habitation having to be focussed within the coastal zone.

The final, southernmost zone stretches from Ingoldmells, through Skegness, southwards to the limit of the study area and the River Steeping. The zone has a large area that has been influenced by tidal activity, and much of the Outmarsh is devoid of settlement. Certain strips of land close to the coast are the result of relatively recent reclamation.

This thesis will explore a sample area of each of the four developmental zones outlined above, in detail, investigating a wide range of data to establish the nature of each of these zones. It will establish whether the preliminary investigations that revealed the above patterns are supported by the much wider archaeological and historical data. Their physical development and characteristics will be explored to establish whether these factors played a role in their later development. This later development will then be investigated with discussions on the prehistoric through to the Medieval archaeological evidence and investigation of the historic landscape in each zone.

2.6 Summary

Although certain areas and aspects of Lincolnshire's archaeology have been investigated using a landscape approach, for example the RCHME study of north-west Lincolnshire (Everson *et al.* 1991), the Lincolnshire Marsh has been generally ignored. The settlement of the Wolds has been a focus for research, but little large-scale study has been undertaken in the coastal region, with the obvious exceptions of the projects which have been mentioned previously (section 1.4). Many gaps have been identified in our knowledge of the development of the Lincolnshire Marsh, particularly in the earlier periods. These gaps have been attributed to the masking effect of the alluvial deposits within the region, but in many respects they are a result of a lack of coordinated, multi-disciplinary research. The next part of this thesis explores the methodology which has been employed (Chapter 3), and the available data resources for the study (Chapter 4), in order to provide a fuller understanding of the development of the region.

Part 2

Methodology

Chapter 3

Historic landscape analysis and GIS

3.1 Introduction

Petrie (1878) suggested that landscapes could be considered as artefacts and as such they could be subjected to the same archaeological analysis: such as the description and dating of individual characteristics. From this nineteenth century realisation, archaeological techniques have been used to investigate the chronological development of landscapes, with typologies of field systems, settlement patterns and overall landscapes having been formulated (e.g. Aston 1985, Muir 2000b, Roberts and Wrathmell 2000). Features can also be placed in a relative chronological sequence by means of a horizontal stratigraphy; any dated elements within the landscape can provide a *terminus ante quem* for associated features. However, landscapes are continually evolving and precise detail can therefore become obscured as part of this process.

This chapter examines the variety of methods which have been used to study the historic landscape (section 3.2). It will also explore the extent to which Geographical Information Systems (GIS) have been used previously for landscape analysis (section 3.3). Finally the methodological approach of this thesis will be discussed (section 3.4).

3.2 Historic landscape analysis

There are many different facets to historic landscape analysis and it is an approach rather than a specific technique; 'Historic landscape analysis has developed from local/regional history, historical geography and landscape archaeology and is not a single technique, but an approach to describing/mapping spatial variation in landscape character, most notably as a means of integrating a wide range of archaeological and documentary material' (Rippon 2004a: 51).

3.2.1 Development of the methodology

As already mentioned, Petrie (1878) suggested that landscapes could be considered as artefacts and subjected to archaeological analysis. In one example he discusses

how the line of the old road that runs from Heystesbury to Andover, intersects the monuments at Stonehenge. He states that:

> 'in fact the road ignores Stonehenge, and Stonehenge ignores the road. What can we then conclude, but that Stonehenge was erected many centuries before the road was made, as it certainly would not have been laid out *across* a road; and this road is pre-Saxon; then as Stonehenge is not Roman ... therefore it must be *pre-Roman*. Such seems to be the chain of argument with which this road supplies us, and this will serve as an illustration of the use of the roads in questions of the date of remains' (Petrie 1878: 172).

He continues by describing the ways in which roads can be associated with the field boundaries of a region, noting the differences between field systems, which are constructed in an area with an already existing road network, as compared to regions where a road system is introduced to a pre-existing field system (Figure 3.1).

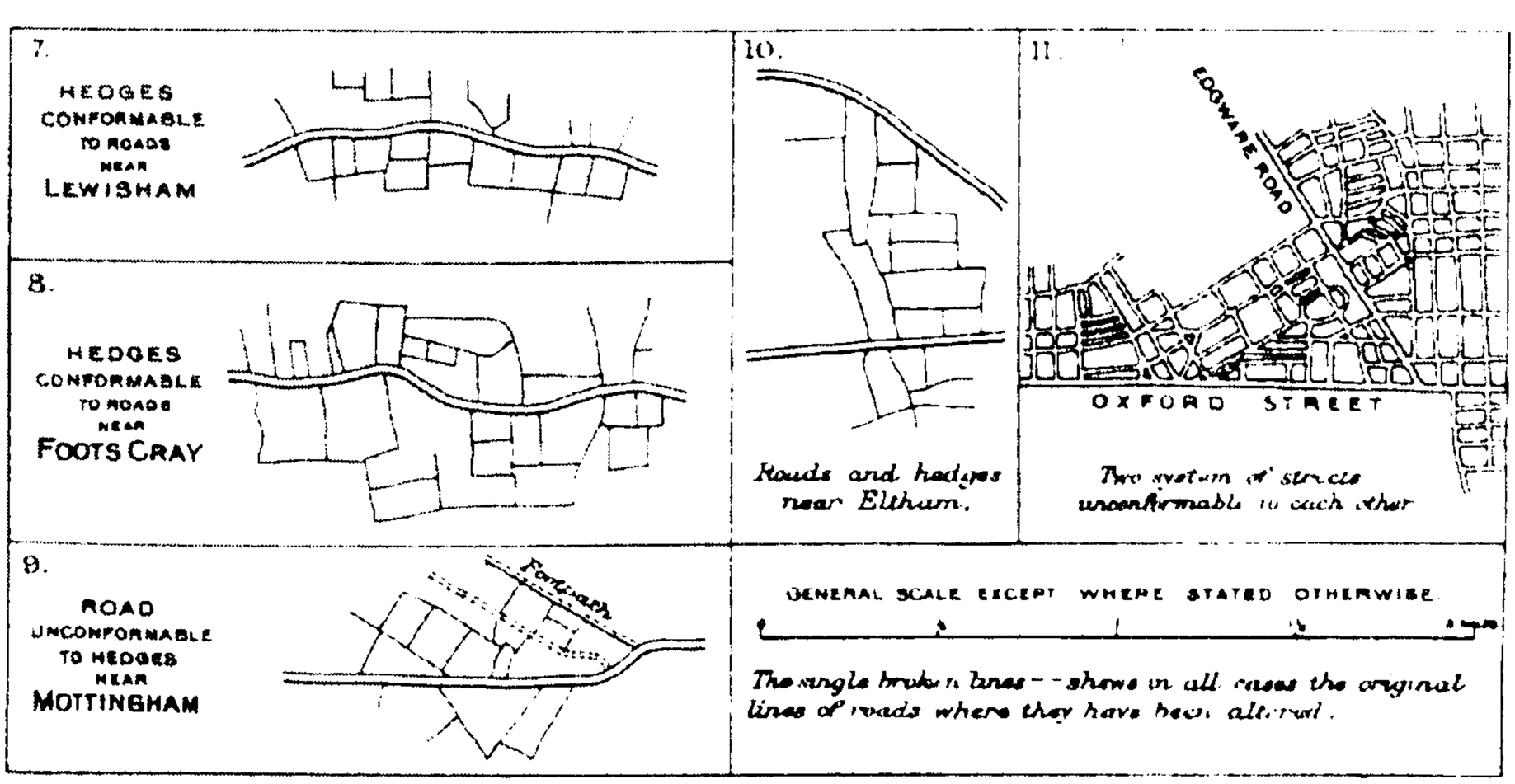


Figure 3.1: Petrie's illustration of the relationship between hedgerows and roads (Petrie 1878: Plate 1)

> 'Thus if we find the roads fairly straight, and the hedge system conformable to them, we may be certain that the roads were first made on open or common land ... But where, on the contrary, we find a road

> unconformable to the hedges ... it is certain that the road was later than the hedges, in fact the country was cultivated before the road was made.' (Petrie 1878: 173).

Although Petrie has identified the initial ideas behind landscape analysis, he did make some assumptions that would be discounted in modern research. He surmises 'that the relative date of the roads may be shewn by the hedgerows between them; and the absolute date of the roads (and therefore of other remains) is fixed by the names of the places along them, as well as by their connections with ancient remains' (Petrie 1878: 173). Some of these assumptions are discussed in further detail in section 3.2.2.

From this early start, there was a gradual increase in the study of different elements of the landscape such as field systems and settlements, but much of this work was very specific and lacked a multi-disciplinary approach until the 1970s (see Chapter 1). Within this development a variety of issues could be confronted.

One issue when looking at a landscape is the dating of its features. Some landscape historians have placed a little too much emphasis on one-off dating, assigning whole blocks of features, and hence the complete landscape, to a single event. For example, care must be taken not to assign an early date to a field system, based on its regular nature, which may have been dictated by the earlier surrounding road system (Rippon 1991, see section 3.2.2). The issue of dating major changes and the formation of the Medieval landscape is much debated. The change to more nucleated patterns of settlement with associated communal field systems in the areas termed 'planned' countryside and the origins of the dispersed settlement pattern in the areas termed 'ancient' is not fully understood. Some researchers place the origins of these patterns in the Late Saxon period, or even later, as a result of a number of factors such as population pressure and changes in tenurial control (e.g. Thirsk 1964, Fox 1981, Hall 1981). Others, however, suggest that the origins may lie a little further back in time and it is the regional patterns prevalent in the Early and Middle Saxon period which may explain more fully why regionally distinctive patterns developed (e.g. Williamson 1988).

In another case the initiation of this pattern has been seen as being the result of much larger-scale organisation over a number of parishes rather than the impact of the local village communities, and that this landscape development occurred as a single event in the Middle Saxon period (Oosthuizen 2005). Research has therefore suggested varied explanations for the formation of Medieval settlement and field patterns. These developments appear to be a result of a variety of factors, with many being regionally dependent. As a consequence it is unlikely that a single explanation will fit all landscapes.

A distinction must be made between the 'historic' landscape and the 'relict' landscape. The 'historic' landscape is still functioning - it exists today - whereas the 'relict' landscape is the abandoned features in the landscape, including the buried archaeology. However, some of these features may have continued to be used in other ways and so remain within the 'historic' landscape (Rippon 2004a).

Landscape analysis can be carried out in a variety of different ways. Each separate element or component of the landscape can be assigned a type or definition based on a range of characteristics, and the clustering of these elements and groups can then be combined and simplified to produce more generalised types. This methodology is often adopted by Historic Landscape Characterisation and is termed a 'bottom-up' approach (Rippon 2004a). A 'top-down' approach to a landscape is where the generalised character types are defined from the outset, usually based on previous knowledge and experience, but without the need to define and study each component of the landscape in detail (Rippon 2004a).

Although often used as a starting point (or in the case of some of the Historic Landscape Characterisation projects, the only source of data), the modern landscape needs to be integrated with a wide range of other sources to provide a full and detailed understanding of how and why it evolved to become the landscape of today (Rippon 2004a). These sources include the cartographic, archaeological and documentary evidence available for a study area (see Chapter 4 for the data sources available for the Lincolnshire Marsh).

3.2.2 Landscape regression methodology

Landscape regression is one of the techniques used to study the present landscape in an attempt to reveal earlier landscapes. This relies on information from a wide variety of sources, which are combined to build a time-slice development of a region by peeling back the layers. Features of known date are removed from the landscape when the documentary, cartographic and archaeological evidence indicates that they were not present. The final result of this process is a series of maps with features that can be shown to be in existence at various times in the past. In many cases assumptions have to be made within this process, and these assumptions are often seen as the main flaw in many studies of landscape change. Rarely do researchers fully explain their choices at the different stages of the regression exercise, and when they do, it is often difficult for them to quantify the choices and the actions taken. The basis of many regression exercises is the building of typologies of landscape features, but this has many flaws and researchers have to be careful not to draw assumptions that are unsubstantiated.

Austin (1985) has highlighted a problem with the regression technique and a pitfall many researchers fail to acknowledge. They have a tendency to see a regular system within a landscape and then to assume that this is the result of a specific event of careful planning through tight control. As will be shown, there are many different factors which can result in a regular system without planning or tight control. Austin (1985) also identifies three other problems with this type of landscape study: first, that simple, convincing patterns can be easily constructed from the complex patterns in existence today, but it is almost impossible for any complex patterns of the past landscape to be formed from the present landscape. Thus it can be quite easy to distinguish a simple grid pattern from the past within the complex elements of the modern landscape. However, it is very difficult to distinguish a complex pattern within the past landscape which has very few regular elements clearly visible from within the noise of the current landscape; second, that the processes that have brought about the changes within the landscape are rarely explored critically and methodically; and third, that dating of the changes and features is difficult to achieve and that morphological similarity cannot be used or sustained. He states that proper analysis has to depend on considering all potential hypotheses, and that if any of

these hypotheses are to be rejected, the reasons need to be critically assessed and explained (Austin 1985).

Although often used, the actual methodology of landscape regression is rarely described, and as Austin (1985) highlights, the main steps and assumptions upon which such exercises are based are not reported. However, examples of exceptions are the landscape analyses of Williamson (1987) in Norfolk and Rodwell (1978) and Rippon (1991) in Essex, and these will now be examined.

Williamson uses an area, which has become known as the Scole-Dickleburgh field system, to illustrate the nature of the early field systems in areas away from the open-field systems of the Midlands (Williamson 1987, 1998, Hinton 1997). The chosen area consists of a rectangular block of 6 x 8 km, located on a boulder clay plateau, bounded to the south by the River Waveney. A Roman road, Pye Road, bisects the region. Williamson (1987) stresses the need for a structured approach to landscape regression. He states that it is 'important to describe as fully as possible which features have been removed, and on what grounds. In particular, the extent to which boundaries and routeways have been removed on purely arbitrary grounds needs to be stated' (Williamson 1987: 421).

He examined cartographic evidence to reconstruct the layout of the routeways and boundaries in the Post-Medieval period, using a combination of Enclosure Award maps, a small-scale county map of 1797, and other seventeenth, eighteenth and nineteenth century estate maps (Figure 3.2: 1-3). From this stage, the process relied on argument and inference rather than strong cartographic or documentary evidence, and he went through the following steps to produce a final plan of the early field systems in the area:

- Minor boundaries around gardens and farmyards were removed due to the fact that the Medieval and early Post-Medieval settlement pattern of the region displayed a high degree of mobility. Also removed were ornamental garden features and boundaries formed by natural watercourses. Total removal of 35 km or 5.5% of the boundaries (Figure 3.2: 4).

Figure 3.2: Williamson's plots of the Scole-Dickleburgh area showing the processes involved in landscape regression: 1. Features from *c*. 1945; 2. map derived from tithe records from *c*. 1840; 3. map derived from a variety of early maps from *c*. 1750; 4. first removal of boundaries (Williamson 1987: 422, Figure 2)

- Removal of (a) boundaries surrounding apparent Medieval or Post-Medieval encroachments on areas of common grazing, (b) those surrounding probable Early Medieval or Anglo-Saxon assarts from woodland and waste, and (c) those on stratigraphic grounds that appeared to be of relatively recent date. Total removal of 35 km or 5.5% of the boundaries (Figure 3.3: 1).
- Removal of the Roman road and those fields which were perpendicular to or parallel with it and were in the local vicinity. Total removal 40 km or 6% of the boundaries (Figure 3.3: 2).
- Arbitrary removal of boundaries to highlight system. Total removal 54 km or 8% of the boundaries (Figure 3.3: 3). This final stage is possibly the one with the least justification as the removals were carried out on an arbitrary basis to make the proposed prehistoric field system appear clearer.

By the end of the process he produced a system of sinuous and roughly parallel boundaries orientated slightly west of north that showed a similar pattern to the co-axial prehistoric systems as seen on Dartmoor and at Fengate (Figure 3.3: 4) (Williamson 1987). He qualified his results with the observation that not all features left on the map date from the prehistoric period, but elements of a co-axial system survived within the remaining features. Williamson (1987) suggested that features running continuously for 400 m or more were most likely to be associated with the original planning of the landscape (Figure 3.4). The average length of Medieval fields in the region appeared to be 200 m, so it would take two fields in a continuous line to make the 400 m measurement a coincidence.

The main feature that helps with Williamson's work, and that of other instances of landscape regression (e.g. Vermeulen *et al.* 2001), is the presence of a Roman road. As features in the landscape that cut swathes across any previous field systems, and have a lasting effect on the later landscape, their removal and the removal of their associated features provides an excellent starting point from which to work. Examples of successful landscape regression without a Roman road are rare, and this is clearly another problem with the technique.

Figure 3.3: Williamson's plots of the Scole-Dickleburgh area showing the next stages of the process: 1. after the removal of Medieval and Post-Medieval features; 2. after removal of the Roman road and associated field boundaries; 3. after further removals; 4. the relict landscape (Williamson 1987: 423, Figure 3)

Hinton (1997) has argued against the presence of a prehistoric co-axial field system as outlined by Williamson (1987), discussing key points of the study area of Scole-Dicklebrough, and highlighting the fact that contra to Williamson, many of the main features of the landscape such as the communication routes, follow the natural topography of the region rather than being constrained by a prehistoric field system. With this dismissal he also states that he 'is reluctant to believe in long-term continuity in lowland England [and] will remain sceptical about the existence of an early Roman or pre-Roman field system that ignored the grain of the local topography' (Hinton 1997: 12).

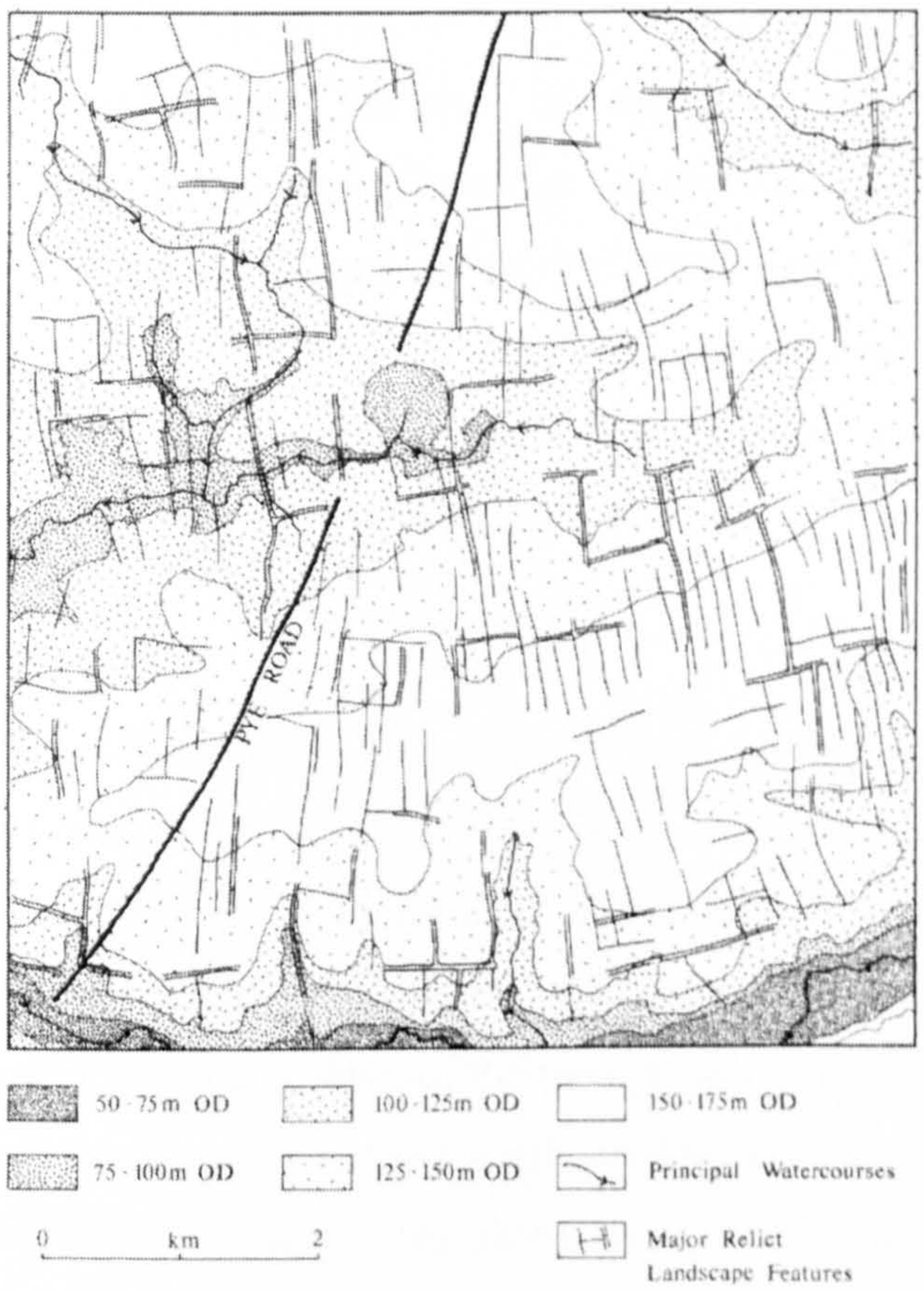


Figure 3.4: Major prehistoric elements of the Scole-Dickleburgh area (Williamson 1987: 425, Figure 4)

In his reply to Hinton, Williamson (1998) considers (and dismisses) many of the criticisms but takes the opportunity to revise his original thoughts on the planned nature of the field system he identified. He suggests that instead of wholesale planning over such a large area, the system developed more organically, with the

original settlements and field system concentrated on the lighter soils in the valley bottoms, and that the expansion onto the higher ground happened gradually over time, but followed a very similar pattern to that on lower areas, with trackways developing at right angles to the valley bottom and providing a framework within which the regular field system could develop (Williamson 1998). As there are areas within the system that show great regularity, he also suggests that some form of planning or control may have been in existence; but even with regular field systems we should not be looking for a single event to provide the planned structure, as local custom and other forces may also create a very regular system (Williamson 1998).

Williamson (1998) also discusses the issue of dating the field system; the initial layout of communication routes, which have formed the basis of the subsequent field system, he still dates to the pre-Roman period, but admits that they may have simply ignored the Roman road, so their date cannot be solely assigned on the grounds of the avoidance of this feature. He also concedes that the infilling of the field system itself may date to the Medieval period, but early on within this development (Williamson 1998).

The fine detail of this example can be debated, but specific local knowledge is needed to be able to draw any firm conclusions. What this example does demonstrate is that the techniques involved in historic landscape analysis are not straightforward, and that personal choices can dramatically affect the outcome of the research. However, this discussion and argument of the topic should not be viewed negatively; it brings to the fore the many choices that archaeologists and landscape historians have to make, and only through such discussions can theories be tested and modified, and landscape theory be taken forward. It also highlights how further research into landscapes constantly changes our view of their development.

Analysis of the relict landscapes of Essex has been undertaken by a number of researchers, however, initial attempts were not as thorough as that of Williamson (1987) in Norfolk. Rodwell (1978) produced a number of maps showing major routeways and boundaries of the relict landscape, but very little discussion of his methodology for choosing the boundaries was given, although valuable archaeological work was cited to help with the pre-Roman or Roman date of many of

these boundaries. Re-evaluation of the Essex evidence by Rippon (1991) has highlighted the problems with interpreting a wide area as being planned as a single entity. From a variety of sources including place-name evidence, archaeology and crop marks, he has concluded, like Williamson (1998), that there are several phases of planning and that the framework for this is the earlier trackways which give the overall structure to the regularity of the plan. He concludes that the planned landscapes are of a variety of dates including Roman and Saxon/Medieval, but that due to the piecemeal landholding seen at Domesday, the majority of the planning must have occurred in the Middle to Late Saxon period (Rippon 1991).

3.2.3 Settlement patterns

Historic landscape analysis needs to view the landscape as a whole, but separate disciplines and sub-topics have developed their own theories and methodologies, particularly in the study of settlement patterns, which is considered in more detail here. As has already been discussed, the distinction between nucleated and dispersed settlement is one of the distinctive elements used to define the different regional characteristics of the English landscape. The analysis of the settlements themselves, the difference between dispersed and nucleated, between farm, hamlet, village and town can all be seen to be regionally dependant; a hamlet in one region may be a village in another. Much of the work on settlement morphology has been conducted by historical geographers such as Roberts (1982, 1987), who has tried to provide a basic classification system to use when studying the nature of settlements and their development (Figure 3.5). Although seemingly rigid, this system allows fluid movement between the different types of settlement and provides a tool with which general patterns over a large area can be viewed, in order to enable further research to be developed (Roberts 1987).

The classification system is based on the arrangement of the basic element of a settlement, the farmsteads or tofts, which can be arranged as rows or an agglomeration, and may or may not include a green (Roberts 1982, 1987). Each settlement is then given the specific symbol as dictated by the classification system, allowing regional patterns of different types of settlement to be studied. Although this could be carried out on the actual settlement plans themselves, as Roberts (1982: 17) states: 'this is so complex that simplified representations are vital for

demonstration and discussion purposes'. The basis for the classification of settlements must be a readily available source of data; usually the first edition of the Ordnance Survey mapping of the country at 1:10,560 scale is utilised. This reveals the nineteenth century settlement pattern and cannot directly reflect the Medieval pattern. However, it does allow a starting point from which elements of the settlement may be regressed to provide an indication of the Medieval structure (Roberts 1985).

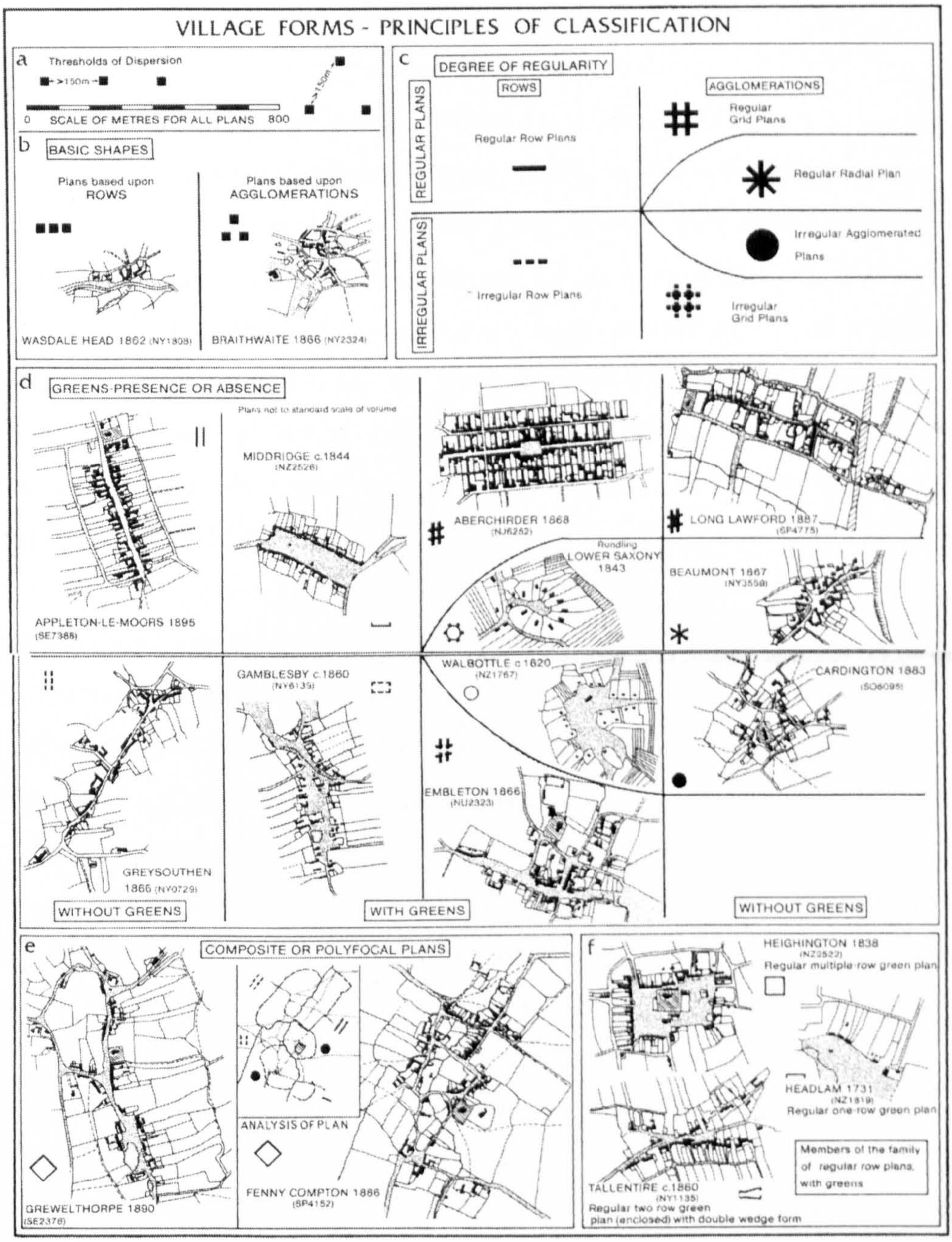


Figure 3.5: Robert's village classification system (Roberts 1987: 26-27, Figure 2.3)

3.3 GIS and landscape archaeology

Geographic Information Systems allow various datasets, at different scales and projections, and of different qualities and content, to be brought together in one location. Any data that can be linked to a single geographic referencing system can be placed in the GIS to be analysed, and within the majority of examples of GIS from the UK this referencing system is the Ordnance Survey National Grid. The data can exist in a number of different formats such as databases, maps and aerial photographs (see Chapter 4 for a discussion of data formats).

3.3.1 Development of archaeological and historical GIS

The use of Geographic Information Systems (GIS) within archaeology has grown rapidly over the last 15 years (Harris and Lock 1990, Fisher 1999, Wheatley and Gillings 2002), with a slightly slower take-up by historical studies (Knowles 2002, Gregory 2003). The ability to manipulate a large amount of spatial information quickly and efficiently has made the technology vitally important in any current study of the historic landscape. GIS is used within archaeology and history as a simple data management system, as a curatorial tool, to analyse the existing data and to model, predict and create new data.

Before the development of GIS and other computer-aided cartographic and database tools, historians tended not to utilise large datasets, such as the lay subsidies, to their full advantage, and instead mapped values as aggregate figures, for example on a county basis, rather than on the smaller parish basis (Cade and Brayshay 1996). There were a few exceptions, notably the work of Darby on the Domesday geography of the country (Darby 1957, 1977). The advent of GIS has made a whole suite of analyses possible on a much more detailed basis; 'what might initially appear to be simply an exercise in automated cartography proves able to supply detailed answers to questions so detailed and time-consuming to obtain by manual methods that scholars have previously tended to avoid asking them' (Healey and Stamp 2000: 584).

A full history of the development of GIS in history and archaeology is not presented here, but elements that are relevant to the current research are discussed. In the early days of GIS, research concentrated on using it as a cartographic tool on a limited

number of datasets such as demographic and economic data in history and the distribution of finds in archaeology. If taking a national view it was used purely on a county basis (Graham 1995), or on a parish basis for a single county (Cade and Brayshay 1996), without integrating a great number of different data sources or datasets. As time progressed and the software available became more powerful, there was more integration of a larger number of datasets.

One recent example of how GIS can be utilised within a wide landscape survey is that conducted on the changing landscape of Rockingham Forest, Northamptonshire (Foard *et al.* 2005). Here a combination of sources on the extent of the Medieval woodland, open field systems and the gradual enclosure of this landscape have been placed within a GIS to enable the large-scale discussion of landscape change over time.

GIS is not just a cartographic tool but has a wealth of analytical capabilities. Spatial analysis tools within GIS software allow questions to be asked of the spatial distribution of certain features within a landscape. For example, potential routes of unidentified road systems can be plotted using cost weightings. This places values on the landscape as identified by the archaeologists; for example that Roman roads usually run straight from A to B. The programme can then suggest likely locations for missing sections of roads, or different variables can be added to the analysis, such as topography and soil character, therefore requiring the program to plot the straightest line for a road that does not transverse any steep inclines and that does not pass through any poorly drained areas of peat.

GIS has been used in such a way to investigate the Early and Middle Saxon economy of East Kent (Brookes 2003). By producing models within the GIS of proposed routeways, estate centres acting as central places, and trend models of imported and local goods within graves, and then comparing these with the coin losses in the Middle Saxon period, it has shown the importance of the transportation networks and coastal ports in the development of trade links (Brookes 2003).

3.3.2 GIS in Historic Landscape Characterisation (HLC)

Early forms of the county-based HLC projects were undertaken on paper-based maps, but gradually as the methodology and technology developed, GIS became more widely used within HLC. This use allowed the blocks of character types to be assigned with a number of different values and attributes. Areas of similar character were grouped together and given a specific labelled area (polygon) with a set of defined characteristics. The HLC for Lancashire has widely published its methodology and use of GIS. It is therefore a good example of its application (Darlington 2002, Rippon 2004a). Each polygon that was identified recorded the following attributes: current landuse, former landuse, slope, pits, boundary, interpretation, date, confidence and comments (Rippon 2004a). The main attribute that was used for the sub-division of polygons was current and former landuse. Each polygon was then grouped under a generic historic landscape type – this is a classic example of a 'bottom-up' approach to landscape analysis. The generic landscape types could then also be studied by selecting a variety of attributes that had been recorded within the initial polygons, such as date, to aid in understanding the differences that occur within one single generic landscape character type.

3.3.3 GIS and landscape regression

Although the developments in GIS are extensive, their use in landscape regression has been limited. One example, in north-western Gaul, still relies on the presence of a Roman road and possible Roman centuriation to aid with the interpretation (Vermeulen *et al.* 2001). Very few other attempts have been published regarding the use of GIS in landscape regression, and those that have remain on a small-scale. One example is the limited regression used in an exercise of landscape reconstruction and visualisation as part of the Wychwood Project (McLure and Griffiths 2002). Here a single parish was selected, a terrain model was created from Ordnance Survey Landform Panorama data, and recent aerial photographs were then draped over this surface. The recent aerial photographs were then altered using Paint Shop Pro to represent the area in *c.* 1850, using data from maps of 1812 and 1850. Field boundaries and areas of woodland were physically removed from, or added to, the recent aerial photographs to provide a visual representation. This was partly as a means by which the local population could become engaged with their own

landscape (McLure and Griffiths 2002). This is not true landscape regression however, and falls more within the category of visualisation than analysis.

As mentioned above (section 3.2.2), one of the major flaws in landscape regression studies is the lack of detail recorded about the processes and decisions involved in the regression exercise. This is also true regarding the compilation of the data used within GIS. Metadata (data about data) needs to be recorded at all stages of the process, and this information can then be used to assess the relevance and reliability of the data (Gillings and Wise 1998, Wheatley and Gillings 2002). Recording metadata for all the sources held within a GIS and the processes by which they are created and manipulated will help to reduce the flaws that have been identified by Austin (1985). One of the main problems with the publication of projects which utilise GIS is that the metadata is not included within the publication. This may partly be due to the limitations of publication costs, but it reduces the overall impact of the research. It is also the case that while it is apparent from the nature of the illustrations produced in a number of publications that GIS has been used, there may be no mention of its use and of the methods that have been applied, which is the case in one of the examples (Foard *et al.* 2005) mentioned above.

3.3.4 Issues and criticisms of GIS

A variety of criticisms have been aimed at GIS, with one of the most relevant here being that it encourages environmental determinism and that archaeologists only view questions relating to geographical and environmental factors which have been added to the GIS (Fisher 1999). Fisher suggests that there are differences in the degree and nature of the determinism, specifically Possibilism and Probablism. Possibilism takes the view that the environment provides possibilities to which humans may respond in a number of ways, whilst Probablism assumes that certain actions are more probable due to environmental factors, and that humans are more likely to do the most probable action (Fisher 1999). These two forms of determinism are relevant in the current study as it is attempted to understand the concept of marginality and the exploitation of coastal regions (see section 1.3.3).

Problems also exist in the ways in which historical data are 'captured' and used within the GIS (Gregory 2003). This is particularly relevant to old maps which have

been hand drawn and only roughly surveyed. Whilst the GIS will allow a 'best fit' transformation of these maps on the modern landscape, the capabilities of a GIS may surpass the use for which the original map was created. For example, the ability to zoom into a map in considerable detail could mean that the line drawn to signify a 3 m wide road on the original map may now occupy a width of 10 m within the GIS.

Another issue with GIS is the temporal scale. Many GIS are atemporal, with the main temporal aspects being represented through 'timeslices', although research and development of temporal aspects of GIS are progressing (Peuquet 1999, Wicher 1999). It is therefore difficult to answer questions within a GIS such as 'which inn has changed to a different location in the last 50 years' or 'how has a farm building and its associated field changed over the last 100 years'. The GIS handles the spatial information well, but adding the aspect of time provides a third element which is hard to incorporate. As a result dates can be added to features as attributes, but a number of different datasets have to be created in order to show large-scale changes beyond whether a feature was simply present or absent at a certain date; the feature is a fixed spatial element and cannot alter its spatial extent or position based on the different dates within its attribute data.

The last two sections have explored the theories behind a number of different methodologies, and the application of GIS. The following section will review the methodology adopted for this thesis.

3.4 Thesis methodology

The area of the Lincolnshire Marsh straddles the regions identified as 'ancient' and 'planned' countryside (see Chapter 2). The physical evolution of a large part of the region may mean that any 'relict' landscape earlier than the Medieval period may be impossible to trace. Unlike the areas of Norfolk where landscape regression has been successfully used, the masking effect of coastal processes on the Lincolnshire Marsh may have buried any indication of the earlier field systems apart from on the higher areas away from the coastal margin; the relict landscape features were no longer visible to be used by later generations and therefore to become part of the historic landscape. Relict prehistoric landscapes are also usually confined to areas within the

'ancient' countryside, and how far it is possible to see these earlier landscapes in areas of 'planned' countryside is difficult to assess.

This thesis will utilise GIS to explore the nature of the current features of the landscape and attempt to provide generalised patterns of the development of the region. All data for the research has been converted into a digital format (Appendix 3). Each dataset exists as an individual entity, but can be combined with others within the GIS. A full-scale landscape regression as undertaken by Williamson (1987) cannot be attempted, partly due to the limited number of Roman roads that cross the landscape, but also due to the coastal processes mentioned above. However, the ideas behind landscape regression do provide some of the methodological basis to the work.

This research has adopted the top-down method of landscape analysis, using previous knowledge and experience to define the landscape types and features (Rippon 2004a). Research undertaken during the Humber Wetlands Project (Fenwick, H. 2001) has already identified three sub-regions within the general pattern of landscape development encountered on the Lincolnshire Marsh. As this thesis has extended the region under study to include an area to the south of Skegness, a further zone has been added to the south (see section 2.5). This current research also includes a wider area to the west, incorporating more of the interface between the low-lying wetlands of the Marsh and the higher, drier ground of the Lincolnshire Wolds. A four-stage approach was adopted for the research:

Stage 1: Compilation of data sources

A wide range of data sources was collated and produced in a digital format that could be used within a GIS environment (see Chapter 4). For any project utilising GIS, this is the most costly phase in terms of money and time; it has been suggested that the capture of the data for a project will incur 60-80% of the total cost (Gregory 2003). A number of the data sources were freely available, but others had restricted access due to the need to purchase licences for their use. Ideally when studying the landscape of an area it would be beneficial to include all the available data sources, but the necessary cost of the initial purchase, and the continued licensing of the data, were prohibitive for this research. In some cases sample datasets were purchased to

encompass areas of the sub-regions identified during the Humber Wetlands Project (Fenwick, H. 2001).

Stage 2: Study of the region as a whole to provide the overall pattern of occupation from the prehistoric to later Medieval period

The general pattern of landscape development was explored for the region as a whole from the earliest finds (primarily Neolithic) through to the later Medieval period (Chapter 5). This analysis provided the basic framework for the division of the region into zones exhibiting different developmental histories. The majority of the analysis undertaken at this stage of the survey utilised data sources that are available for the region as a whole, although there may be issues with their completeness. Combined analysis utilised data from as many sources as possible to examine the extent, nature and impact of settlement across the region in different periods, and a variety of maps were produced to highlight the extent of settlement and activities at different points in time.

Stage 3: Analysis of the detailed patterns in the sub-regions

From the available data sources the different sub-regions were investigated, looking at a number of elements within the landscape. Due to the scale of this project, some of the minutia have not been researched. For example, though tithe records exist for some of the parishes in the region, along with a number of other cartographic sources, the exact patterns of landholding have not been established to any great extent. This is due to the constraint of time, but it would be a very valuable topic for future research.

Landscape regression does not provide evidence of any extensive early field systems within the study area due to the depositional development of the region. The earliest possible Medieval landscape has been studied using early cartographic sources such as the available tithe and estate maps to provide a guide to the local pre-Enclosure landscape. Sources are not available in all areas, so general patterns that have been established within one area have been utilised to try to establish the nature of the settlement in a less well-documented area.

The analysis of the different elements of the landscape undertaken during this stage produced a range of generic historic landscape character types which for the Lincolnshire Marsh indicate (see Chapter 5, section 5.7 for the list of types):

- Village (nucleated settlement)
- Private and Parliamentary Enclosure
- Coastal reclamation
- Old developments
- Enclosed former salterns
- Drainage systems

Stage 4: Explanation of the patterns revealed

The final stage of this research attempts to provide explanations for the patterns revealed. This stage also reviews the models for the settlement of coastal margins that have been developed by other authors, for other regions, and investigates whether they can be applied to the Lincolnshire Marsh.

All the maps that accompany this research have been produced in ArcMap GIS. Where proportional symbols or shading have been used to represent values, the suggestions for their display as given by Evans (1977) have been adopted. This limits the number of different symbols or shades used to between 4 and 10 - a range that can be easily distinguished by the human eye. For a dataset with an even spread of values, an equal division of these values has been adopted. For unimodal distributions, the shading and symbols have been related to the standard deviation of the dataset and the divisions created to produce symmetrical scale.

3.5 Summary

This chapter has explored the nature of historic landscape analysis, the use of landscape regression, and the criticisms which have been directed at this methodology. As Rippon (2004a) has stated, historic landscape analysis should be viewed as an approach – there is not a strict textbook of techniques. It is the combination of a great number of data sources, the study of patterns revealed from this combination, and an attempt to provide explanations, that can be considered as historic landscape analysis. With the development of GIS it has become easier to

undertake extensive study and analysis of numerous datasets. Chapter 4 will now explore the available data sources for the Lincolnshire Marsh and their applicability to the current research, and provides a critical review of their use.

Chapter 4

Lincolnshire Marsh data sources

4.1 Introduction

With all studies of landscape change, a wide range of sources needs to be studied in order to build as full a picture as possible. This chapter outlines the different sources of data that are available, and that have been studied for the Lincolnshire Marsh, and their uses and applicability in studies of landscape change. There have been constraints on the availability of the data, mainly financial, which on some occasions have led to obtaining only a limited coverage of the study area. All of the illustrations, which accompany this chapter, can be found in the Illustrations section of Volume 2, however, key illustrations have been added to the text.

This chapter initially considers GIS and data formats (this section). The different types of data will then be reviewed beginning with cartographic sources (section 4.2). This will be followed by a consideration of the aerial photographic data (section 4.3), documentary sources (section 4.4), archaeological sources (section 4.5), and finally place-name evidence (section 4.6).

The data sources have been utilised within a GIS environment, initially using ArcView 3.2 and then migrated to ArcGIS 8 during the latter stages of the research (both programs were created by ESRI (Environmental Systems Research Institute)). Datasets can be used within the GIS in two different formats - raster and vector. Raster formats are a gridded representation of the item being displayed, where each grid is given a value; for example, this value can be associated with height (on raster representations of topographic surfaces) or with colour and light (where the raster is an aerial photographic image) (Figure 4.1). The individual items within the raster, such as the field boundaries which appear as black lines on a scanned raster map, are difficult to differentiate and cannot have extra attribute data assigned to the feature such as a date or type of boundary.

Vector formats can be either point, polyline or polygon data. All these formats store data not in a gridded form like rasters, but as forms that have a specific location; for example, the grid coordinate for the individual points, or the exact locations of the

end of a line, as well as the points at which the lines diverge from the straight course (Figure 4.2). The advantages of vector data over raster in the situation of historic landscape analysis is that data can be added to the individual points, lines and polygons, so on a vectorised map of field boundaries, for example, each separate section of a boundary can contain other information such as the first appearance of this boundary on the maps of the area, or the type of boundary – ditch, wall, hedge, etc. Whichever form of data is used, raster or vector, a database of attribute data is linked to each feature which can include a whole array of details relevant to the particular feature at that location.

Any datasets that have a geographical element can be displayed and analysed within a GIS. For all the datasets that have been created for this research, the British Ordnance Survey National Grid has been used as the geographic system to which all datasets are related. Each point, line, feature, map, photograph, etc must be linked in some way to the National Grid. Additional datasets can be incorporated in a wider sense if they are linked to one of the other datasets. For example, data on a parish level can be linked to the specific shape of the parish and its location on the National Grid, but the information cannot be linked in any greater detail. A series of databases have been created holding data such as the Historic Environment Records' catalogue of archaeology and the information from the Domesday Book. These have initially been created using a simple spreadsheet in Microsoft Excel, but have then been converted into a vector point dataset within ArcGIS.

The datasets available for study also have different geographical extents. There are datasets which cover the region as a whole, such as the Domesday Book or the modern map coverage, and those which only cover a small portion of the study area, such as the coverage of available, surviving tithe and estate maps. The result is that while region-wide conclusions can be drawn from datasets that exist for the entire region, the conclusions that are drawn from the geographically limited datasets will be very locally specific and can then only be generally applied to the region as whole. Within the results of this thesis, the general patterns and trends are therefore discussed for the region as a whole using the datasets that are available for the full extent of the Lincolnshire Marsh, and further detail is then supplied for smaller areas, where more detailed information is available.

4.2 Cartographic sources

The map data available for the Lincolnshire Marsh are wide and varied. The availability of a number of the datasets in digital format aided the initial research, but digital versions of a range of map data then had to be created for further study.

4.2.1 British Geological Survey data

The 1:50,000 series geology maps were purchased from the British Geological Survey (BGS) in a digital format at the beginning of the research. The dataset includes the solid and drift data from the traditional BGS map numbers 90 and 91 (Grimsby), 103 (Louth), 104 (Mablethorpe), 115 (Horncastle), 116 (Skegness), 128 (Boston) and 129 (Wash). This information is a useful starting point to establish the physical background of the region and the areas available for habitation. Initial investigation carried out during the Humber Wetlands Project had revealed that early occupation in the south of the region was located on till and gravel outcrops (Fenwick, H. 2001).

The data from these individual maps was combined to produce a single coverage of the whole area. The drift deposits were also re-categorised to counter the different names of deposits seen in the separately mapped areas. For example, till is mapped as 'till' on the Grimsby, Wash, Boston and Skegness maps and as 'marsh till' on the Louth and Mablethorpe maps, with the edge of these mapped areas providing the un-natural break between these two types of till. These two descriptions have been combined as 'till'. All drift deposits have been assigned to one of the following categories: alluvium, beach, blown sand, lacustrine, peat, sand and gravel, storm beach and till.

4.2.2 Modern Ordnance Survey maps

The Ordnance Survey 1:10,000 raster maps were used to geo-reference all data that was not previously geo-referenced. The maps also provided a modern view of the area. Initially these maps were used under license from the Ordnance Survey to the Geography Department, University of Hull, but towards the end of the research the maps became available via the EDINA Digimap service. This service also provided access to 1:25,000 and 1:50,000 maps that have been used as background maps on occasion. The dates of the 1:10,000 maps range from the 1970s onwards, but the

more recent digital versions available from the EDINA Digimap service were updated in 2005.

4.2.3 Second edition Ordnance Survey maps

The second edition, six inch to one mile Ordnance Survey maps were scanned to serve as a basis for analysis of landscape change (Figure 4.3). The maps date from 1906 to 1909 (although later editions are only available for three of the sheets), and were the most complete series of maps for Lincolnshire held by the Map Library, University of Hull (Appendix 4). All these maps had been stored flat so the inaccuracies incurred in scanning were kept to a minimum. An A3 scanner was used which resulted in two scans per map sheet being necessary to provide a complete image which was produced in Adobe Photoshop.

A digital version of this dataset did not exist at the beginning of the study, but towards the end of the research, digital versions did become available through the EDINA Digimap service, as well as the earlier first edition series (see section 4.2.5), but it was too late to incorporate them fully into the current research.

There are many problems of projections and accuracy when using the early editions of Ordnance Survey mapping as the National Grid had not been implemented at this stage. The scanned images of the second edition maps were geo-referenced within ArcView, using common points on the modern 1:10,000 Ordnance Survey maps (Figure 4.4). A maximum RMS (Root Mean Square) error was set at 5 m (which would be roughly 0.5 mm on the map). These geo-referenced images of the second edition maps were used as the basis for the production of a digitised version of the field and road pattern of the area.

4.2.4 Digitised base map

From the second edition Ordnance Survey maps, a digital base map was produced (Figure 4.5). This involved digitising the main landscape features from the maps such as field boundaries, roads and drains, and producing a vectorised map that could be used more effectively than the raster originals. Several separate datasets have been created as described below (Figure 4.6).

Field Boundaries

Depicted on the maps as a single line, indicating edges of fields as well as building plots within the settlements. Digitised as a single line.

Drains

Depicted on maps as a double line, indicating ditches used as field boundaries and other drainage features. Digitised as a single line taken from the mid-point of the double lines on the original map.

Roads

Depicted on the maps as a double line, indicating the edges of roads and tracks. Digitised as a double line.

Earthworks

Depicted with hachures, indicating banks, ditches, pits, mounds, etc. Digitised as a single line along the top of hachure points.

Sea

Depicting the low water mark of ordinary tides. Digitised as a single line.

Rail

Depicting the main rail network and smaller tramways. Digitised as a single line taken from the centre of the track.

Watercourses

Depicting the natural and man-made watercourses crossing the region. Digitised as a single or double line depending on the nature of the watercourse. For example, wide rivers were digitised as a double line, but smaller streams as a single line.

4.2.5 First edition Ordnance Survey maps

A digital version of the first edition six inch to a mile maps became available from the EDINA Digimap service in the final few months of the research. Comparison of these maps with the digital base map created from the second edition maps revealed very few changes. The main area of change was around Cleethorpes as new housing

and road systems had appeared. This may reflect the relatively late date of the production of the first edition maps in Lincolnshire (1888-1893; see Appendix 4).

The major use of the first edition maps was associated with the creation of a point dataset representing the nature of nineteenth century settlement. A point was placed at the centre of every village and also at every farm located away from the main core of the settlement. Each of these points was then assigned a number of attributes, including settlement type (village, farmstead), village form (regular, irregular), village form type (grid, row, composite, agglomerated, radial; see Chapter 3, Figure 3.5), and the presence or absence of a village green. All of these factors are taken from the first edition maps following the methodology of Roberts (1987). Villages were identified as clusters of houses and buildings associated with churches and having a prescribed place-name on the maps. Farmsteads were individual buildings or farm complexes that were not attributed a place-name, just a farm or building name.

4.2.6 Parish boundaries

The parish boundary data was obtained from the EDINA UKBorders service. The 2001 Census Area Statistic parishes were used for the county of Lincolnshire and the Unitary Authority Census Area Statistic parishes were used for North East Lincolnshire. The parish boundaries are used with many of the datasets which are organised on a parish basis, for example the old paper records of the Historic Environment Records. A variety of attributes have been added to the parish boundary data, including to which of the old wapentake divisions the parish belongs. The boundaries for the ancient parishes in 1851 were also obtained from the UKBorders service.

4.2.7 Tithe, Enclosure and estate maps

A range of maps were viewed at Lincolnshire Archives, including tithe maps, Enclosure Award maps, estate maps and general topographic maps. Any salient features that were not included on the Ordnance Survey maps were noted.

Tithe maps were produced during the surveys undertaken after the Tithe Commutation Act of 1836, to formalise the way in which the Church was financed

by a tax on agricultural production (Kain and Oliver 1995). The detail covered on each tithe map varies from just the individual fields that were subject to tithes, to complete maps of the whole tithe district (usually based on parishes). The available tithe maps for Lincolnshire have been studied at Lincolnshire Archives and have a date range of 1801-1897. A total of 58 maps were viewed, recording the tithes of 51 separate parishes (Appendix 5).

The majority of the information contained on the tithe maps is the same as represented on the digital base map created from the second edition Ordnance Survey maps, showing that little change occurred in the structure of the landscape in the late nineteenth century. Those areas which did see a certain degree of change were where seaside developments occurred such as at Cleethorpes and Skegness. At these locations the original field patterns before the development were discernable and subsequently digitised. On the tithe map of Alford parish (LAO Tithe B84) more woodland was visible than on the later maps and this was therefore digitised. No further additions were made to the GIS from the tithe maps and their usefulness in this area of Lincolnshire would therefore appear to be limited in the general study of landscape, although a detailed analysis of the accompanying documentation in the future may provide further field-name evidence which might aid the reconstruction of the Medieval field system of the area.

Many maps were produced at the time of Enclosure in the late eighteenth and early nineteenth centuries. These record the partitioning of land and assignment of ownership which was undertaken by commissioners following a Parliamentary act, but in some areas enclosure had already begun on local initiative. The maps accompanying the Parliamentary Enclosure Awards often provide indications of the original field systems in the field-names and outlines recorded. A total of 51 Enclosure Award maps were available at Lincolnshire Archives for a total of 42 parishes, with a date range of 1766-1870 (Appendix 5). Some of the maps only showed a small section of the parish that was subject to Enclosure, while others depicted the entire parish. Any features such as old enclosures or the outlines of the main large fields which may represent the Medieval field system where digitised using fixed points on the modern Ordnance Survey maps and the digital base map. Due to their earlier date and primary function of partitioning the original open fields

into smaller enclosed fields, the Enclosure Award maps proved more useful than the tithe maps. Much research has previously been conducted by the Russells on the open field systems and pre-enclosure field systems of Lincolnshire (Russell and Russell 1983, 1987, Russell 1995), and the information from their work (mainly based on Enclosure Awards) has been combined with the evidence from the maps in Lincolnshire Archives to provide a wider coverage of pre-enclosure field systems for the study area (Figure 4.7). All maps on which the work of the Russells were based were also viewed as was the Russell archive housed at the University of Hull archives.

A number of miscellaneous estate maps and local authority plans were studied with a date range of 1675-1850. A cut-off point at 1850 was used on the basis of the results of the analysis of the tithe maps revealing little landscape change in the late nineteenth century (see above). These maps are of varied use, as some only contain the outline of a single field while others cover a whole parish, a series of parishes or a whole section of the study area. As with the Enclosure maps, areas of large, possible open fields were digitised to add to the information provided by other sources. Unlike other areas of coastal wetlands, such as the Severn Estuary, no maps of the Commission of Sewers survive in the archives.

4.2.8 Haiwarde's map of the parishes of Marshchapel and Fulstow

This map is dated to 1595 and is an excellent source of information concerning the settlement and field pattern of the two parishes in the late sixteenth century (Figure 4.8). Unfortunately it is a rare survivor of such parish maps, and cannot be replicated for the rest of the region.

The map covers the entire area of both parishes from the sea to the western end of Fulstow. All field boundaries are marked, many with indications of landowners. The map was purchased in 1933 at an auction in Brigg, from a local gentleman (Walshaw 1935) and remains in the hands of the family who purchased it, however, the photographing of the map by the archives of Cambridge University was arranged by the Parish Council of Marshchapel. A scan of the negatives of this photographic record was available, which could then be geo-referenced by using key points on the modern maps.

While the map is not completely accurate, the closeness with which many of the field boundaries meet their modern counterparts is remarkable (Figure 4.9). The main error on the map has been that the indication of north was in the wrong position. The map was drawn as if the parishes run directly west-east, whereas they actually run southwest-northeast.

Whilst the map was originally coloured, highlighting the particular landowners of the various fields, the negative produced was in black and white so unfortunately this information has not been transmitted to the digital version. Detail on the map also includes a wealth of information regarding the field-names in operation at the time (Figure 4.10).

4.3 Aerial Photographic data

There are two main sources of aerial photographic data for the Lincolnshire Marsh, both different in nature and of differing applicability within the current research.

4.3.1 Millennium aerial photographs

Getmapping compiled a Millennium Map of Britain, taking map-accurate aerial photographs of the whole country (www.getmapping.com cited 2002). The photographs for England were taken between April and October in 1999-2001. Three sample areas were selected and the aerial photographs purchased as a test case to establish their potential for the current research (Figure 4.11). The three areas selected were based on the preliminary conclusions reached during the Humber Wetlands Project that three separate landscape blocks could be recognised for the Lincolnshire Marsh, each exhibiting differing developmental characteristics (Fenwick, H. 2001). A further set of photographs, which joined the two southernmost sample areas, was purchased for a teaching project within the Department of Geography at the University of Hull, so this became available for the current work. Unfortunately funds were not available to purchase the high-resolution data for the entire study region.

The photographs provide a valuable snapshot of present day landscape features such as field boundaries and major areas of habitation. Depending on the conditions when the photographs were taken, they can also include information regarding

archaeology, for example in the northernmost sample area where ploughed saltern mounds can clearly be seen (Figure 4.12).

Any archaeological features visible on these aerial photographs were checked alongside the features noted on the transcriptions from the National Mapping Programme (see section 4.3.2), and any new features were added to the digital version of aerial photographic transcriptions.

4.3.2 National Mapping Project - Lincolnshire

The RCHME (Royal Commission on the Historical Monuments of England) undertook a systematic survey of the aerial photographic data for a large area of Lincolnshire as part of the National Mapping Programme (NMP). Completed in 1997, the project transcribed information from its own collection of photographs as well as from those within the collections of the Cambridge Committee for Aerial Photography, Lincolnshire County Council and local flyers (Bewley 1998a). The project covered the majority of the current study region, the only gap being to the south of Skegness (Figure 4.13). The project as a whole studied 191 (5 km) map squares in Lincolnshire, of which 47 are within the area currently under study. Associated with the transcriptions was a database of descriptions, known as MORPH, which included 14,043 records for the total area of Lincolnshire studied, of which 67% related to new sites previously unrecorded on the National Monuments Record (NMR) or HER (Bewley 1998b).

The results of the RCHME project are 1:10,000 plots of the visible archaeology. A digital raster copy of the map squares within the Lincolnshire Marsh was purchased from English Heritage (Figure 4.14), from which a vectorised version of the data was created. A date range was assigned to each feature using the MORPH descriptions, a copy of which is housed at the Lincolnshire Historic Environment Record (Figure 4.15). The digital version of the transcriptions included polyline data for the outlines of airfields, any linear features (usually crop marks), a line at the top of hachures (usually earthworks), and a line outlining the edge of any areas of ridge and furrow. A further line was digitised to show the direction of the ridge and furrow within this block. Polygons were used to show the edges of pits, salterns and other closed features such as round barrows.

4.4 Documentary Sources

A range of documentary sources is available for the Lincolnshire Marsh. Although not as many tax and public records exist for this area of the country when compared with some other regions such as Somerset (Rippon 1993), a range of useful sources is available in translated and transcribed formats. The figures, (within the Illustration section in Volume 2), accompanying this section show the distribution of available records. In Chapter 5 the data included within these records is fully explored and compared, thereby providing indications of population, wealth and settlement development.

4.4.1 Domesday Book

Entries for Lincolnshire have been compiled from the Phillimore editions of the Domesday Book (Morgan and Thorn 1986, Appendix 6). The data in the Domesday Book of 1086 is recorded by landowner, then manor, and has been entered into a spreadsheet in this form which can then be used within the GIS (Figure 4.16). Although a computer version of the Domesday Book is now available, the ease with which this can be used within a GIS context is limited (Fleming and Lowerre 2004).

The main unit of measurement used in the Domesday Book as a whole was the hide. The Saxon hide was a theoretical unit of land required to support a family farmstead, but by the Late Saxon period, it had become a unit of taxation and hence was a fiscal unit rather than signifying an area of land. In the Lincolnshire section of the Domesday Book the measurements are given in carucates, the Danelaw equivalent to the hide. Further subdivision is recorded as bovates (1/8 of a carucate). Unlike other regions of England, there is considerable subdivision into bovates in the records for Lincolnshire. Two records of viguates (1/4 of a carucate) are also recorded (Morgan and Thorn 1986). Morgan and Thorn (1986) simply define the carucate as the Danelaw equivalent to the hide. Others define the carucate as a ploughland – the area that could be ploughed by a team of eight oxen (Green 1981, Williams and Martin 1992). Whichever is the case, as with the hide, the carucate had become a unit of taxation by the time of Domesday, and bears little relationship to an area of land. Further more in the Danelaw, each wapentake was subdivided into hundreds, each which had a value of 12 carucates, further supporting a purely fiscal meaning for a

carucate. All measurements have been converted into carucates and this has taken place in multiples of 0.25 for ease of assessment and comparison (Appendix 6).

Some measurements of 'land for x ploughs' are given in numbers of ploughs and oxen. The majority of measurements for the study region are given in oxen, and these have been converted into ploughs using the assumption that 1 plough = 8 oxen. Calculations have been undertaken to multiples of 0.25 to be comparable with the calculations of carucates. The meaning of the 'land for x ploughs' value has been much debated (Harvey 1985, 1987, Higham 1990), but was possibly another fiscal value. It was one that related more closely to the agricultural potential of the area and possibly was introduced in 1086 (Harvey 1985). This further supports the idea that the carucate bears little resemblance to anything other than a fiscal arrangement as the record for total number of carucates and that for the 'land for x ploughs' within the Domesday Book often differs for each manor. The 'land for x ploughs' then provides us with a figure of the agricultural potential of the manor, although the actual amount of land that was farmed may be different, as is signified by the differences in the 'land for x ploughs' and the number of ploughs recorded in each manor.

All monetary values have been converted to shillings. The number of ploughs and carucates specific to the lordship has also been recorded. The population of each manor is recorded as villagers, freemen and smallholders, following the published terms of Morgan and Thorn (1986). Villagers are equivalent to villans, freemen are equivalent to sokemen and smallholders to bordars in other translations. No cottagers or slaves are recorded within the study area.

There are a number of mills mentioned. Meadow is frequently recorded (in acres) and there are occasional records of wood, woodland pasture and underwood. There are no records of pasture in the study area. Saltpans are recorded as a number and total value. The only livestock mentioned in the study area is a single cow.

A total population figure for a manor was calculated based on the number of villagers, freemen and smallholders. From these recorded figures a number of analyses are possible for the population, the size of the landholdings, the number of

ploughs, and landuse. The number of tenants per carucate was calculated using the population figure and the total number of carucates recorded for the manor. A value per carucate for the land was calculated from the value of the manor recorded in 1086. The total number of ploughs in a manor was calculated from those mentioned for the lordship and those of the villagers. The total number of ploughs enabled ploughs per carucate to be calculated. The difference between the 'land for x ploughs' and the number of ploughs within a manor was also calculated. A final calculation of the number of 'land for x ploughs' per carucate was undertaken.

The total records for each vill have been calculated from the individual manors with the same name under different landowners, and the data linked to the centre of the modern settlement of the vill to be used in overall analysis, but the data are also available for the individual landowners and manors. The modern vill settlement has been used unless the settlement is known to have moved. As the basic unit of measurement, the manor was never defined in the Domesday record, but only linked to the vill in which it was located. The result is that each vill may constitute part of several different manors, and therefore have more than one record attributed it. These separate manors within the same vill may also have a number of different landowners.

Land in outlying areas may also be included under the name of the manor to which it is attached. This can be clearly seen from the recorded salterns within the region with many of the manors under which they are recorded, lying well inland in the eleventh century. Land under one entry within Domesday may also record several vill names. The first named vill is taken as the centre point for that particular record but this will have caused some figures to be transplanted from their true geographical location.

The Lincolnshire entries in the Domesday Book were recorded by wapentake (a subdivision of the larger tripartite division of Lindsey, Kesteven and Holland) that was further subdivided into hundreds. The Lincolnshire hundred again was a fiscal area assessed at twelve carucates, and may be formed from a single manor, or a number of manors, but has been shown on many occasions to form a geographical territorial unit (Roffe 1981).

There has been much debate over the nature of the record presented by Domesday. For instance, the record can hide or omit settlement and population; it has been noted that the number of actual tenants is 1086 may in fact be 50% more than those recorded if a similar number of sub and joint tenancies were present in the late eleventh century as are recorded for the thirteenth (Postan 1972). Nevertheless, Domesday provides a region-wide record taken at a specific point in time which can be used to assess the extent, if not the true nature, of settlement within the Marsh in the eleventh century.

4.4.2 Lindsey Survey

The Lindsey Survey was compiled between 1115 and 1118, and is one of three such surveys conducted in the reign of Henry I (Foster and Longley 1924, Appendix 7). The survey was the first to be undertaken, followed by those of Leicestershire and Northamptonshire, and unlike the Domesday Book, it is organised on a wapentake rather than a landowner basis. Each wapentake is listed followed by each landowner with land in that wapentake, recording the land in separate manors (Figure 4.17). The Lindsey Survey is not as detailed as the Domesday Book and only records the amount of land of each landowner (again in carucates and bovates), and the name of any tenants of this land.

Having been compiled only 30 years after the Domesday Book, the Lindsey Survey provides information on the extent to which the landholding in 1086 has become permanently fixed just one generation later. It also provides a twelfth century record for the study region as a whole. The database for the Lindsey Survey records the information for each individual landowner, therefore, as with the Domesday Book, there may be multiple records for some vills. The number of carucates of each manor is recorded in multiples of 0.25 to be comparable with the database for the Domesday survey. The only further detail recorded in the Lindsey Survey is the name of any tenant. Unfortunately, a number of records within the wapentakes fail to record the manor names to which the assessment relates and so cannot be attributed a location.

4.4.3 Taxatio Ecclesiastica of 1291

A papal tax was granted to Edward I by Pope Nicholas IV in 1291 to help pay for a crusade at a rate of a tenth of all ecclesiastical income (Denton 1993). The tax was on spiritual income which included monies from tithe and glebe land. The only monastic orders exempt from the tax were the Templars and the Hospitallers. Benefices were assessed with an income threshold of four pounds, but the full nature of the monies that were assessed is unclear (Denton 1993). The Taxatio does, however, provide some indication of the wider agricultural wealth of an area as tithes were included within the valuation, and as the same assessors assessed the study area, there will be some comparability between the amounts listed.

The dataset has been compiled from the Taxatio database produced by the University of Manchester (www.hrionline.ac.uk/taxatio), which was created from the text version of the Taxatio published by Caley (1802). As with this publication, the database only considers the assessment of spiritualities. Caley's (1802) work was a compilation of information from a number of different sources, mainly fifteenth century Exchequer books. A full copy of the 1291 Taxatio does not survive, but as it formed the basis for later taxes, missing portions can be substituted with other documentation (Denton 1993). The database records the amount payable by the individual churches, and vicarages attached to the church, and the amount payable on any pension or portion (Figure 4.18). The pension or portion was usually payable by the church to a monastic house in return for the lease of tithes which belonged to the house, but on many occasions it appears that a fixed sum was paid for a permanent transfer of the tithes (Denton 1993). Monastic or ecclesiastical patrons of the church are also noted. Any of the values recorded have been converted to pence within the dataset. The location of the church has been used for the individual records which include all the payments for the church, vicarage and pension.

4.4.4 Lay subsidy of 1334

After the Lindsey Survey there is no complete survey of the laity for the entire study region until the lay subsidy of 1334. This records one of the special taxes granted by Parliament to the Crown to help with the extra expenses incurred due to the continued trouble with France and Scotland (Glasscock 1975). The tax was upon personal wealth, the value of an individual's movable goods rather than their land

and buildings, and was applied only to the laity (Glasscock 1975). Different payment fractions occurred in different subsidies, but that for the 1334 subsidy was levied at a fifteenth of the value from rural areas and as a tenth of the value from the boroughs and areas of ancient demesnes (Glasscock 1975). This followed not long after a 1332 tax which used the same fractions, but the 1334 tax differed in the fact that the sum paid was a figure that was agreed on by the local community involved. The amount could not be less than that paid in 1332 and was negotiated between the community and the appointed tax officials (Glasscock 1975).

Many subsequent taxes were based on the 1334 figures, and so loose their value in assessing any changes that have occurred in the population; as Glasscock (1975: xvi) notes: 'within a very short time the tax ceased to bear any direct relationship to the lay wealth and taxable capacity of the country'. However, due to the fact that any gaps in the 1334 record can be filled by any subsequent records that were based on the 1334 tax, this lay subsidy is one of the most complete records of taxation from the fourteenth century. There were a number of items that were not taxable in the 1334 subsidy, including clerical property that was included in the 1291 taxation of Pope Nicholas, as well as locally argued exemptions, mainly relevant to the Cinque Ports (Glasscock 1975).

The full document for the 1334 tax for Lindsey has not survived, but has been substituted with that for 1337 within the work of Glasscock (1975). The tax was recorded in pounds, shillings and pence for each township, and this has been converted into a pence equivalent for direct comparison between settlements recorded for the study area (Appendix 8, Figure 4.19). Although this record does not provide population numbers, or exact wealth, it provides an overview of possible surplus wealth of the region in the fourteenth century.

4.4.5 Poll tax of 1377

During the later fourteenth century, fifteenths and tenths were still collected as in 1334, but experiments took place at attempting to tax individuals rather than their wealth. The poll tax of 1377 introduced a per capita levy, which was to be repeated in 1379 and 1381, although by this time the old habits were returning, with the collectors instructed to base the amount collected on the wealth of the individuals

(Fenwick, C. 1998). The 1377 poll tax was collected from every layman and woman over the age of fourteen who was not a mendicant, at a rate of one groat (fourpence) (Fenwick, C. 1998). The poll tax of 1379 introduced a scale of payments from fourpence to ten marks, to be collected from every lay married and single man and every single woman over the age of sixteen (Fenwick, C. 1998). The poll tax of 1381 was collected from every lay man and woman of fifteen years and over at a rate of three groats (one shilling), but in order that the rich should help the poor, everyone was 'charged according to his means', with the resulting total number of shillings from any one vill being equivalent to the number of taxpayers (Fenwick, C. 1998: xvi). The clergy were exempt from the Parliamentary taxes, although there was an attempt to remove the other exemptions that had previously existed for the lay subsidies, but with varying degrees of success (Fenwick, C. 1998).

The poll tax of 1377 did not require detailed records to be kept of individuals who were taxed; only the numbers of individuals and the amount due were noted, but more detailed records were kept for the taxes of 1379 and 1381 (Fenwick, C. 1998). A large number of the receipts from the tax of 1377 survive for Lindsey and in particular for the study area (Figure 4.20). These have been transcribed and the published figures have been used within this research (Fenwick, C. 2001, 2005). Only fragmentary documentation of the 1379 and 1381 poll taxes has survived (a total of four vills in each) and as such this data is not considered in the current research (Appendix 8). From the 88 places taxed in the 1334 lay subsidy, 22 have no surviving record from the 1377 poll tax. To provide a comparison with the other datasets, the recorded value in pounds, shillings and pence has been converted into pence.

4.4.6 Clerical poll taxes 1377, 1381

At the same time as the general populace was being subjected to the new Parliamentary poll tax, the clergy were also subjected to a new tax. These were experimental in nature and were collected between 1371 and 1381 (McHardy 1992). There had not been a full re-survey for clerical taxation purposes since the Taxatio Ecclesiastica from 1291. The clergy had been required to pay past subsidies, but the poll tax introduced in 1377 was levied at two rates; every beneficed person of either sex was required to pay one shilling and every other cleric was to pay 4d. A further

poll tax was granted in 1379, but no records survive for the current study area. Records do survive from the poll tax granted in 1381, at a rate of 6s 8d per head, apart from a few clerks who could pay 1s (McHardy 1992) (Figure 4.21). The information for the study area has been collated from McHardy (1992) and includes the number of individuals taxed, their names and often their position. The exact amount of tax acquired from each church is not available as the tax has only been provided by the deanery rather than by individual institutions.

4.4.7 Lay subsidy of 1524/5 and 1543

The collection of the rates as set down by the lay subsidy of 1334 continued until 1623 and became known as 'the fifteenth' (Hoyle 1994). During the Tudor period the lay subsidy was revived, running alongside that of the fifteenth. This new subsidy was based on either income from land, other income, or goods or wages, with each payee only being taxed on one category (Hoyle 1994). Early records of the Tudor lay subsidies contain little information on the amounts taxed at certain villages – they only show the amount collected by different tax collectors. In 1523 an act was passed allowing four lay subsidy payments in the subsequent years. The records were expanded to include information on which towns, parishes or other taxation unit had provided which amount. As such, in the first payment of the four in 1524, the information on individual taxpayers was included (Hoyle 1994, Sheail 1998a). The subsidies of 1524 and 1525 recorded every man who was worth more than £1. The later two surveys changed the criteria to men who earned more than £50 in a year (in 1526) and those who were rich in moveable goods (in 1527). The rates at which individuals were taxed depended on a number of factors, shown in Table 4.1 below.

1s in the pound	Annual income of land and other sources
1s in the pound	Capital value of moveables worth £20 and upward
6d in the pound	Capital value of moveables worth £2 and upward to £20
4d in the pound	Capital values worth £1 and under £2
4d paid	Those aged 16 years and above and who earned wages of and in excess of £1 a year

Table 4.1: Rates of taxation 1524-5 (Sheail 1998a: 15)

The records for the 1524/25 subsidies are one of the most complete and useful surveys, and Sheail (1998a, 1998b) has attempted to produce calculations from the different surveys of the period to provide combined figures for individual vills. Within the records for the 1524/25 subsidies, a complete survey for the wapentake of Candleshoe does not exist, so the record is not complete for the study region as a whole, but it does nevertheless provide the best indication of wealth distribution of the study region in the sixteenth century (Sheail 1998a) (Figure 4.22). The most complete record comes from the subsidy of 1524, with several wapentakes in Lindsey having no recorded returns for the 1525 subsidies.

The figures used within this research are those provided in Sheail (1998b), which presents the total collected from the individual vills and the number of people that were taxed (Appendix 8). As with other taxes, the total paid has been converted to pence. The data have been spatially linked to the vill. Sheail (1998b) provides three separate columns for the records in Lincolnshire, with the figures from 1524, 1525 and 1543 (on one occasion replaced by 1544 figures). The information for the Lincolnshire survey was a revised edition of the figures that was to appear in a British Academy volume, which never reach fruition (Sheail 1998a). The figures from the 1543 subsidy only present the number of people assessed, not the amount of money requested. Although this later survey has often been cited as being superior to the earlier 1524/25 surveys, the record is not complete and is much damaged (Sheail 1998a). The 1524 figures are those used for this research and are substituted with the 1525 figures if the earlier ones are missing or incomplete.

As with all the tax records, there are numerous problems using the data, such as the omission of much of the clergy and those valued at under £1, but as Sheail (1998a: 36) concludes, the study of the survey of specific counties and hundreds overcomes some of the issues as 'they were surveyed by the same men and consequently have a greater degree of uniformity'.

4.4.8 Diocesan return of 1563

The Privy Council commanded in 1563 that every Diocesan should provide a list of the number of households in every village and hamlet in each diocese. The return from Lincolnshire survives and has been published by Hodgett (1975). There are 130

references to villages and hamlets within the study area. In a number of cases the exact location of the hamlet can no longer be determined so it has been added to the main village to which it belonged (Figure 4.23).

4.4.9 Other gazetteers

Information on market and fair grants for the study area up until 1516 has been compiled from Letters (2003), with a total of 18 markets in 13 separate places dating from 1086 to 1492, and 26 fairs in 13 separate places dating from 1155-1492 being recorded. The information includes grantor, grantee, and day(s) of market or fair.

4.5 Archaeological sources

A number of archaeological datasets exist for the region, and not all of these have been incorporated into the two Historic Environment Records that cover the area under study. The following outlines the nature of the archaeological datasets which have been combined in the current research to provide a region-wide archaeological dataset. This dataset is presented in Appendices 9-11.

4.5.1 Humber Wetlands Project data

The archaeological and palaeoenvironmental survey of the Lincolnshire Marsh by the Humber Wetlands Project recorded new sites throughout the region (Ellis *et al.* 2001). The data exists within a GIS environment and was easily added to the present study. It includes palaeoenvironmental data in the form of borehole records; field walking data including polygons showing which fields were field walked; and the analysis of the flint and pottery finds. These latter two databases include extensive information on the number of finds collected from each find spot, the types of fabric or flint recovered, the nature of the vessels or flint tools, and the date range for the finds. A range of excavation data and geophysical survey results are also available. Although the survey did not cover the entire region, the sampling windows used, known as map views, provide a cross-section of the study area.

4.5.2 Historic Environment Records (HER)

Lincolnshire County Council HER covers the majority of the region, but six of the parishes are within the North East Lincolnshire County Council area. The county Historic Environment Records (HER) contain information on the majority of the

known archaeology from within the region, and information from both HERs has been consulted and entered into the GIS. Initial consultation of the HERs was undertaken at the beginning of the research; however, any additions to the records since this date were added in early 2006.

The HERs also hold paper parish records, with correspondence and old records for each parish. They maintain copies of the 1:10,000 Ordnance Survey maps, upon which is recorded information regarding the archaeology. The majority of this information has been transferred to a computer system, but some items have yet to be added. The HERs also hold transcriptions sheets for the National Mapping Programme undertaken by the RCHME. Again, these records are only available in paper form and have yet to be added in digital form to the computerised system. All the above have been added to the HER dataset. The database contains information for each individual record, including grid coordinates, parish, name, monument type (from a pre-defined list), period and a textual description.

The HERs also house copies of grey literature generated as part of the planning process and other commissioned research. Over 40 of these reports were also consulted and additional information added to a number of datasets. For example further areas of ridge and furrow were added to the NMP transcriptions from the reports from the Lincolnshire Coastal Grazing Marsh Project (Palmer and Tann 2006). In this case, only major areas of ridge and furrow were added. Eleven of the reports were regarding work that has been carried out in extant villages which is helping to establish the origins and nature of settlement at these locations.

4.5.3 Gazetteers

A number of archaeological gazetteers have been consulted to correlate with the Historic Environment Record data and confirm that all the existing archaeological knowledge is already included within this record. The gazetteers include those of Wymer and Bonsall (1977) on Mesolithic sites and finds, Jones' (1998a) catalogue of known and recently identified long barrows of Lincolnshire, Davey's (1973) survey of Bronze Age metalwork from Lincolnshire, Eagles' (1979) survey of Anglo-Saxon settlement and finds in Lincolnshire, and Phillips' (1934) gazetteer of known archaeology within the county.

4.6 Place-names

Place-names can be used in a variety of ways, including the dating of the naming of a settlement and indicators of topography and natural features in the locality at the time of the naming. Work carried out on the Scandinavian place-names of the East Midlands by Fellows Jensen (1978), has been used as the main source of the Scandinavian place-names for the study region. Analysis of the names of Lincolnshire by the English Place-Name society is ongoing but published works exist for Bradley, Haversoe and Ludborough wapentakes (Cameron 1996, 1997), which include nineteen of the parishes within the study area. The majority of the study area has not been completed to date. Further evidence for place-names has been compiled from Gelling and Cole (2000) and Ekwall (1960).

Fellows Jensen (1978) only studied those names which are Scandinavian in origin or are a hybrid with a Scandinavian element, but this data helps explore the impact of Scandinavian settlement in the region. She has re-interpreted a number of the place-names from the meanings originally given in Ekwall (1960), and it is her work that has been followed within this study. Further re-interpretations of Ekwall's definitions have been considered when looking at the non-Scandinavian place-names. The initial source for the earliest form of settlement names is the Domesday Book, with the additional support in the study region from the Lindsey Survey. It has been found that since Domesday there was some Scandinavianisation of place-names in the Lindsey Survey but the only one identified from the study region is that of Alvingham, which has been attributed to scribal alteration (Fellows Jensen 1978).

There are many instances of Scandinavian place-names in the Lincolnshire Marsh, a pattern that is repeated in the Fenlands and the Ancholme Valley. It has therefore been suggested that they appear in areas where reclamation was necessary before settlement could take place, and hence that they possibly signify later settlement (Fellows Jensen 1978).

All settlement place-names within the study area were listed and assigned a specific type from a pre-defined list, usually on the basis of the final element of the name (Table 4.2). Also recorded were the origins of the name (Scandinavian or Old English), the other elements within the name and their meaning (Appendix 12). The

date of any other component was also recorded. Particular attention was paid to mention of water, marsh and islands which may help explore the topography of the region.

Type	**Description**
By	Ending in *–by*, (one of the habitative groups) Scandinavian - suggesting village
Habit	All other habitative names that do not fall into the more specific categories (by, ham, porp, tun), indicating habitation sites such as houses
Ham	Ending in *–ham* (one of the habitative groups) meaning homestead – Old English in origin
Hybrid Habit	Old English habitative place-names which show later Scandinavian influence
Hybrid Topo	Old English topographical place-names which show later Scandinavian influence
Porp	Ending in *–thorp*, (one of the habitative groups) usually considered to be Scandinavian in origin for Lincolnshire, and usually a small or new settlement
Topo	Indicating topographical features such as woodland, rivers, streams
Tun	Ending in *–tun* (one of the habitative groups) meaning homestead or village. Old English in origin

Table 4.2: Place-name types

4.7 Summary

The numerous data sources explored above are supplemented by a wealth of previous research, individual excavation and fieldwork reports and further information. The following chapters will now explore in detail the information provided by these data and discuss the nature of settlement of the Lincolnshire Marsh from the prehistoric to the Late Medieval period. This discussion will begin with an overview of the data for the study region as a whole (Chapter 5). Chapters 6-9 will then review the four separate development zones.

Part 3

Results

Chapter 5

The Lincolnshire Marsh – settlement development

5.1 Introduction

In Chapter 2 it was postulated that although there was a vertical division of the Lincolnshire Marsh into three physiological zones – The Wolds, Middle Marsh and Outmarsh – there was also horizontal division into four zones. These four zones, although largely based on different physical characteristics, also show distinctively different settlement and landscape evolution. They are considered below in Chapters 6-9.

This chapter provides an overview of the main themes of development within the Marsh, beginning with a consideration of the evidence for the prehistoric period and its physical development (section 5.2). It sets the landscape context for the Iron Age and Roman occupation within the region (section 5.3), and the following Saxon colonisation (sections 5.4 and 5.5). The chapter then examines the documentary and archaeological evidence for the general pattern of Medieval settlement in the Marsh (section 5.6). Finally the historic landscape of the Marsh is explored (section 5.7) and the overall conclusions are presented (section 5.8).

The archaeological sites discussed within the text are identified with a unique reference number from the archaeological dataset, which has been compiled from a variety of sources (see Chapter 4). Further information on individual find spots can be found in Appendices 9-11. The locations of the main sites mentioned in the text are shown in Figure 5.1. All illustrations can be found in Volume 2.

5.2 The Lincolnshire Marsh in the prehistoric period

5.2.1 Physical background

The study region is divided west to east into the Lincolnshire Wolds, Middle Marsh and Outmarsh (see Chapter 2, section 2.1.1). The Wolds are typical chalk downlands and are the oldest surface visible in the Lincolnshire Marsh (Berridge and Pattison 1994). The Late Quaternary deposits along the Lincolnshire Marsh overlie a broad wave abrasion platform cut on the chalk, which dips under the current coastline and partly results in the flat nature of the Marsh (Straw 1969).

Reconstructions of the extent of the North Sea in the early Post-glacial period show that the Lincolnshire Marsh remained as part of the land bridge to Europe until some time after *c.* 9000 BP (Figure 5.2) (Coles 1998, Shennan *et al.* 2000). At *c.* 9000 BP the North Sea had encroached as far south as Spurn Point and an embayment had begun to form. However, the majority of the Lincolnshire coastline was still attached to the mainland until between *c.* 7000 BP when the North Sea finally connected to the English Channel (Shennan *et al.* 2000). At this stage there was a wide inter-tidal area some distance to the east into the North Sea basin. It subsequently took until around 6000 BP for the coast to reach a line that resembles the one it follows today (Shennan *et al.* 2000). The full developmental sequence of the Marsh was discussed in detail in Chapter 2 (section 2.3). Here, general trends in the changing landscape are discussed in order to provide a background to human activity.

The first part of the Holocene sequence is the initial peat layer. Pollen samples from cores taken during the Humber Wetlands Project, along areas set back from the coast but within the area of the Outmarsh, suggest a date for initial peat formation in the Mesolithic period, with the vegetation at this time being closed woodland (Tetney Lock South). This early peat is then covered by a sequence of alluvium (Lillie and Gearey 2001a). At other locations along the coast the proposed date of the peat formation, and thus the decline of this mixed woodland, has been placed in either the Late Mesolithic, or Neolithic period (see section 2.3). The evidence would seem to suggest that peat formation was not synchronous along the coast, but was occurring in isolation in a number of areas, reflecting the uneven topography of the underlying till surface.

Rising sea-levels resulted in paludification of the Outmarsh through the Late Neolithic and into the Bronze Age. The majority of sampling sites which have produced evidence for Bronze Age environmental sequences are located within the coastal regions of the Outmarsh. As a consequence of this distribution it has been difficult to identify extensive evidence for human impact on the vegetation to the same degree as has been possible in other areas of the Humber wetlands (Schofield 2001). Rising sea-levels saw the inundation of much of the Outmarsh, and the available evidence indicates that at the time of this first marine transgression most of the area of Outmarsh was covered with saltmarsh. It is at this point in time that most

of the area lost its tree cover (Davies and Van de Noort 1995). This stage was followed by a regressive episode, and the appearance of the associated freshwater clays and plant species occurs before the end of the Bronze Age (Davies and Van de Noort 1995).

5.2.2 Mesolithic activity

Fourteen find spots of Mesolithic material have been recorded and there are issues with visibility due to subsequent sediment deposition (Figure 5.3). The Mesolithic material shows a distribution which is concentrated in the area of the Middle Marsh and along the 10 m contour line. In the past ten years the amount of Mesolithic material recovered during field walking has dramatically increased, suggesting that agricultural activity in the region may be disturbing the lower levels of occupation. The preponderance for Mesolithic material to be recovered from the Middle Marsh may be a reflection of shallower overlying alluvial deposits in this area.

With the above points in mind, and the relatively paucity of finds, it is difficult to discuss regional patterns of distribution. However, despite this, research in other areas of the Humber wetlands has shown that Mesolithic material is often located close to the rivers and water sources of the region (Van de Noort 2004). The location of two of the find spots conforms to this riverine location (1344, 1536), with the other finds being associated with areas on the edge of the Middle Marsh/Outmarsh interface. This interface would not have been apparent in the Mesolithic period as the Outmarsh is a product of later sediment processes, but the finds may indicate the location of small water-filled hollows which have since disappeared.

The Mesolithic flint recovered from the Lincolnshire Marsh suggests small-scale activity, with tools created when needed, and then used in the local area. With only flint artefacts recovered, it is hard to elucidate the activities of these hunter-gatherers in any greater detail. The environmental evidence outlined above (section 5.2.1) would imply a heavily wooded environment throughout the region, and it is in this landscape that we must assume these hunter-gatherers operated, with the nature of the woodlands changing by the end of the Mesolithic period as water levels started to rise.

5.2.3 Neolithic activity

In contrast to the earlier periods, numerous finds of Neolithic date have been recovered from across the Lincolnshire Marsh (Figure 5.4). These include individual finds of stone and flint axes, lithic scatters, long barrows, an enclosure identified from aerial photography (1102) and a proposed settlement site identified during excavation work (1472).

A number of prehistoric routeways have been postulated for Lincolnshire (Phillips 1933, May 1976). Though no dating evidence can be assigned to these routes, it is worth considering them within the context of the Neolithic settlement of the area and the general 'settling' of the landscape (Bailey and Whittle 2005). It is likely that such routes would have become established as the exploitation of the landscape increased.

Running along the eastern edge of the Wolds is Barton Street (Figure 5.5). The line of the route can be traced along the A18, north of Louth, but is more difficult to distinguish to the south of Louth. The main suggestion is that it heads towards Alford, and then possibly links with the route which later becomes the Roman road (Margary 27) at Burgh le Marsh (Phillips 1933, Margary 1973, May 1976, Owen 1997a). Ulmschneider (2000b) projects a line slightly further to the west, following that of the modern A16 to join the Blue Stone Heath Road before Ulceby Cross. For the purposes of this discussion the southern section of this route has been taken as a line roughly linking Louth and Alford, but this should not be seen as a fixed line in the landscape. The second possible prehistoric routeway is that followed by the road known as Blue Stone Heath Road, which can be traced from Ulceby Cross, running east, past Calceby and South Ormsby (Phillips 1933, May 1976, Owen 1997a). As will be shown below, a number of the Neolithic monuments that do survive are located along these routes, lending support to their early development, or conversely, that these monuments acted as route markers in later periods.

The majority of Neolithic finds have been recovered from the area of the Middle Marsh, although a number of finds have been made in the Outmarsh, mainly from eroded contexts on the foreshore. All finds from the Middle Marsh and Outmarsh are lithics or axes, with the exception of two possible long barrows. The most numerous find types are the axes, with stone axes more numerous than those of flint (Figure

5.6). Neolithic settlement and burial evidence is concentrated on the Wolds. With the dating of the submersion of the forest along the coast attributed to the Neolithic period, it is anticipated that any indication of Neolithic activity in the Outmarsh will once again be buried under later alluvial deposits. The concentration of finds in the Middle Marsh and Wolds reflects this bias. What is apparent from the distribution of finds is that there is widespread activity across the region. As noted above, the most numerous Neolithic finds are axes, suggesting that woodland clearance was underway.

Petrological investigation of a number of the stone implements was undertaken by Cummins and Moore (1973) in their survey of axes from Lincolnshire and Nottinghamshire. The origins of the stone were analysed and compared with a number of known axe production sites and sources. These have been established as being derived from a number of 'Groups'. This survey included within its scope both Neolithic and Bronze Age axes (Cummins and Moore 1973).

The majority of the axes from the study area, whose origin can be determined, are those attributed to Group VI, which have their source at Great Langdale in the Lake District (Cummins and Moore 1973). The concentration of this source is also present for Lincolnshire as a whole, with over 50% of the axes studied by Cummins and Moore (1973) being assigned to Group VI. Other groups represented in the Lincolnshire Marsh are Groups I, IX, and XVIII, the sources of which are considered below.

Dating of the axe groups has been established for the south of England but cannot be directly applied to Lincolnshire. The Cornish source axes (such as Group I) are considered to date from the Early Neolithic (Cummins and Moore 1973), but the small number of examples from Lincolnshire, and the fact that there may well be re-working of the original axes, does not preclude a later date for their appearance in this region. Group IX are known to have been made in Ireland during the Early Neolithic, but again the distance for this axe to travel does not necessarily represent an Early Neolithic introduction of the axe into Lincolnshire (Cummins and Moore 1973, Bradley and Edmonds 1993). Group VI axes are dominant in the Middle and Late Neolithic in Lincolnshire and the Marsh (Cummins and Moore 1973). Group

XVIII has a possible source in Northumberland, or a more likely origin from glacial erratics that have been found along the Yorkshire coast (Buckland pers. comm.). They have been given a date of Late Neolithic and Early Bronze Age, which is confirmed by the closely dated example from Cleethorpes beach (Cummins and Moore 1973, Leahy 1986). This dating would appear to suggest increasing activity in the region during the Middle and Late Neolithic, but the evidence needs to be considered alongside the other evidence for Neolithic activity. The number of axes from the Marsh, and the disturbed contexts from which they come, preclude any further analysis of their significance. However, when considered alongside the environmental evidence, the finds would suggest that woodland clearance began in the Neolithic period, but the full extent of this impact is unknown.

Long barrows provide the evidence for burial activity in the Neolithic, with a concentration on the Wolds, and two possible examples are also noted in the Middle and Outmarsh (Figure 5.7). Seven definite long barrows and eight possible long barrows have been identified, although the latter have been identified from aerial photography and there has been no confirmation of their exact nature via excavation. From the cropmark and excavated evidence, the majority of long barrows in Lincolnshire appear to consist of a full enclosure ditch with occasional causeways, rather than the two flanking ditches that are often seen in southern England (Jones 1998a). The majority of Lincolnshire long barrows have been identified on the Wolds, and the ones within the current survey form the easternmost examples. Most of these sites have a topographical position close to river valleys, and are placed on the break of slope which provides good visibility from the valley bottom below (Jones 1998a).

Jones concludes that the absence of long barrows from the lowlands, with all biasing factors considered, was as a result of 'positive and deliberate placement' of these monuments on the higher, adjacent Wolds (1998a: 91). A similar pattern has been suggested for the long barrows on the western side of the Yorkshire Wolds, overlooking the Foulness Valley (Halkon 2006).

The exact dating of the transition from long barrow to round barrow on the Lincolnshire Wolds is unclear due to the lack of excavated examples. A number of

round barrows have produced Beaker pottery, providing a transitional date. It has been shown that many of the round barrows on the Yorkshire Wolds date from the Late Neolithic, but the Lincolnshire Wolds lacks any of the great barrows such as Duggleby Howe (Manby *et al.* 2003); only further excavated and dated examples within Lincolnshire will aid the understanding of the transition within the region. Round barrows will be discussed within the Bronze Age section below.

5.2.4 Bronze Age activity

Bronze Age activity in the area is signified by a number of round barrows, lithic scatters and settlement evidence. Many of the individual find spots and lithic scatters have been dated to the Late Neolithic/Early Bronze Age, highlighting the transitional nature of many of the identifiable lithic tools from the earlier period. A number of finds of Beaker pottery, often indicating a transitional Neolithic/Bronze Age date, have been discovered, but many do not have secure associated dating or contexts. The greatest concentration of Bronze Age material comes from the Middle Marsh and the Wolds, with occasional finds occurring in the Outmarsh (Figure 5.8).

There is no conclusive settlement evidence from the Bronze Age within the Lincolnshire Marsh. That the area was occupied is not in doubt; the number of lithic scatters and finds of axes suggests widespread occupation of the Middle Marsh, the environmental data supports agriculture in the region. The Bronze Age is also a time of environmental flux with marine inundation and regression dated within the period, at many locations along the coast. It is suggested that during the Bronze Age the majority of the Outmarsh may have been under marine influence for short periods. The low number of finds from the Outmarsh should be considered in this context.

Individual finds of stone axe-hammers, stone battle-axes and bronze axe finds occur throughout the region, but the ratio of metal to stone axes is small (Figure 5.9). A total of five bronze axes have been recovered which, when compared with the Bronze Age metalwork for Lincolnshire as a whole, is relatively low. Unlike the other wetlands of Lincolnshire, such as the Ancholme and Witham valleys, the Lincolnshire Marsh does not appear to have extensive ritual deposition of metalwork within the wetlands (Davey 1973), unless they are still deeply buried in isolated

wetlands. The low number of axes does not help with the division of settlement within the area into Early, Middle and Late Bronze Age.

Late Bronze Age salt production has been identified at Tetney (Palmer-Brown 1993). Whilst this is the earliest evidence for this activity along this coast, no associated settlement has been located, and the possible seasonal use of the site therefore needs to be considered.

Evidence for burial activity is apparent in the form of round barrows (Figure 5.10). Like the long barrows, there are a number of round barrows located on the Wolds. There is also an extension of this activity into the Middle Marsh region with a large number of round barrows being identified on the undulating till surface.

The presence of many of the round barrows, located close to water at a time of great fluctuations in water levels and general increased wetness within the Marsh, is interesting. The move from the Neolithic burial practice of barrows being concentrated on the Wolds, to a more widespread burial practice, may reflect changing attitudes to burial or the landscape. There are not enough long barrows to suggest that all of the Neolithic population of the region was buried on the Wolds, so other forms of burial must have existed. In the Bronze Age there is a proliferation of burial monuments, many of which appear to have multiple burials over a long period of time.

5.2.5 The wider regional context

The range of Mesolithic material recovered highlights the fact that once conditions were more favourable for occupation, people began to use the area of the Marsh, however, to what extent activity occurred is not known. Elsewhere in Lincolnshire excavations have revealed potential occupation sites, particularly on the Lincoln Edge, in the area of Scunthorpe. Excavations at Willoughton, to the south of Scunthorpe, revealed occupational debris and a number of hearths, while at Sheffield's Hill, to the north-east of Scunthorpe, a large assemblage of flint has been uncovered, which is potentially associated with charcoal and animal bones (May 1976). Both these sites were located in small depressions below the scarp top of the Lincoln Edge, which may indicate the location of potential Mesolithic sites on the

Wolds. Any settlements or activity sites in this area would have been able to access a range of environments in both the uplands and lowlands (May 1976).

The distribution of stone axes throughout Lincolnshire indicates widespread Neolithic activity across the region. Alongside the environmental data this would suggest woodland clearance in some areas, but this was not undertaken wholesale; the evidence from Butterbump shows limited woodland clearance, and within the Fenland at Bourne and Thurlby the available evidence indicates that the area was wooded until the Bronze Age (Membery cited 2004b).

Excavations at a number of later sites such as Dragonby (May 1996) and Tattershall Thorpe (Chowne *et al.* 1986) have revealed Neolithic occupation preceding the well-known Iron Age occupation. The general settlement pattern would appear to suggest that a variety of different environments were being exploited, not solely the uplands but also the lowlands and fen-edge (Membery cited 2004b). Within this pattern the evidence from the study area fits in well with evidence for exploitation of the Wolds, Middle Marsh and Outmarsh.

Ritual sites have been discovered elsewhere in Lincolnshire, with hengi-form monuments in the Bain Valley and at West Ashby, the latter site being associated with later round barrow development (for a similar site in the Lincolnshire Marsh see Chapter 8) (Membery cited 2004b).

Bronze Age settlement sites are rare in Lincolnshire but have been located along the southern fen-edge, the Welland Valley, and the foot of the Wolds on the northern fen-edge (Membery cited 2004b). Excavations at Billingborough, on the fen-edge, revealed evidence of continued occupation from the Early Bronze Age to the Late Iron Age/Early Roman period in a sub-rectangular enclosure (Chowne *et al.* 2001). In general, settlement is thought to have been more extensive than these few examples would suggest, especially when considered alongside the extensive evidence for metalwork and burial. Further fieldwork is required to elucidate the regional pattern.

The distribution of round barrows in Lincolnshire, as a whole, reflects that seen within the Marsh. Barrows appear in the local area of previous long barrows in prominent, visible locations and they are also found in river valleys and along the fen-edge (Membery cited 2004b). In addition, barrows have been found located on the landward side of perceived wet/dry or river/fen interfaces such as at Deeping St Nicholas (French 1994). Excavations at a number of barrow cemeteries have revealed little consistency in the burial practice within the cemeteries, let alone from one cemetery to another (Membery cited 2004b). As well as barrow burials, Bronze Age flat cremation cemeteries are known from Lincolnshire, however, none have been located within the study area.

5.3 The Lincolnshire Marsh in the Iron Age and Roman periods

5.3.1 Physical background

Information from samples taken at Chapel St Leonards suggest evidence of tidal flats in an area which is now on the beach; it also indicates that away from these zones the landscape was one of diverse mixed woodland, with areas of cleared agricultural land (Hunt *et al.* 1990). The pollen assemblage also suggests that the agricultural economy shifted from arable to pastoral, and then back to arable. Unfortunately, no firm date has been placed on this sequence, although it has been inferred that it was equivalent to Godwin's Pollen Zone VIII, which dates from the Iron Age onwards (Hunt *et al.* 1990). The Chapel St Leonards samples were obtained from the upper peat in Swinnerton's (1931, 1936) model for the coastal deposits (see Chapter 2). As with the lower peat this too seems to be forming in different environments and at different times along the coast. At Vickers Point, the evidence suggests a freshwater marsh, whereas at Chapel St Leonards there is saltmarsh followed by a reed swamp and then a bulrush bed (Hunt *at al.* 1990). This possibly reflects local conditions and response to local sedimentation (Hunt *et al.* 1990).

Very few dated sequences have continued into the Roman period, but the find of a single pollen grain from a grape vine at Withern may suggest grape cultivation in the area (Schofield 2001). At Ingoldmells it has been suggested that freshwater conditions returned, allowing peat development, until another marine transgression occurred, possibly at *c.* AD 100-300 (Davies and Van de Noort 1995). This correlates with the general picture for north-west Europe where a standstill phase is

suggested in the general pattern of sea-level rise, between AD 100-300, after which there is marine inundation, often termed the Romano-British transgression (Devoy 1990).

5.3.2 Settlement evidence

Iron Age settlement evidence is rare from the Lincolnshire Marsh (Figure 5.11), with the majority of identified and dated sites relating to salt production. However, three Iron Age enclosures and two settlement sites have been identified. Excavations have also revealed a number of ditches, suggesting that Iron Age occupation was occurring, but this has yet to be fully identified.

That there was continuity between the Iron Age settlement in the region and that of the Roman period cannot be in doubt. A number of sites have proven Iron Age occupation, followed in the same location by Roman activity, such as at Mumby (Clay 2002) and Burgh le Marsh (Malone 2001). Some sites have been placed in the Late Iron Age/Roman period, for example the salterns in the Ingoldmells area (Kirkham 2001) (Figure 5.12). Salterns are often difficult to date as they usually lack accompanying datable material. A number of cropmark enclosures have been labelled as Late Iron Age/Roman on typological grounds by the National Mapping Programme (Bewley 1998b).

A number of Roman roads have been identified across the region, and alongside the established trackways they provide a possible framework for settlement development. Three roads have been identified as dropping down from the Wolds, through the Middle Marsh and onto the Outmarsh (Figure 5.13) (Margary 1973). There can be no doubt that the two main prehistoric trackways, Barton Street and the Blue Stone Heath Road, continued in use (Owen 1997a). A number of Roman roads have been postulated as running into the Marsh, adding to those already established by Margary (1973) and mainly follow the same direction, heading into the Marsh at right angles to the main spine of Barton Street (Owen 1997a). The line of these roads has been suggested from the field- and road-name evidence; this falls into three main categories: the Old English *Stræt*, implying a Roman road, place-names with *ford* elements, and the occurrence of the Scandinavian element *steinn*, meaning stone (Owen 1997a). Although Owen (1997a) concedes that he has tried to avoid seeing

straight lengths of roads as necessarily Roman, the combination of the place-name evidence, increasing numbers of archaeological finds along these routes, and the pattern of land division seen in other regions, such as Essex, has convinced him that the pattern is a possibility and should act as an impetus for further fieldwork to test the theory.

Extensive evidence for Roman occupation of the region is seen from excavated settlement evidence, cropmark enclosures and a number of extensive pottery scatters (Figure 5.14). Some of these settlement sites are located along the main Roman roads; a number of these are found along the proposed Roman road routes and the prehistoric routeways, confirming possible lines of communication. The settlement sites are not confined to the Wolds and Middle Marsh, which suggests that at least some areas of the Outmarsh must have been available for occupation during the Roman period.

The majority of the Roman material and sites that have been given a more precise date range fall within the third and fourth centuries (Figure 5.15). The few finds that indicate the initial years of Roman impact are a small number of coin finds that are mainly located along the coast or the main routeways. Second century material has been recovered from a number of locations, mainly on till outcrops in the Outmarsh or in the Middle Marsh. It is these locations which have tended to reveal continued activity from the second to third centuries and they often also reveal earlier Iron Age activity. A general increase in settlement only appears to have occurred in the later Roman period, primarily in the third century, with more extensive occupation of the whole area.

The majority of the settlement sites have been identified solely through aerial photography, which makes exact dating difficult. Through the use of dateable parallels in other regions, general discussion of the prehistoric, Roman and undated enclosures is possible. Discussion and analysis of the enclosures that have been discovered in west Lincolnshire and the Lincolnshire Wolds has already been undertaken, and the following section will review the data from the Lincolnshire Marsh in the context of these two reviews (Jones 1998b, Winton 1998). As mentioned above, one aspect that has become apparent is that many of the sites

identified show continuity between the Iron Age and Roman period. As a consequence these settlements can be difficult to distinguish and date, with a simple enclosure repositioned and rebuilt over time in the same locality, ultimately producing a complex cropmark pattern (Winton 1998).

The enclosures that have been identified within the Lincolnshire Marsh fall within two of the three categories that were established for the Lincolnshire Wolds (Jones 1998b), and not within the more complex range of forms that were established in west Lincolnshire (Winton 1998). The categories outlined for the Wolds were: major settlements, villa sites and minor farmsteads; no villa sites have been located within the Marsh, and the only major settlement in the study region is located on the edge of the Wolds at Ulceby (2056). It was concluded from this work that Roman sites were often rectilinear or sub-rectilinear in nature, and it was the differences in size and shape that suggested different types of settlement (Jones 1998b).

Two smaller subsets of enclosures were identified on the Wolds: ladder enclosures and enclosures appended to linear trackways, neither of which are apparent in the Marsh (Jones 1998b). Overall, the study of Roman settlements on the Wolds indicates a sparsely populated landscape, with a lack of substantial field systems attached to the enclosures. This is a pattern that was mirrored in other areas of Lincolnshire, apart from the Fenland (Jones 1998b). This contrasts with the pattern of settlement from the Yorkshire Wolds to the north, which shows extensive evidence of linear settlements with associated field systems. Jones (1998b) suggests that the lack of field systems may reflect the mixed economy of the Roman period in Lincolnshire, and that some of the enclosures that are visible are associated with stock rearing.

The review of the enclosures in west Lincolnshire did not concentrate solely on those of possible Roman date. As such, the west Lincolnshire examples may help to distinguish earlier period settlement from that of Roman date (Winton 1998). Here the distinguishing features of Iron Age settlements were seen in the complex, often ditched, entranceways. This may explain why the enclosure at North Thoresby (1741) has been assigned an Iron Age date, but it should be noted that no other similar enclosures have been recorded on the Marsh or Wolds.

Only a small range of the cropmark enclosure sites within the Marsh has associated dating material recovered from the site and all of this material is Roman in date (Figure 5.16). Three enclosure sites have been recorded as Iron Age on the MORPH database that accompanies the NMP aerial photographic plots. Designation has been undertaken on purely typological grounds, as highlighted above, and there appears to be no artefactual evidence to support the proposed periodisation.

The remaining enclosures have been assigned either a purely prehistoric, or later prehistoric date, or have been recorded as of unknown date. The majority of the enclosures appear to be some form of small farmstead or related enclosure which can be divided into two main categories: simple single, mainly rectilinear, enclosures (Figure 5.17) and more complex multiple enclosures, including single enclosures with possible small field enclosures (Figure 5.18). A number of these enclosures will be reviewed in Chapter 6-9.

A number of factors need to be considered about the general pattern of Roman settlement. Firstly there is a bias in aerial photography to record enclosed, rather than unenclosed, settlement. The majority of the enclosures recorded have little evidence of buildings or structures within their locality, but this could be due to the unfavourable nature of the local soil conditions and the general difficulty in identifying structures such as round houses on aerial photographs. That unenclosed settlement was present in the region can be in no doubt when the Roman pottery find spots and scatters are considered alongside the evidence for enclosures – there are many areas of extensive pottery finds with no evidence of enclosures within the vicinity. Furthermore, the soils of the Marsh are not conducive to cropmark production, and therefore there is a bias, with the majority of enclosures identified on the Middle Marsh and Wolds, although pottery scatters suggest settlement throughout the region (Figure 5.19) (Jones 1988, Carter 1998).

5.3.3 Salt production

There is extensive evidence for salt production in the Iron Age and Roman periods in the area of Ingoldmells and Addlethorpe (Figure 5.20). As many of these sites are devoid of any dating material associated with the waste materials (briquetage) of salt

production they are often arbitrarily classed as Iron Age, Iron Age/Roman or Roman in date (Kirkham 2001).

The concentration of salterns within this area may indicate that at this location, the saltmarsh creeks and tidal systems were the best disposed to salt production. Saltern sites uncovered during the Burgh le Marsh to Ingoldmells Rising Main Installation revealed that they existed upon an uneven Roman ground surface (Tann 1995). This concentration may also indicate some organised control of salt manufacture in the Roman period, although this would not explain the earlier Iron Age concentration. The earlier concentration may be due to a number of factors, but it must primarily have been due to the availability of suitable production areas.

Salinae are marked on Ptolemy's map of Roman Britain, and these have been identified as being located in the Skegness region, after the map has been re-projected (Strang 1997). Jones and Mattingley (1993) suggest that there was some form of military control over the salt industry during the first century, but where this control was based is unknown. One potential location could have been Burgh le Marsh due to the concentration of Roman material that has been located in the vicinity. Another possibility is a site located at Skegness, where a Saxon shore fort was postulated to have existed, with a ferry link to Norfolk, but any evidence of this site has been lost to the sea (Phillips 1932b).

5.3.4 The wider regional context

Iron Age and Roman settlement is extensive in Lincolnshire, with a variety of different types of site established. Excavations have been undertaken at a number of sites. Again the relative lack of fieldwork in Lincolnshire results in a patchy picture of activities. By contrast, the extensive fieldwork that has been carried out in the Fens has established the sequence and utilisation of that area during the Iron Age and Roman periods, with the most prolific activity during the Iron Age being salt-working, as appears to be the case in the Lincolnshire Marsh.

There is no conclusive evidence for the typical hillforts of the Iron Age in the county, however, a range of large enclosed sites have been dubbed 'Lincolnshire hillforts' (Membery cited 2004c). By the Late Iron Age a number of large

settlements had developed, with excavated examples at Dragonby (May 1996) and Old Sleaford (Elsdon 1997), and it has been suggested that these fit within the definition of oppida (Membery cited 2004c). From the excavations at these two sites a firm chronology for Late Iron Age pottery has been established. The fieldwork in the Fens failed to locate any of these pottery types, and a possible Late Iron Age abandonment of the Fens has been postulated (Membery cited 2004c).

Investigation of Iron Age metalwork, often recovered by metal detectorists, led May (1984) to identify a number of large settlements which may have acted as central places for small territories, with the Marsh being controlled by settlements near Ulceby and Ludford, just outside the current study area. A number of smaller defended enclosures have been excavated across Lincolnshire, including Weelsby Avenue in Grimsby, possibly suggesting a second tier of settlement (Membery cited 2004c). Within this tier may lie a number of the potential Iron Age enclosures identified from aerial photographs within the study area.

The continued occupation of many of the Iron Age sites throughout Lincolnshire is mirrored in the Marsh. The Marsh lies outside the immediate area over which the Romans took tight control. The main road system and forts were located on the Lincoln Edge, with road connections running north and south from the legionary fortress at Lincoln.

Roman rural settlement has been shown to be varied, as the discussion of the enclosures of the Wolds and west Lincolnshire has illustrated (Jones 1998b, Winton 1998). A number of villas have been located and excavated, with the main examples positioned on the Lincoln Edge, and a number of outliers on the northern edge of the Wolds (Whitwell 1992). Excavations at these and other sites in Lincolnshire have revealed evidence for activity from the first and second century suggesting that the increase in activity that is seen in the Marsh in the third century is specific to the location and not following a general trend. However, the artefact assemblages of the later periods are easier to identify so do provide a partial bias. A number of sites such as Dragonby and Winterton have provided evidence of continued occupation from the Iron Age, with round structures being replaced with a villa at Winterton in the second century (Whitwell 1992).

To the north of the Marsh, in the Humber Estuary it has been noted that there is an expansion into the areas adjacent to the marshland in the first to second centuries, with the push into the marshland happening in the second century (Fenwick *et al.* 2001a). This is evidenced at Killingholme with activity spanning the second half of the second century to the fifth century (Fenwick *et al.* 2001a). A number of Roman industries have also been identified, such as pottery manufacture, but the industrial focus on the Marsh was salt production.

5.4 The Lincolnshire Marsh in the Early and Middle Saxon periods

A marine transgression is recorded in many areas of the English coast at the end of the Roman period, and this can be seen by the layers of alluvium which cover many of the Iron Age and Roman salterns in the Ingoldmells area (Rippon 2000). Unfortunately no absolute dates have been obtained for this transgressive contact from the Lincolnshire Marsh. There have been rising sea-levels over north-west Europe since the Roman period, with an estimated sea-level at 2000 BP around 0.5 m to 1.0 m lower than today in areas away from the main impact of isostatic rebound (Devoy 1990). Within this general pattern of rising sea-levels there are periods of standstill, such as that identified between AD 100 and 300 (Devoy 1990), although the general pattern of sea-level rise continued and resulted in the Late Roman inundation.

During the Early and Middle Saxon periods the Lincolnshire Marsh was part of Lindsey. There has been much debate into the exact nature of Lindsey and whether it formed a kingdom or was purely an administrative unit; the sparse amount of documentary evidence that survives does not allow any firm conclusions to be drawn (Foot 1993).

The kingdom of Lindsey is mentioned in the document known as the Tribal Hidage which is undated, but is potentially of seventh century date. It has been suggested that this was the Tribal Hidage document of Mercia (Bassett 1989), however, Higham (1995) has argued that it is in fact from Northumbria and dates to the reign of Edwin who died in AD 633. Lindsey is mentioned in the primary list of the document and is classed together with Hatfield at a tribute of 70,000 hides. Throughout the period, Lindsey passed from Northumbrian to Mercian control, and

finally came under Mercian control in 679, until the event of Scandinavian settlement (Foot 1993). Lindsey is thought to have been defined by a number of water bodies - the Humber to the north, Trent to the west, Witham to the south and the North Sea to the east, creating a near-island kingdom (Leahy 1999).

5.4.1 Settlement evidence

A small number of find spots and sites have revealed evidence for Early Saxon activity within the area, with evidence for both settlement and burial occurring (Figure 5.21). The form that this evidence takes is varied and includes carved stones and churches, as well as the usual find spots and artefact scatters (Figure 5.22). There are no sites of Early Saxon date located within the Outmarsh proper, with the main evidence coming from the Middle Marsh and the till outcrops in the south of the region. A number of sites have revealed evidence of Middle Saxon activity, including find spots within the Outmarsh at Mablethorpe and an unlocated metal detected site known as 'near Skegness'. A number of find spots have also been given the identification of 'Anglo-Saxon' and as such these will be discussed with this general material. Only a single item classed as Anglo-Saxon is located within the Outmarsh, with the remainder coming from the Wolds or Middle Marsh.

One form of data, which has not been fully integrated into the archaeology dataset for this research, is that from the Portable Antiquities Scheme and recording of metal detected finds undertaken by North Lincolnshire Museum. From the published research on these finds a number of trends and settlement patterns can be established. Early Saxon finds have mainly been recovered from lines of communications focussed along Barton Street and Margary 27 (Ulmchneider 2000a, 2000b, Leahy 2003). A cluster of finds was also recovered from along the Great Eau, suggesting that this may have acted as an important waterway in the Early Saxon period (Leahy 2003). This pattern is reinforced in the Middle Saxon period with high concentrations of finds from the end of Margary 27 and from the edge of the Great Eau (Leahy 2003). They also reveal increased activity within the Outmarsh area (Leahy 2003). On the whole, the amount of finds from the Lincolnshire Marsh is limited when compared with other areas of Lincolnshire, but this could also be a factor of the distribution of active metal detectorists.

Although large cremation cemeteries are known throughout Lincolnshire, none falls directly within the study area. The nearest cemetery is located just outside the region, to the west of Louth at South Elkington (103). Within the study area there are a number of other possible Early and Middle Saxon burial sites, including possible barrow sites (see Chapter 2).

5.4.2 The wider regional context

The initial post-Roman period would appear to see the continued occupation, on a small-scale, of the city of Lincoln. It also appears that any new incomers avoided the area, as none of the large cremation cemeteries have been discovered near the city (Leahy 1993). Excavations at St Paul in the Bail, at Lincoln, have revealed a church which is contemporaneous with the forum. This has burials dated from the late fourth century to the eleventh century (Eagles 1989). Outside of Lincoln, Roman continuity has been harder to confirm. The presence of a number of items which have been identified as Germanic belt fittings suggesting *foederati* has been debated and their mainly rural distribution suggests that they do not necessarily provide evidence of a military force (Leahy 1993). Eagles (1989) suggests that Germanic soldiers with families were present in rural Lincolnshire before the Roman withdrawal and may have provided a focus for future immigrants. The distribution of the belt fittings, in rural locations, would support this hypothesis.

New immigrants are attested by the appearance of several cremation cemeteries, mainly on the Wolds and Lincoln Edge, one of which is that at South Elkington. These appear to control specific areas, but dating problems make it difficult to determine the precise date for the development of these cemeteries. With time, smaller, more local cemeteries appear. These are found close to Lincoln, perhaps suggesting that the populations of the area have now begun to integrate (Leahy 1993). The general developments occurring in Lindsey as a whole seem to have had little impact in the Marsh. None of the Germanic metalwork recovered so far has come from the Marsh, and the only firmly identified cemetery is that at South Elkington, with a possible later inhumation cemetery suggested at Louth, and the possibility of two Anglo-Saxon barrow burials at Cleethorpes and Burgh le Marsh.

Although the archaeological evidence is limited for the study area, a number of patterns have emerged. Firstly, a number of the sites remain located around the main communication routes of the Roman and prehistoric trackways. This pattern is reinforced by the work that has been carried out on the metal detected finds, and this general pattern is seen throughout Lincolnshire (Ulmchneider 2000a, 2000b, Leahy 2003). Excavations, often as part of development control, are providing insights into continuity of settlement in certain areas of the Marsh, with settlements such as Huttoft, Cumberworth, Burgh le Marsh and Holton le Clay seemingly having some level of continued occupation from the Early Saxon period up to the present. This pattern of continuity of settlements has been highlighted for other areas of Lindsey where Middle Saxon pottery has been recovered during field walking of deserted Medieval settlements (Everson 1993).

A distinct difference in wealth is apparent between the area of Lindsey and that to the south in the district of Holland. Although a number of Middle Saxon settlements have been identified, especially through the field walking undertaken by the Fenland Project, the lack of metalwork suggests that the focus of activity in this area may have been farming and stock rearing, with more extensive trade only being carried out in Lindsey (Ulmschneider 2000b). The number of coin finds has led Blackburn (1993: 83) to describe Lindsey as 'one of the wealthiest regions of England in the 8th and 9th centuries' and to consider that this is one of the reasons why the kingdom was so keenly fought over by Mercia and Northumbria.

5.5 The Lincolnshire Marsh in the Late Saxon period

The lack of documentary material continues, although the information recorded within the Domesday Book can help to establish a number of factors concerning Late Saxon landholding.

The major political divisions of Lincolnshire were the wapentakes, as with other parts of the Danelaw, and these were sub-divided into hundreds (Roffe 1981). The impact of the Scandinavian settlement of the area will be discussed below but it is somewhat apparent in the division of Lindsey into three *ridings*, a word with Scandinavian origins (Cameron 1975). *Wapentakes* also have a Scandinavian origin, but were used to describe different concepts in Scandinavia to those in Lincolnshire

(Cameron 1975). The *hundred* was primarily formed to help with taxation and the main evidence from the Domesday Book suggests that a hundred was equivalent to twelve carucates (Roffe 1981). The exact pattern is hard to disentangle, and there are very few occasions when a hundred coincides with a single settlement (Roffe 1981). Some of the hundreds possibly consisted of scattered manors and 'some of these scattered hundreds can be reconstructed, but that is rarely possible' (Sawyer 1998: 138).

The Domesday Book has only four mentions of hundreds within the Lincolnshire Marsh: Candlesby, Mumby, Halton Holegate and Huttoft. The picture is widened when the clamores (claims against the recorded assessment within Domesday Book) are studied, as these provide names for another eight hundreds: Louth, Little Carlton, Rigsby, Somercotes, Skidbrooke, Swaby, Theddlethorpe and Willoughby, bringing the total of named hundreds to twelve. These can be further supplemented with mentions of hundreds in the Lindsey Survey which add: Legbourne, Caleeby, and Withern and Stain, bringing the total of named hundreds to fifteen. Swaby and Huttoft are both mentioned in the main Domesday text, in the clamores and in the Lindsey Survey. With a total of over 400 carucates recorded for the study area, we should expect at least 33 twelve carucate hundreds within the region, allowing for a number of these to include manors outside the study area.

Within the complete calculations of the number of carucates for the same vill there are four examples that may indicate a single vill representing a single hundred: Addlethorpe, Burgh le Marsh, Louth, and the entries that are grouped together from Swaby, Belleau, South Thoresby, Claythorpe and Tothill. Of these, only Louth and Swaby have been named as hundreds in the documentation, but it is likely that Addlethorpe and Burgh le Marsh can now be added to this list

The physical evidence for any of this land division in the landscape is very rare. A green lane between Gayton le Marsh and Great Carlton coincides with the boundary of a wapentake, and has been thought to have potential Roman origins, perhaps suggesting a possible early origin for a number of these features (Owen 1984). Lincolnshire lacks any land charters with boundary clauses, with only a single

example recorded for the whole county, outside of the study area. As such, it can be difficult to reconstruct Late Saxon estate boundaries (Roffe 1984).

5.5.1 Settlement evidence

A number of find spots and excavations have revealed evidence of Late Saxon activity in the study region (Figure 5.23). Although scattered through the region, there are noticeable concentrations around communication routes (however, the main stretch of Barton Street has no Late Saxon dated material) and along the rivers of the region. Finds are located in all three of the physical regions of the Marsh.

Many pipeline trenches in the Lincolnshire Marsh have also recovered pottery with date ranges between the ninth and eleventh centuries. This evidence suggests that the picture painted by the documentary evidence and place-names (see below) is a relatively true reflection of a landscape, which was well settled in the Late Saxon period.

The number of finds recorded from metal detectorist activity is minimal for the study area, but it includes some concentrations on the Wolds along the main routeways, and at the coastal end of the Great Eau. This is a distribution pattern which has continued since the Middle Saxon period (Leahy 2003).

5.5.1.1 Place-name evidence

Place-name studies have often been used to try to build a chronology of settlement and an understanding of migrations into an area. Although there are many issues concerning place-name use (e.g. the naming of a new settlement, re-naming an already existing settlement, and problems with survival due to vagaries of recording), they still provide a useful source of information on factors such as the contact between the local inhabitants and the Scandinavian incomers (Hadley 2001). There is also the consideration that many of the place-names do not appear to have come into use directly at the time of Scandinavian contact, but many years later (Hadley 2002).

A total of 146 place-names were studied from the region, being mainly the names associated with larger settlements, whether still in existence or long since deserted

(Table 5.1) (Appendix 12). Some of the settlements are known from documentary sources but their exact location remains to be determined. As such, these sites do not appear on the accompanying maps. The majority of the place-names fall within the two main types that signify Scandinavian influence - *bys* and *thorps*, which account for 49% of the names in the region. A much smaller proportion of the names fall into the category of *–ham* and *–tun*, which indicate pre-Scandinavian origins. No settlement names of pre-Anglian style are found within the study region.

Type	Number	Percentage
-by	49	33.6
Habitative	18	12.3
-ham	4	2.7
Hybrid habitative	4	2.7
Hybrid topographic	4	2.7
-thorp	23	15.8
Topographic	28	19.2
-tun	16	11.0
Total	146	100

Table 5.1: Place-name types recorded in the study area

Although all of the available place-names have been considered within this analysis, it must be noted that not all of these were recorded at Domesday. The Domesday Book is the main early source for studying place-names, but some of the names used in the current study are relatively late introductions (Table 5.2). The Lindsey Survey provides further support to the Domesday spellings of place-names, and as such, the total percentage of place-names that have been recorded as being in existence before 1150 is 80%.

-Ham place-names are often associated with the earliest phase of Anglo-Saxon settlement and have been found located close to Roman roads and settlements (Cox 1975). However, caution needs to be employed, as there can be problems with distinguishing true *–ham* place-names (Gelling 1997). Despite this, a number of examples occur in the Lincolnshire Marsh; such as Covenham and Waltham (Figure

5.24). A later phase of settlement is represented by the *–ingaham* names, but only a single example exists in the study area at Alvingham (Cox 1975). No examples of *ingas* or *–inga–* place-names occur in the Marsh, suggesting that the development of settlement in the region is later when compared to other regions in England. Of the four *–ham* place-names, three have personal name components while the remainder has a topographic component. All of the *–ham* names occur in the northern part of the region, within the Middle Marsh.

Type	before 1150	1151-1250	after 1251
-by	44	5	
Habitative	13	3	2
-ham	4		
Hybrid habitative	2	1	1
Hybrid topographic	4		
-thorp	14	5	4
Topographic	20	4	4
-tun	15	1	
Totals	116	19	11

Table 5.2: Date of the first recorded reference to a settlement by type

Some *–tun* names can be very early but others may not have been formed until after the period of Scandinavian invasions. Despite this, they can still give a good indication of the extent of Anglian settlement (Fellows Jensen 1978). Sixteen *tun* names are located within the study area. Of these, five have a Scandinavian component but none has a personal name, so there are no occurrences of the so-called Grimston hybrid names. The *-tun* components include two personal names (Old English), nine topographic components and two habitative components. Three of the place-names with Scandinavian components are Carlton-type names, which have been taken to indicate Scandinavian settlement. It is suggested that this low number of Carlton-types and the absence of Grimston hybrids is due to the low number of *–tuns*, and therefore the existence of fewer settlements available to be adapted by Scandinavian settlers (Fellows Jensen 1978).

Of the remaining names that have a sole Old English origin or are Old English with a Scandinavian component there are indications of wider settlement in all areas of the study region, particularly the Outmarsh. In these areas places were named with topographic features and habitations in mind.

Names that fall within the groups of habitative and topographic categories have a number of Old English and Scandinavian components and represent nearly 25% of the names studied. Of the eighteen habitative names, seven have a personal component, (one of the personal names is Scandinavian and the remaining six are Old English). The place-names within this habitative group tend to be either solely Old English (thirteen examples) or solely Scandinavian (three examples). This would indicate that the habitative category of names is generally indicative of an earlier date for the majority of the settlements.

When considering the 28 examples of topographic names there is a near equal number of solely Old English (twelve examples) and solely Scandinavian (thirteen examples) names. There are also two examples of combined Old English and Scandinavian components. Of the 28 topographic names, five have personal name components and the balance here has also shifted, with four of the names being Scandinavian in origin, and a single example of an Old English personal name. Within this group there is also an example of a name suggesting an incoming population with the settlement of Danmark, which is Danish in origin and is taken to mean homeland. This evidence may suggest that habitative names are generally earlier than topographic names in the study area.

A small number of place-names (eight in total) have been classed as hybrids, where an Old English element has been replaced with a similar Scandinavian one. Fellows Jensen (1978) has suggested two ways in which these names may have been formed, either by the Scandinavian population changing existing Old English place-names or where the Anglo-Scandinavian population in the tenth and eleventh century have named a new settlement. The eight names within the study area consist of four habitative and four topographic names.

One problem with looking at the percentage of Scandinavian place-names is the unknown element of whether settlements were new sites founded by Scandinavians or were simply existing settlements that were re-named (Fellows Jensen 1978). The two main categories of place-names which are taken to indicate Scandinavian settlement are the *–bys* and the *–thorps* (Figure 5.25). Of these names, *bys* are seen as the earliest form of place-name, and suggest Scandinavian settlement in the area. The *-thorps* are viewed as smaller, secondary offshoots from this initial settlement and are often much smaller (Cameron 1970).

Of the 49 examples of *–bys*, 24 have personal name components, two of which are Old English, seventeen are Scandinavian, one is Continental German (Grimoldby) and four are debated. Eighteen of the 49 *–bys* have topographic components, eight of which are Old English in origin. There are two place-names which indicate groups of people - Frisians (Firsby) and Irishmen (Irby). The remaining five from the 49 *bys* are debated. The *–by* settlements are scattered throughout the study area but there is a noticeable concentration in the south of the study area, only a single example located within the Outmarsh and two examples on the till outcrops within the Marsh.

-Thorp often indicates secondary settlement from a parent village (Fellows Jensen 1978). There has been some debate on the significance of *–thorps*, with Cameron (1970) suggesting that they could either represent Danes settling in Anglian villages with no changes in the name, or they could be dependent settlements with the *thorps* having been adopted in the local dialect. Lund (1976) postulates that they signify the colonisation of empty land. Of the 23 examples of *thorps* in the area, twelve have personal name components of which seven are Scandinavian, two are Continental German and three are Old English. Two of the *thorp* names have habitative components and four have topographic components. *Thorps* are found in the Outmarsh as the settlement expands.

The single example of a Continental German name in the *by* group (Grimoldby) and the further examples in the *-thorp* group (Theddlethorpe, Mablethorpe with possibly Trusthorpe and Grainthorpe) have been taken to signify Norman naming of the settlement after 1066 using the current naming forms in the region, but utilising a

Norman personal name (Fellows Jensen 2001). This reinforces the possible later date for settlement in the Marsh.

Overall the place-name evidence would appear to suggest that the pre-Scandinavian settlement was sparsely scattered throughout the region, but with a concentration within the Middle Marsh or on outcrops of till within the Outmarsh. There has been some discussion into whether topographic place-names rather than habitative place-names may indicate early settlement, but in general these can be very hard to date (Gelling 1997). The examples from this region show that although they occur with both Old English and Scandinavian only compounds, the number of Scandinavian compounds increases with the topographic names, and that it is only with the topographic names that we see combined Old English/Scandinavian elements, suggesting that in this region topographic names were also favoured in the naming of settlements in the Anglo-Scandinavian period. By far the highest concentration of place-names within the area indicates Scandinavian settlement influence, although, as mentioned above, the extent to which these may be the re-naming of existing settlements is hard to judge.

5.5.2 Religion and cemeteries

The Domesday Book records 27.25 churches in the study region and many of these must have had earlier origins (Table 5.3).

The majority of tenth and eleventh century ecclesiastical material recorded in Lincolnshire comes primarily from funerary monuments. Whilst this material clearly indicates the presence of graves, it also indicates a political and social elite (Stocker 2000, Stocker and Everson 2001). The number of recorded examples from Lincolnshire as a whole has suggested that the majority of churches of the period would have had one or two stone funerary monuments within their graveyard. These monuments potentially represent the founders or owners of these churches (Stocker and Everson 2001). The monuments may also be a lasting reminder of the group that the elite wished to be associated with, thereby providing some indication of the cultural affiliations of the elite in the tenth century (Stocker 2000, Stocker and Everson 2001). A number of such monument fragments have been recorded from the Marsh; these will be discussed in Chapters 6-9.

Manor	Number of churches
Addlethorpe	2
Beesby in the Marsh and Maltby le Marsh	1
Burgh le Marsh	1
Candlesby	2
Claxby	1 with priest
Covenham	1
Fordington, Ashby (by Partney), Bratoft and Langene	3
Great Steeping	2
Halton Holegate and Little Steeping	1
Keddington	1 with priest
Little Grimsby	1
Muckton	1
North Reston and Little Carlton	1
Rigsby	1 with priest
Scremby	4 parts of half
Scremby	1
Skendleby	1
Sutterby, Dalby and Dexthorpe	2
Thorpe St Peter	1
Waltham	1 with priest
Willoughby	1
Withern	1 with priest

Table 5.3: Churches recorded in the Domesday Book by manor

5.5.3 The wider regional context

In general there have been few excavations in Lincolnshire which have revealed Late Saxon structural evidence, with Goltho being the main exception (Beresford 1987). Therefore reliance is placed on the study of other aspects of the culture, such as finds recovered by metal detectorists, place-name evidence and surviving stone sculpture.

Analysis of Viking and Anglo-Scandinavian metalwork recovered by metal detectorists in Lincolnshire has revealed more than 260 individual finds. These finds support the presence of a rural Scandinavian population rather than a ruling elite, and the overarching indication is of a female population (Leahy and Paterson 2001, Leahy 2004). This is due to more identifiable female dress items being recovered rather than male dress accessories. Overall this metalwork is poor quality, and represents mass-produced items, often small brooches and strap ends, of which all are domestic items as opposed to trade goods (Leahy and Paterson 2001, Leahy 2004). A number of ninth century Irish items have also been recorded. These suggest the presence of Irish Vikings, an observation that is supported by the place-name evidence, with examples such as Irby (Leahy 2004). A few of the metalwork finds come from the study area and match the overall pattern of the continued importance of the communication routes. In addition these items are also concentrated in areas of Scandinavian place-names.

The different types of settlement names recorded in the study area show some similarities with those recorded for Lindsey as a whole. Despite being more common than early names, those of Anglian settlement are relatively rare throughout Lindsey and in the East Midlands as a whole, as indeed they are in the study area.

One slightly divergent distribution is seen in the secondary phase of Anglo-Saxon settlement indicated by *-ingham* place-names. Only one of these occurs in the study region, although they are found elsewhere in the lowlands of Lincolnshire and act as a possible indicator of a move into these lowlands. As such, it might be anticipated that they would be represented in the area of the Marsh, but this is not the case (Cox 1975). Later settlements indicated by *-ingas* and *-inga* names are present in other lower-lying areas suggesting yet later phases of settlement, especially in the areas of the Fens and between the Lincoln Edge and the Wolds, but again these names are completely absent from the Marsh.

The Scandinavian settlement *-by* names are more common than *thorp* names throughout Lindsey, but in the Marsh the proportion of *thorps* to *bys* is higher than for the wider region. In general, settlements within the group of *bys* appear to avoid

the low-lying areas, and there are clusters along the edge of the Wolds and in the southern area of Lindsey (Fellows Jenson 1978).

Over 90% of the *–by* place-names in the area of the East Midlands are a compound with a Scandinavian personal name, providing firm evidence of Scandinavian settlement in the area (Cameron 1975). The number is lower in the study area with only 37% of *–by* settlements having a Scandinavian personal name as a component. This is superseded by the number of topographic compounds within the *by* settlements which may highlight the colonising nature of the settlements within the Marsh. Alongside the place-name evidence, the majority of the major pre-Conquest landowners mentioned in the Domesday Book for Lincolnshire have Scandinavian names (see below (section 5.6.1.1) and Sawyer 1998).

The evidence of stone sculpture is meagre in the Marsh but follows the general pattern for Lincolnshire. It has been noted that settlements with the *–thorp* place-name are less likely to have stone monuments, possibly reinforcing their secondary settlement status (Stocker and Everson 2001). This may therefore explain the relatively small amount recorded for the study area. The evidence also shows that place-names of Scandinavian origin are neither more nor less likely to have Anglo-Scandinavian sculpture than those with non-Scandinavian names (Stocker and Everson 2001). The stone sculpture also suggests that the period of development of graveyards took place in the early tenth century, and the archaeological evidence from churches such as Holton le Clay and Cumberworth would appear to confirm this (see Chapters 6 and 8).

The political turmoil, with a change from Mercian rule to Scandinavian then back to English, is only really apparent through the place-name evidence, and the extent to which the person working the land was affected may have been limited. That there was an influx of new people is apparent, but this probably forms continuity with the preceding period which also saw changing populations. The new population is gradually becoming visible through its metalwork, as well as through the established place-name evidence. Some impact of the political changes and the effect on the elite has been suggested in the monumental sculpture from the tenth century, but the rest of the population would seem to have continued in much the same way.

5.6 The Lincolnshire Marsh in the Medieval period

The twelfth to fourteenth centuries have been termed 'the stormy centuries': the erosion of the offshore barrier which had provided protection during the preceding periods was finally complete, allowing the full force of coastal processes to impact on the coastline (Robinson 1970). The area to the north of Mablethorpe had been protected during the prehistoric period and into Roman times by this offshore barrier, which allowed saltmarshes and mud flats to develop (Robinson 1970). The barrier began to erode in the post-Roman period as increased erosion on the Holderness coast to the north impacted on this stretch of the Lincolnshire coast. Increased deposition in some of the northern areas negated the effects, and the storms created a number of storm beaches, most notably at North Somercotes (Robinson 1970); further south the devastating storms and floods caused land loss.

The archaeological record for the region is extensive, with a wide variety of settlement evidence and also evidence for the salt industry (Figure 5.26). The appearance of new types of monuments also occurs, such as moated sites, motte and bailey castles and a number of other earthwork enclosures.

5.6.1 Analysis of region-wide sources

The paucity of documentary evidence for the region is reversed with the Domesday Book in 1086, followed closely by the Lindsey Survey in 1115-18. A wide range of other documentary sources is then available for subsequent centuries. This section explores the information which these contain on the changing population, landholding and wealth of the region from the time of the Domesday Book to the close of the sixteenth century.

5.6.1.1 Domesday Book and the Lindsey Survey

From the 199 separate entries in the Domesday Book within the study area only 69 (35%) have the 1066 landowner listed. From these 69, the fragmented nature of landholding at the time of the Conquest is apparent. It has been argued that the 1066 landholders represented middlemen for unnamed overlords (Hadley 2000), but a small number of the landowners from 1066 continued to hold land in 1086. Of the 69 manors with 1066 landowners listed, there are a total of 57 separate names recorded; of these only ten are recorded as having three or more holdings.

It is interesting to look at the Scandinavian influence on personal names in the region. It can be seen that there are several names with full origins in Scandinavia (e.g. Agmundr), others which are Old English (e.g. Aelfric), and some which appear to be a combination of both (e.g. Svartbrandr) (Fellows Jensen 1968). Although this does not indicate separate Scandinavian and Anglo-Saxon populations, it does highlight the impact that the Scandinavian introduction of new names had on the general population of Lindsey.

27 landowners are recorded in 1086, showing a reduction in the overall landholders in the region. There are still several landowners recorded with single manors, but there are now several major landowners including Gilbert of Ghent, Count Alan, the Bishop of Durham, the Bishop of Bayeux and Eudo son of Spriewic.

There are many named vills that have a number of manors, sokelands and berewicks listed with different landowners (Figure 5.27), confirming the suggestion that multi-manor vills were common in the area of Danelaw (Hadley 2000). A number of the places mentioned in Domesday have no manorial centre but only contain distant offshoots of a manor elsewhere. These offshoots were either sokelands or berewicks. Berewicks are usually seen as detached demesne land, whereas the lord did not own sokeland but various dues were still payable to him (Hadley 2000). Of the places mentioned within the coastal strip, only Sutton le Marsh has a manorial centre. The rest, such as Grainthorpe, Skidbrooke and Somercotes, are all detached portions of manors. A number of the listed landowners do not have manors within the region, but have sokeland and berewicks. For example, the King has a number of detached parts of his manor of Gayton le Wold in the region, and Earl Hugh's main manor at Greetham also has a number of detached properties in the Marsh. Earl Hugh's land also highlights some of the problems with the Domesday Book. The majority of his sokelands are grouped together with several named vills in one entry such as Withern, Aby, Haugh and Calceby or Huttoft, Thurlby, Sutton le Marsh, Trusthorpe, Bilsby and Markby.

The Lindsey Survey does not include the detail of the Domesday Book, but provides a valuable source to illustrate changes over the 30-year period since the completion of the Domesday survey. As shown above this survey has proved invaluable in the

understanding of the hundred system in Lindsey. There are 31 landowners mentioned in the Lindsey Survey. Only the Bishop of Lincoln maintains the same landholding and carucate value between 1086 and 1115. Other landholders have seen gains and losses along the way.

Eleven manors are recorded in the Lindsey Survey, with a landholder and assessment, but are unlocated apart from within which wapentake they belong, with five such entries in Candleshoe (18 carucates) and six in Calcewath (35 carucates).

5.6.1.2 Changing distribution of settlement

The initial pattern of settlement provided by the Domesday Book cannot be taken as a complete record of all villages present at the time. For instance, Ingoldmells has no land recorded as a manor or dependence and thus no record for the area, but in the land of Robert the Bursar, an entry for the sokeland at Partney, Great Steeping, Skegness and Burgh le Marsh is recorded as being in the jurisdiction of Ingoldmells. Another instance occurs for Orby, where again there is no individual record of the manor or lands, but it is recorded with Addlethorpe being inland of East Keal, Orby and Grebby. That there was settlement at Orby in 1086 is apparent from the archaeological evidence (Rylatt 2000a). Composite maps have been produced for settlement in the early twelfth century (including data from the Domesday Record, Lindsey Survey and the archaeological evidence), the late fourteenth century and the mid-sixteenth century (Figures 5.28, 5.29, and 5.30).

In the early twelfth century, settlement is spread evenly throughout the Middle Marsh, with a line of settlements at the foot of the Wolds and another line further out to the east following the 10 m contour (Figure 5.28). A further line of settlements has begun to develop in the Outmarsh. The pattern of settlement is a little more varied in the south of the study area due to the islands of drift deposits. These had been foci for settlement in early periods and as such they break the pattern of the rest of the region.

By the late fourteenth century the settlement has expanded, following the same pattern of the twelfth century (Figure 5.29). A number of new settlements have appeared in the Marsh; these are within the same general area of those in the twelfth

century. A number of churches, which have no associated tax records for a settlement, are recorded for the region. They are set back from the coastline in the Outmarsh, suggesting settlement in the area; however, the actual extent of this is not known. Although Louth maintains its pre-eminence as a borough, other settlements have also been granted markets and fairs including Skidbrooke, Saltfleetby, Ludborough and Alford. In some areas there has been a possible contraction of settlement, however, this may also be due to the amalgamation of settlements within the records.

By the mid-sixteenth century the settlement pattern has stabilised and there appears to be little change after this. However, the trends of population and wealth reflect the stresses and strains which a number of these settlements have undergone in the preceding centuries (Figure 5.30). Although this pattern of settlement would seem to indicate a nucleated village landscape, the nature of the records which have been used reflects a nucleated recording of taxation rather than pattern of settlement.

5.6.1.3 Changing distribution of population and wealth

The first record of population is that from the Domesday Book, which unfortunately cannot be supported with the evidence from the Lindsey Survey as no population figures were recorded in this later survey. The general distribution shows that there is an even spread of population at manors throughout the region, with a number of exceptions such as Louth (124 people) and Wainfleet (176 people) (Figure 5.31).

The main problem with using these figures is that there is no indication of the number of settlements that the totals for these manors may include, or over how much area this population operated. We have no exact way of knowing the area of the manors involved, but can use the carucate value for the vill to give some indication of size. However, this approach is fraught with difficulties as the carucate is a fiscal assessment and therefore is not representative of a true land area. The result of this analysis shows a more even pattern, with the main anomaly being at Markby (Figure 5.32).

Values of manors in 1066 and 1086 are only recorded in 63 of the 199 (31.6%) entries within the study region. On the whole there seem to have been similar

numbers of losers and winners, with twenty entries showing a decrease in value and 25 showing an increase. Eighteen of the entries have remained the same. When the figures are amalgamated for the vills rather than individual holdings there are thirteen decreases, nineteen increases and thirteen that remain the same. On a whole the values had remained the same or increased (Figure 5.33). Decreases in value are concentrated in the Middle Marsh and Wolds, with no decreases in the Outmarsh. Increases can be noted along the main rivers and in a number of areas of the Outmarsh.

Before studying the nature of the changing population pattern in the fourteenth century it is worth studying the nature of the Domesday population. The population of the study area is recorded as freemen (sokemen), villagers (villans) or smallholders (bordars). The high concentration of freemen (as a percentage of total population) in Lincolnshire as a whole has been seen to reflect the large number of free Scandinavian settlers in the preceding period, with the average percentage of freemen being 54% compared to 7.3% in Essex (Leahy and Paterson 2001). The highest percentages of freemen have also been seen to occur in areas of *by* place-names (Leahy and Paterson 2001). Arguments against seeing freemen as a direct link to Scandinavian settlers include the lack of high numbers of freemen in other areas of the Danelaw and also that may be the actual origin of this population structure has its genesis much further back in the past (Hadley 2000).

The total population recorded in Domesday for the study region is 2916, of which 412 (14.1%) are smallholders (bordars), 787 (27%) villagers (villans) and 1632 (56%) freemen (sokemen). Also recorded are five priests, and in Louth, 80 burgesses and two men at arms. The distribution of population shows a high concentration of freemen in most manors, with freemen only absent in eight vills (Figure 5.34). This pattern follows that for Lincolnshire as a whole.

The records for the fourteenth century do not give as detailed information as that of Domesday, however, they do allow the relative changes in population and wealth to be studied across the region as a whole. The 1334 lay subsidy only records a total monetary figure for each settlement; as such it can only be used in discussions of

relative wealth and not population. Conversely, the 1377 poll tax only provides information on the number of people taxed and not their relative wealth.

The distribution of population is not complete as there are several records missing from the poll tax, but overall it shows a rather even distribution (Figure 5.35). The population in the Middle Marsh and on the Wolds is generally at the lower end of the scale, with a range of 20 to 250 people in most areas. It is noticeable that the majority of the settlements located in the Outmarsh record higher populations.

The distribution of the wealth recorded in 1334 also shows a concentration along the coast, but this may reflect the higher number of people available to help pay rather than necessarily a more wealthy population (Figure 5.36).

A rough estimate of the wealth per person can be gauged by using the amount requested from each vill in 1334 and the population figures that were taxed in 1377 (Figure 5.37). This is calculated by taking two very different figures, compiled under different constraints, and with a possible major population decline due to the Black Death in the intervening period. However, the distribution shows generally lower values in the north of the region, with the highest values appearing in the central area, and a range of moderate values to the south. It shows that although the settlements in the Middle Marsh may have low populations and return low taxes, the actual wealth in these settlements per head of population is greater.

In the mid-sixteenth century there are three snapshots of the population: the lay subsidy of 1524 and 1525 (Figure 5.38), the lay subsidies of 1543 (Figure 5.39) and the Diocesan Return for 1563 (Figure 5.40). The continued importance of Louth is evidenced by its high population in the first two of these sources. The relatively high population of the Outmarsh as compared to the Middle Marsh continues. The settlements in the Middle Marsh with the largest populations are those on the edge of the Outmarsh, which possibly have rights in this area. The main change noticed from the early records is the small population recorded at Wainfleet which has dramatically dropped towards the bottom of the population league table. This pattern is repeated in the figures of 1543 (Figure 5.39).

The Diocesan Return produces a different indication of population (Figure 5.40); possibly as it is not recording a tax return so is not linked to wealth. There are a number of settlements in the Middle Marsh with noticeably high populations, such as Fulstow, but this includes a number of unlocated hamlets. Areas in the Middle Marsh on the limits of the Outmarsh record higher populations on the whole than those in the rest of the Middle Marsh. The Outmarsh settlements tend to record similar populations to those of the Middle Marsh border.

The only figures that provide an indication of wealth for the sixteenth century are the lay subsidies of 1524 and 1525, and the distribution of this wealth shows a concentration in areas with markets and fairs (Figure 5.41). When these settlements are taken out of the pattern, high returns are located mainly in the Outmarsh. Again it is helpful to compare the patterns of amounts taxed and the number of individuals (Figure 5.42). The wealth of the settlements in the Middle Marsh improves with a high wealth per head of population, and the settlements on the main rivers provide a high return. A number of settlements in the Outmarsh also maintain their importance, such as Mablethorpe.

5.6.2 Medieval settlement pattern

It has been shown above that the pattern of settlement at the time of Domesday expanded during the following centuries. This section will explore some of the key elements of the Medieval landscape upon which this pattern of settlement and population developed into the historic landscape which survives today.

From documentary sources it is apparent that a number of havens on the coast provided heavily exploited trade routes. That none of these developed into the fishing villages or ports that are characteristic of the Yorkshire coast or regions further to the south has been suggested to be partly due to the physical nature of the coast (Pawley 1984). The sedimentary history of this area, with continual silting and inundation, resulted in few definable and static areas at which such settlements and the society associated with them could develop.

Despite the increased documentary resource from which settlement can be estimated, the true nature of the settlement pattern in the Medieval period is not really reflected

by these records. The number of amalgamated records from the time of Domesday onwards produces an image of nucleated settlements, masking the possibility of a more widely dispersed population. This is only really explored in the Diocesan Return in 1563 which lists seventeen hamlets which have failed to appear in any of the documentation until this date. A plot of the late nineteenth century settlement provides a pattern of nucleated settlement, which is interspersed with many smaller hamlets and farmsteads, suggesting areas of dispersal (Figure 5.43). These are particularly apparent in the Outmarsh, especially in the area to the south of the region, which appeared to have a 'blank' area between the Middle Marsh and the settlements on the coast. A few smaller settlements are found in the Middle Marsh, with the highest concentration being in the north of the region.

Most settlements in the survey area have been classed as villages. These are defined as centres of settlement that have a coherent central core, have an associated field system and more often than not have a parish church. As mentioned above it has not really been possible to identify hamlets in the record until the sixteenth century. When these are identified, they again are small, nucleated areas of housing, usually without a church or chapel, and without a dedicated field system. They are often close to a village and have a share within the field system of that settlement. They could therefore be considered to be an extension to the village. These may have developed as polyfocal settlements with a shift, in the distant past, of settlement to a focus on one of the earlier centres, which forms the village core. More common than hamlets are individual farmsteads, which are usually identified as a single housing unit away from a central core of settlement.

Deserted settlements within the region are mainly found on the Wolds, a pattern which reflects the general concentration of settlement desertion in Lincolnshire on the higher land as a whole (Platts 1985). Depopulation during the fourteenth century seems to have had little effect on the overall distribution of the population, with large centres remaining at Louth and Wainfleet (Platts 1985). The most noticeable example of a deserted settlement within the Outmarsh is that at Skidbrooke, which became overshadowed by its offspring at Saltfleet Haven as its own connection to the coast silted up.

The pattern of parishes in the region may help indicate the pattern of settlement of the area (Figure 5.44). It has been noted by authors such as Hoskins (1955) that the parish structure of the Marsh reflects the expansionist nature of settlement, especially in the north, where long linear parishes are partitioned as settlement develops closer to the coast. The exact evidence for this partitioning of the parishes is hard to locate. There is clear evidence for the parishes of Marshchapel and Fulstow. There are documentary references from the thirteenth century to the chapel in the marsh as belonging to Fulstow, and Marshchapel becomes independent of Fulstow some time in the sixteenth century (Owen, D. 1975). The other northern parishes which Hoskins highlights: Covenham and Grainthorpe, North Thoresby and North Cotes etc, have no supporting documentation. That there has been division of larger parishes can be suggested from place-name evidence, with a number of settlements with prefixes or suffixes. These include North and South Somercotes, Saltfleetby All Saints, St Clement and St Peter, Theddlethorpe All Saints and St Helen to name a few (Figure 5.44). These parishes dominate the north of the study area and may reflect the nature of settlement development in these areas. The one parish in the south of the region that can be seen as a clear development from a parish inland, is that of Chapel St Leonard. This develops from Mumby, with St Leonard's chapel of Mumby mentioned from the thirteenth century (Owen, D. 1975).

5.6.2.1 Field systems

Although the items recorded in the Domesday Book cannot be taken at face value, they can provide indications of the relative landuse and agriculture across the region. There has been much discussion on the meaning of the 'land for x ploughs' (ploughland) values recorded in Domesday and whether they represent the potential agricultural capacity of an estate, a past taxation method or the area under plough in 1066 (see Harvey 1985). This figure often differs from the figures recorded for the number of ploughs within a manor. Harvey has argued that the phraseology of the statement suggests that is was a form of assessment at the time of 1086, and although this was a fiscal assessment, it will 'naturally often reflect agricultural or simply arable capacity' (1985: 92). Of the 86 vills recorded, only eight have the same assessment of 'land for x ploughs' as the number of ploughs recorded (Figure 5.45). Forty vills have less ploughs than 'land for x ploughs', whilst the remaining 38 have more. At one extreme are the vills recorded in Swaby hundred where there are 31

ploughs and only 18 'land for x ploughs', and at the other is Ashby cum Fenby which has 5.5 ploughs recorded for 16.75 'land for x ploughs'.

It has been suggested that more ploughs than ploughland may indicate dispersed settlement rather than inefficient use of ploughs, with few settlements to share the communal resource (Higham 1990). For the region there are a number of records of more ploughs than ploughland and these can be found in a number of places in the Outmarsh and areas of the Middle Marsh. Areas with less ploughs than ploughlands seem to be concentrated in areas of relatively denser settlement.

If the figure for 'land for x ploughs' is taken as an indication of the agricultural potential of an area, then there is more agricultural potential on the Middle Marsh, than on the Outmarsh, with a number of exceptions (Figure 5.46).

As there is no real way of assessing how the amount of 'land for x ploughs' varies between settlements, which may have considerably different amounts of land within their territories, a distribution of the ploughs per carucate (Figure 5.47) may show the relative amount of land under plough in each vill. The distribution of the 'land for x ploughs' per carucate may signify the relative amount of potential available agricultural land between vills (Figure 5.48).

The ploughs per carucate shows a markedly even distribution through the region, which possibly indicates that the amount of arable agriculture occurring in each vill was similar. The calculation of the 'land for x ploughs' per carucate shows a spread around the figure one, suggesting that the original value of a carucate could have been the same as 'land for x ploughs' (ploughland), although at some time these two figures separated.

There are very few sources between Domesday and the Post-Medieval period to further illuminate the field systems of the region. Reconstruction of the general pattern of the open field systems around the villages of the Marsh as recorded in Enclosure Awards has revealed a variety of patterns. Although this may not be a complete reflection of the Medieval field system, where documentary evidence is also available, it supports this evidence. Many villages appear to have had two main

communal fields, in some instances three fields, with smaller areas of fens, if they were located close to the Outmarsh (Russell and Russell 1987). Documentary evidence from Burgh le Marsh illustrates this picture. A roll listing landholding in 1482 records three areas: north common, south common and high town (Owen 1996). The majority of land was held in north and south common.

A more complex pattern tended to occur closer to the coast, as reclaimed areas were not incorporated into the common fields, but would appear to have been privately enclosed, as at Tetney (Russell and Russell 1987). Here it is apparent that old salterns have become enclosed early on, however, further towards the coast communal land again appears in the Fittys. That enclosure was an ongoing and historically lengthy process is apparent from several areas. The 1595 map of Marshchapel and Fulstow indicates areas already enclosed, and many other parishes at the time of Parliamentary Enclosure were already partly enclosed, such as Cumberworth (Russell and Russell 1987).

5.6.2.2 Resource management

Once again Domesday Book provides a starting point in trying to understand the resources, other than arable land, available to, and exploited by, the Medieval population. Meadow is extensively recorded in the Domesday records, with only ten vills having none recorded (Figure 5.49). Meadow is greatest in extent for settlements on the Outmarsh or at the edge of the Middle Marsh, presumably with land rights extending into the Outmarsh. Manors with no meadow recorded are mainly concentrated in the areas on the edge of the Wolds. There is some correlation between those vills with a high number of ploughs recorded and a high amount of meadow that would have been needed to support the oxen.

Woodland (including wood, woodland pasture and underwood) and marsh are recorded at a number of vills (Figure 5.50). None of the settlements on the Outmarsh have any record of either. For woodland this absence is understandable, but it would be obvious to expect marsh to be recorded for settlements on the coast. This may be explained if the separate recording of marsh was not necessary for those settlements that were located on the coast. Woodland is only recorded at Ashby to the north of the River Lud and at Louth, and there is a noticeable concentration of the settlements

recording woodland close to the rivers or on the Wolds edge. Wood is also predominantly recorded in vills which have a low number of 'land for x ploughs'.

It would appear that the areas of the saltmarsh on the seaward side of any defences were heavily utilised. A map of 1606, of an area just to the south of the study region at Wrangle, provides pictorial evidence of the uses of the saltmarsh area of the coast (Figure 5.51). Here are depicted cows, horses, rabbits and sheep being grazed on the marsh. The main use of the saltmarsh area, especially in the north and south of the region, was for salt production.

Whether exploitation of certain resources or certain areas was seasonal has received little attention. The available documentary evidence is limited, however, it does point to a number of activities that were not carried out throughout the year. Salt production has been suggested to be a seasonal activity, partly based on the times of the year that rents were payable in salt and when they were payable in money. One reference has rents payable in salt on St Botolph's day (17th June) and Michaelmas (29th September) but in cash at other times (Rudkin and Owen 1960). Another fourteenth century document from Lincolnshire requires rent for a saltern between 1st May and 11th November as the rest of the year it was left empty (Bridbury 1955). There has been suggestions that the salt industry was synchronised with the herring fishing industry which operated at these times (Bridbury 1955).

More salt was imported into the English ports during the summer months, although small quantities were still imported in the winter. It potentially could be the scale of the industry that was seasonal, not the entire industry. It was not necessarily the physical requirements for salt production that limited the activity, but the economic demand of the allied herring industry. Other documentary references to grants of pasture in the marsh have a variety of dates and may suggest that times when salt production was at a reduced level, other activities took their place. A grant of pasture in Huttoft for the grazing sheep was strictly limited to between October and February (Owen 1996).

Some indication for the development of settlements from seasonal dwellings can be seen in the place-names of the area such as Somercoates, and further analysis of

field-names and minor place-names may extend this knowledge. Archaeological evidence for seasonality is currently lacking from the region. Only detailed excavation can reveal the necessary evidence. This may come in the form of a reduced quantity of artefactual material than would be expected from a continuously occupied site, evidence of flooding during the life of the site and a number of environmental indicators (Bell *et al.* 2000). There are issues over the identification of seasonality from the archaeological record which can be seen in the revision and reinterpretation of the data available from the Mesolithic site of Star Carr (Clark 1954, Legge and Rowley-Conwy 1988, Mellars and Dark 1998). However, a detailed examination of the plants available at the site during occupation, the age spectrum of the animal bone assemblage including the numbers of neonatal and juvenile skeletons, and dendrochronology of any wood used in structures and fuel, may provide seasonal information. This would require a new excavation to be carried out at one of the sites in the Outmarsh as currently the environmental information does not exist.

5.6.3 Salt production

Ten vills have saltpans recorded in the Domesday Book from 22 separate entries (Figure 5.52). The saltpans are concentrated in the north and south of the region. Saltpans are absent from the area of intensive Iron Age and Roman salt production in Ingoldmells and Addlethorpe. This exploitation continues into the later Medieval period with extensive evidence in the northern part of the Marsh (from Tetney to Saltfleet) and in the vicinity of Wainfleet.

The large quantities of salt that were produced along the Lincolnshire coast were exported from the local ports. Early fourteenth century records from the ports of Hull, Boston, Lynn and Yarmouth show the largest quantities of salt being exported from England in this period were from these ports (Bridbury 1955). These exports were destined for the ports of Norway, Flanders, Normandy and Germany (Bridbury 1955). Foreign traders were recorded at Saltfleet and Wainfleet buying salt for the Baltic herring industries (Pawley 1993). The amount of imported salt into these ports increases in the late fourteenth century suggesting a decline in the industry, although evidence from the region only sees the end of salt production in the late sixteenth/early seventeenth century (Bridbury 1955). Imports into the local havens

included peat from the Isle of Axholme providing the necessary fuel for the industry (Pawley 1993). Other methods of transport for the salt would appear to be by the road system leaving the Marsh. Records of the name of Saltergate start in the early thirteenth century (Owen 1996). The hayward of Castle Carlton was empowered to take a 'horn full of salt' from every cart of salt that travelled through the township (Owen 1996: 28).

Other local uses of the salt included the large herring industry that had developed along the eastern coast of England. This fishing industry has its origin as a large-scale economic activity in *c.* AD 1000, and the Domesday record of large numbers of salterns may have been linked to this industry (Barrett *et al.* 2004). Continued links are shown with annual herring fairs taking place off the Lincolnshire coast, and by the fourteenth century the largest Lincolnshire fleet was based in Saltfleet (Pawley 1993). In 1343 fourteen fishing boats left Saltfleet for Yarmouth laden with salt and retuned with salted herrings which were traded at Grimsby and inland centres (Pawley 1993).

Salt-production was undertaken by a number of tenants paying salt-rents to the landholders, and often holding the saltern in conjunction with another man (Rudkin and Owen 1960). There is little documentary evidence for the organisation of the industry, but most grants of land that included a saltern also included turbary, and meadow and pasture for cart animals (Hallam, H.E. 1960). The landowners ranged from large monastic institutions, to the large landholders, as well as parts of smaller landholdings. Evidence from a *Terrier of Fleet*, from an area to the south of the current study region, compiled in 1315, provides some indication of the people who carried out the salt-production (Hallam, H.E. 1960). A total of 57 salters are recorded as working 74 salterns. Fourteen of these salters are only recorded as salt-workers and appear to have no other income, the remaining 43 show a range of landholdings from ten acres to 30 acres, but the monopoly in the industry seems to be the wealthy landholder who had proportionately more salterns than the other salt-workers (Hallam, H.E. 1960). It should therefore not be seen as an occupation for the less well off in society.

There is evidence for middle men who acted between the salt-workers at the coast and the markets, with the record of Barnard Hobson from Ludney who died owning money for salt to a number of individuals and had no salt-making equipment of his own (Rudkin and Owen 1960). In certain areas there would seem to be some control over the industry. At Wainfleet, a custumal of the services and customs at the port, written in 1234, outlines that the lord of the port controlled all the salt-workers within the bounds of the port area, even those who were tenants of other landholders (Owen 1996).

5.6.4 Reclamation

Full-scale reclamation of any stretch of the coast is not recorded until the sixteenth century; however, attempts to control the coast (with varying effect) can be found from the twelfth century. The sheltered nature of the coast, due to the offshore islands, created an environment that was still at times harsh enough to require that 'sea walls ... had everywhere to be maintained' (Owen 1963: 23). The increase in documentation on the construction and repair of sea walls and drainage is taken to signify the loss of the protected offshore environment to the detriment of the coastline (Owen 1963).

The documentary sources show that the maintenance of the drainage of the Marsh was the responsibility of numerous villages, and not just those on the coast itself, and that this factor is recorded as far back as 1397: the sea banks were maintained by the villages on the coast, although other areas of the Marsh would contribute in times of need (Owen 1963). A document of the late fifteenth/early sixteenth century records the division of responsibility between those villages called 'frontagers' and those called 'levy towns' (Owen 1996). The document then lists the level of danger and the number of acres connected with each of the villages that are 'charged to make his own several sea banks according to the laws and statues aforesaid' (Owen 1996: 8).

It is apparent from the available evidence that large-scale bank construction was occurring by the fifteenth century but that this was continuing a tradition of individual villages providing their own protection, and that the banks were for protection rather than reclamation. The area where this is seen most clearly is between Mablethorpe and Skegness. The extent to which this was necessary to the

north and south of this area is not known, but such activity would have conflicted with the salt industry in both areas.

5.7 Historic landscape

Using the digital basemap created from the second edition Ordnance Survey maps, and the features present within this landscape, it has been possible to define certain areas which share similar characteristics. The terminology and features of these units has been based upon work undertaken in other coastal zones by Rippon (1996, 2004c), although a direct match cannot be made between types with the same names in different regions within the UK. These areas aid the discussion of the evolution of the landscape (Figure 5.53). The main types of landscapes are shown in Table 5.4. These characteristics will be explored in each of the four developmental zones within Chapters 6-9, and allow the features of the modern landscape to be used to understand the ways in which the landscape developed in the past.

Code	Type
A1	Irregular drainage
A2	Irregular salterns
A3	Irregular
B1	Regular blocks
B2	Regular strip
B3	Regular reclamation
C1	Intermediate blocks
C2	Intermediate strip
D	Settlement enclosures
E	Parkland

Table 5.4: Main historic landscape character types (see Table 5.5 for full descriptions of types A-C)

Within these main categories a number of features have been recorded which aid in the interpretations of these types and divides them into further sub-categories. These features include drainage, roads, field shape and size, predominant soil type and settlement form (Rippon 2004c). The general pattern of these types shows a more

complex development in the north of the region. Here areas of regular landscape indicative of Enclosure are present with both the complete reorganisation of the landscape (blocks) and enclosure of the open fields (strip). In the northern area the only irregular landscape tends to be associated with the development of the area of salterns or reclamation and drainage around the River Lud. In the middle of the region, continuing down to the south, are large areas of irregular landscapes which result partly from the different soils and geology, but are also linked to the early enclosures in this region. At the very south of the region there is evidence, once again, of a more structured landscape. Although subdivisions are apparent within these zones, the main development of each of the types can be outlined (Table 5.5).

This pattern reveals more extensive reclamation along the north of the region and areas close to the coast, with a system of strip farming that was also aiding drainage. Large blocks of fields were created and maintained in the Middle Marsh. The late reclamation of the Fenland can be seen from the character of the south-western corner of the region.

5.8 Conclusions

The depositional history of the Marsh is the greatest hindrance to the full understanding of the region within the prehistoric and Roman periods. The overburden of deposits is potentially masking extensive evidence of prehistoric activity. The evidence from the Wolds and Middle Marsh is on the whole more robust than that from the Outmarsh, due to their less extensive depositional history. However, the relatively late development of archaeology in Lincolnshire along with the intensive agricultural activity in the region has led to a dearth of information. From the sites that have been investigated, a number of general conclusions can be drawn.

There is evidence of Mesolithic activity in the region through the remains of on-the-spot tool manufacture and utilisation. The nature of the exploitation of the area is not known. The presence of stone axes alongside the environmental data suggests that woodland clearance is occurring in many areas during the Neolithic. Ritual activity is focused on the Wolds, but placed in such a way as to suggest that settlement was located on the lowlands. Little direct evidence for settlement in the Bronze Age has

been discovered but the extensive evidence for burial suggests widespread occupation.

	Field system	**Drainage**	**Roads**	**Soils**	**Settlement**	**Indicates**
A1	Irregular system result of drainage	Drains and streams present in all areas	Sinuous or straight depending on method of drainage	Alluvium	Absent	DRAINAGE
A2	Irregular system result of saltern mounds	Drains and streams present at the bottom of mounds	Straight out to coast	Alluvium	Isolated farmsteads	SALTERNS
A3	Irregular system with a mixture of sizes and shapes	Some streams but mainly lacking in drains	Sinuous	All zones	Toft - villages	OLD DEVELOPMENT more organic development of landscape
B1	Regular usually with large blocks	Little evidence of streams or drainage	Straight	All zones	Absent	PRIVATE AND PARLIAMENTARY ENCLOSURE
B2	Regular system of small strips	Drains present	Straight	Alluvium	Road-side	DRAINAGE ALONG LINES OF STRIP FARMING
B3	Regular systems of blocks and strips of various sizes	Drains present	Straight	Alluvium	Road-side	COASTAL RECLAMATION
C1	Intermediate system of a variety of blocks and sizes	Large number of streams interrupt regular system	Mixture of straight and sinuous	All zones	Toft	EARLIER SETTLEMENT AND ENCLOSURE OR RECLAMATION
C2	Intermediate system of a variety of small strips	Drains and streams interrupt regular system	Mixture of straight and sinuous	All zones	Variety of settlement types	DRAINAGE ALONG LINES OF STRIP FARMING (as B2)

Table 5.5: Characteristics of the main historic landscape types (based on terminology used by Rippon 2004c)

Settlement evidence for the later prehistoric and Roman periods is present in the form of cropmark enclosures. It should be noted that some of these cropmarks might well represent the Bronze Age and Iron Age settlement of the area. Continuity into the Roman period has been shown at a number of sites. There is an apparent increase in activity, but this possibly relates to the more visible Roman artefacts and archaeology.

Within the general discussion of sites which have been attributed a prehistoric or Roman date, there is a cautionary tale. An enclosure at Riby Cross Roads, identified as a prehistoric enclosure from aerial photography, was later excavated and found to be Anglo-Saxon in date, and examination of enclosures on the Yorkshire Wolds has drawn a similar conclusion (Kershaw 1998, Richards 2000). With this in mind, the possibility exists that later period settlement may also have been included within the discussion of prehistoric/Roman enclosures.

Extensive evidence for salt-working occurs from the Iron Age onwards. This may well have ended by the Middle Roman period, but the extensive evidence for later occupation of the Marsh in the third and fourth centuries may indicate a shift in focus, with smaller-scale salt-making activities being mixed with a more agriculturally based economy.

During the Saxon period there are different developments of landholdings, place-names, the general settlement pattern, areas of woodland, and areas of salt production, among many other factors. During the Medieval period there is expansion across the study area as a whole, with fluctuations in the wealth of the settlements across all three physical regions.

Through the periods discussed in this chapter development has not been constant across the study area. The division of the region into distinct development zones can be seen in place-name evidence, with a concentration of *-bys* and *-thorps* in the south and a higher concentration of Old English names in the north; in the Domesday landholdings which in the north are more compact with fewer multiple vill estates; in the settlement pattern of the north that follows three clear north to south lines, whereas the settlement in the south is more constrained by the drift deposits; in that

woodland is recorded in the Domesday Book in the south of the region, but none to the north; in that Iron Age and Roman salt production is concentrated towards the south, with Medieval salt production on either side of this; and in a settlement pattern which is more dispersed in the south than the north. The following chapters will explore these differences, examining each of the four separate sub-regions postulated in Chapter 2 in detail, in order to try to explain the different ways in which these landscapes were settled and utilised.

Chapter 6

Zone One – Cleethorpes to Yarburgh

6.1 Introduction

It is clear that although there are three physical zones, the Wolds, Middle Marsh and Outmarsh, a number of other divisions are apparent in the study area, each relating to different developmental histories. These divisions were first highlighted during research undertaken under the auspices of the Humber Wetlands Project (Fenwick, H. 2001). As noted in Chapter 2, this thesis aims to explore each of these zones in order to establish the nature of these different developments.

This chapter explores the first of these zones, which is located in the north of the Marsh. The following three chapters discuss the other zones, from north to south, in turn. Each chapter will explore the development within the zone as a whole, but the illustrations will focus on a sample area of each zone. This will enable a model of settlement development and landscape evolution to be postulated for each of the zones. The sample areas cover the majority of each zone, and they have been chosen to encompass the general characteristics of the zone. Each has a fixed size of 20 by 10 km, so they can be compared across all zones (Figure 6.1). All references to the archaeological sites within this, and the following three chapters, are accompanied by a unique identifier, and further details of the sites and finds can be found in Appendices 9 (early prehistory), 10 (Iron Age and Roman), and 11 (Saxon).

The sample area of Zone One extends from Humberston in the north to Covenham in the south (Figure 6.2). Outside of the sample area, there is a small region to the north where the till outcrop meets the coast. This point is effectively the end of the Lincolnshire Marsh, in physiographic terms.

The chapter will initially review the evidence for the physical background of the zone (section 6.2), followed by a discussion of the archaeological and documentary evidence for each period (sections 6.3-6.6). A number of elements of the landscape will then be considered (section 6.7), and a model for the landscape evolution of the zone will be proposed (section 6.8). This model will suggest the strategy adopted in

each period according to Rippon's (2000) model. A general summary of the zone will then conclude the chapter (section 6.9).

6.2 Physical background

This zone is located within the Middle Marsh and Outmarsh physical regions (Figure 6.2). Occasional outcrops of gravel are located within the Middle Marsh, but these are very isolated. In this zone, the wide Outmarsh, comprising of over 12 km of alluvial deposits, dominates the study area. The Waithe Beck runs through the region in the north and the upper reaches of the River Lud are located in the east of the zone. Very few palaeoenvironmental samples have been obtained from this zone. The main evidence consists of sequences recovered from Cleethorpes beach (Leahy 1986), and from an inland section of the Outmarsh at Tetney (Long *et al.* 1998). There are no samples from the Middle Marsh within this zone.

Variations from Swinnerton's 'typical' sequence (see Chapter 2) can be found to the south of Cleethorpes to North Somercotes. Here, patches of marine sand with silt have been identified, but there is little evidence for the lower peat (Berridge and Pattison 1994). However, the lower peat has been located on Cleethorpes beach, and a date for the submerged forest bed is placed in the range *c.* 2950-2250 cal BC (OXA-132) (Leahy 1986).

Variable dates for peat formation are evidenced in this zone, with a date in the Mesolithic period from Tetney Lock South (Lillie and Gearey 2001a), and the above sample from Cleethorpes beach suggesting a Neolithic/Early Bronze Age date (Leahy 1986). One potential explanation for the variability in date is that areas within depressions in the till surface were being affected first, although other explanations have been postulated (see Clapham 1999).

An area of storm beach is located in the south of the zone. It has been suggested that this could be 2000-3000 years old, and it may have provided a drier area for habitation, although it may well have been greatly affected by later storm action (Berridge and Pattison 1994). Throughout much of its development this coastal zone would have been protected by offshore barriers, which created a sheltered lagoon at the coast (Robinson 1970). This was eventually destroyed in the Medieval period,

which is the first time this area would have felt the full impact of coastal forces (Owen 1952, Robinson 1970).

6.3 Early prehistoric landscape interaction

There is no evidence for Mesolithic activity within the sample area for this zone, however, as mentioned in Chapter 2, this may be due to the alluvial history of the region. Two Mesolithic find spots are recorded in this zone on the till, outside of the sample area, perhaps indicating the possibility of more widespread activity. Both of these find spots contain lithic material that is dated solely to the Mesolithic period (1990, 2021). The Neolithic and Bronze Age evidence would appear to indicate settlement in the Middle Marsh with occasional, seasonal activity in the Outmarsh (Figure 6.3).

The Neolithic finds cluster to the south of the Waithe Beck. Whilst this distribution does, in part, reflect the recent fieldwork activity in the region undertaken by the Humber Wetlands Project (21, 22, 48, 49), it is anticipated that to some extent this is a true reflection of Neolithic activity in this particular area. The finds are primarily worked flint with a date range of Neolithic to Bronze Age. One biasing factor that needs to be considered is the fact that the alluvial nature of the Outmarsh is significant, with the overburden from Medieval salt-working activity which is abundant in this zone, exacerbating the masking effects of the alluvium.

Stone axes have been recovered from Ludborough (126), Grainsby (149) and Waithe (2066), suggesting some degree of woodland clearance in the zone. The axes discovered at Waithe and Ludborough have been identified as Group VI, which is the most common group in the Marsh (Cummins and Moore 1973). Further axes have been located outside the sample area at Brigsley (1978), Cleethorpes (2006, 2014) and Humberston (2029). The example from Humberston is also from Group VI and it is suggested that 'bulk trade was carried on between the Cumbrian factories and a major trading station in east Lincolnshire, from which the dispersal of Group VI axes was carried across the country' (Cummins 1974: 204).

The most likely location for such a trading station has been suggested to be in north Lincolnshire, near to the Humber, due to the high concentration of axes in the

Scunthorpe area. Others have argued that this is an over-simplistic view of the axe trade, and that other considerations, such as the proportion of flint to stone axes, or possibly even the attractiveness of the stone and the potential ritual value of different axes, also need to be considered (Bradley and Edmonds 1993). Within these arguments, the distribution centres suggested by Cummins (1974) are dismissed, and a more itinerant movement of axes is suggested. This movement may have cultural links which have been postulated between Cumbria and the Yorkshire Wolds, with the possible exchange of axes at gatherings associated with ritual activity, rather than a specialised axe trade (Bradley and Edmonds 1993). If the trade centre theory is followed, then the axes within this zone support the centre's location in northern Lincolnshire. With only a few axes recovered, it becomes hard to support or refute the ideas of cultural exchange rather than trade; however, the axes within this zone do show that axes from Cumbria were easily accessible to the Neolithic population.

A possible long barrow has been identified at the edge of the zone at Ashby cum Fenby (1976). It is possible that this example provides a ritual focus for the activity outlined above. However, only excavation will provide secure evidence for this being a long barrow, as the location seems unlikely when compared with the location of the other long barrows on the Wolds (see Chapter 8).

Bronze Age activity is more extensive and is found in the Outmarsh as well as the Middle Marsh. A Group XVIII battle-axe fragment was recovered from Grainsby (143), along with a second broken piece of battle-axe. The axe-hammer recovered from the beach at Cleethorpes (2017) was also Group XVIII (Figure 6.4). This axe-hammer was found with the wooden haft still attached and was dated to the Early Bronze Age (Leahy 1986). Further finds include axe hammers from Fulstow (115), Alvingham (185) and Cleethorpes (2015), and stone hammers from North Thoresby (134) and Grainthorpe (257). That from Alvingham (185) is also Group XVIII, resulting in three of the four examples of this group in the Marsh, coming from Zone One. This suggests links to the north of the Humber, or alternatively that the axe trade in this area was not solely concentrated on the Lake District.

Burial activity is located in a number of areas: close to the Waithe Beck (1502, 1503, 1739), on the edge of the Middle Marsh, close to the Wolds (2040, 2041, 2042), and

a possible barrow on the Outmarsh at Grainthorpe (258). The location of the burials may reflect the changing nature of the landscape in this period with sea-level fluctuations affecting the full extent of the Outmarsh. A possible barrow is also located outside the sample area at Covenham St Mary (1808). The Waithe Beck cluster includes a potential barrow cemetery (1739). Although only identified through aerial photography, the position of this cemetery provides parallels with other known cemeteries in Lincolnshire, such as Butterbump. The evidence supports a correlation of cemeteries and wetlands (see Chapter 2). During this period of great flux, with changing water levels and landscapes, the barrow builders were choosing areas close to rivers and kettle holes that, while safe from the complete inundation that was occurring in the Outmarsh, are still experiencing these changes.

The barrow at Grainthorpe (258) (proposed from the discovery of Beaker pottery in a mound) would suggest that islands in the Outmarsh were available for exploitation, and that other potential sites may be hidden, being masked by the overburden from later alluviation and salt-working. The name of the barrow - Beacon Hill - and the location of the site suggests that a round barrow was later utilised as a beacon, and perhaps the raised location of this barrow, in a relatively flat area, has helped preserve the feature. This later re-use of round barrows for beacons also occurred in Cleethorpes at Beacon Hill (2010) where excavations revealed a number of cremation burials (Figure 6.5) (see Chapter 2). Davies and Van de Noort (1995) suggested that the undulating till surface could have created islands within the Outmarsh which were suitable for occupation, and that the submerged forest of Late Neolithic/Early Bronze Age date was only formed in the depressions in the till.

Salt production is seen in the zone during the Bronze Age, potentially indicating the seasonal occupation of parts of the coast. There is no firm evidence for the position of the coast during this period, but the saltern site at Tetney (1124, 1237) must have been located close to the inter-tidal zone. This saltern is dated to the Late Bronze Age, and at this time the area was witnessing a regression phase of sea-level tendency. Earlier in the Bronze Age, the coastline was potentially further inland, closer to the edge of the Middle Marsh and Outmarsh. The saltern is also located in an area where the width of the Outmarsh is 2 km compared to the 12 km in the south

of the zone. Evidence for any settlement associated with this industry has not been located; prehistoric enclosures occur in the vicinity but are not securely dated.

6.4 Later prehistoric and Roman landscape exploitation

The salt-working in the north of the zone continues into the Iron Age (1124, 1237), and is possibly associated with settlements which have developed in the Middle Marsh. It may have been undertaken as a seasonal activity, as an integral part of a wider agricultural economy (Figure 6.6). There is no further evidence of Iron Age activity within the Outmarsh, but this may be due to the issues associated with the identification of cropmarks in the alluvial soils. The sites in the Middle Marsh that have been identified include a triple-ditched enclosure at North Thoresby (1741), and small square enclosures at Tetney (1842) and Holton le Clay (1873). All three of these sites appear to suggest some form of settlement with associated enclosures for animals or field boundaries. The triple-ditched enclosure at North Thoresby (1741) is typologically similar to the Iron Age settlements identified in west Lincolnshire. Here the characteristics of Iron Age settlement are seen as complex enclosures, with ditched entrance ways (Winton 1998). However, this description is similar to sites that have been identified as villa sites on the Wolds (Jones 1998b). The absence of building material from the North Thoresby site suggests an Iron Age date.

The road network becomes more visible in the Roman period, extending down from Barton Street on the edge of the zone, into the heart of the Outmarsh. The line of one road (Margary 272) has been established, and a number of other routes have been postulated (Owen 1997a). Roman settlement continues in those areas previously occupied, but also expands throughout the zone. The evidence for activity within the Outmarsh increases, with sites expanding along the line of the postulated roads. The quantity and quality of pottery recovered from a number of these sites suggests substantial occupation, however, whether this was seasonal or permanent in nature cannot be established on the current evidence.

The majority of the dated material in the region is third and fourth century in date, suggesting that this occupation is late. Despite this, one site at Marshchapel (269) on Margary 272 has evidence for activity extending from the second century, which may reflect the initial colonisation of this zone. A geophysical survey at

Marshchapel has produced evidence of activity in the vicinity, potentially associated with a palaeochannel. Although the exact nature of this site has not been established, a quantity of flue and roof tiles indicates a Romanised building (Fenwick *et al.* 2001b). This site is useful in developing an understanding of the visibility of settlement evidence when considered alongside the aerial photographic data. The geophysical survey at the site provided no conclusive evidence of ditches or enclosure associated with this settlement. Therefore, enclosed settlement would appear not to be the only form of settlement in the Roman period. In addition a clear bias is produced when discussing settlement forms, as the majority of the evidence has come from sites that are visible on aerial photographs as enclosures.

There is some evidence from aerial photography for enclosed settlement in the zone, which at present is undated, but is mostly likely Roman in date (Figure 6.7). The small rectilinear enclosure at Tetney (1874) has a Roman artefact scatter (159) within 500 m. Other sites identified from aerial photography may have evidence of internal structures within them, such as the enclosures at Ludborough (2045), Tetney (1842) and New Waltham (2035).

Whilst there is little evidence for salt-working in this period (site 292 may well be a misinterpretation of a Medieval saltern), the Roman finds may indicate settlements involved in such activity. The evidence for Roman activity would now be buried under the later overburden of the waste from the Medieval production in the area. The location of these settlements may also be indicating the position of the coastline in this period. The evidence therefore points to more substantial exploitation and settlement of the Outmarsh during the Roman period.

That some of the move into this zone may have been exploratory in nature, is in evidence from the presence of the vineyard at North Thoresby (138), just to the west of the sample area (Webster *et al.* 1967). Excavations at North Thoresby uncovered a number of U-shaped ditches with a large quantity of Roman pottery in the upper part of the fill (Webster *et al.* 1967). The pottery suggested a date in the late third century AD. The network of ditches appeared to cover an area of twelve acres, and these were evenly spaced at *c.* 7.6 m, indicating a use other than field boundaries. It has been suggested that they were dug for the cultivation of vines, although counter

arguments have stated that the lines are much further apart than modern vine cultivation and that the heavy clay soil at North Thoresby was unsuitable for such cultivation (Webster *et al.* 1967).

The possibility of vine cultivation in Lincolnshire was highlighted by the presence of a single vine pollen grain identified in the work of Schofield (2001) at Withern (in Zone Two). A Roman vineyard has also been identified at Wollaston in Northamptonshire, and at this location the spacing of the cultivation trenches was 5 m, which would prevent over-shadowing of neighbouring plants and decrease possible infection (Brown *et al.* 2001); this suggests that a 7.6 m spacing at North Thoresby may not be too large.

In light of this evidence, there remains the possibility that North Thoresby does represent a Roman vineyard, but the excavators have described the site as a possible short-lived experiment by 'a land-owner of some substance' (Webster *et al.* 1967: 58). Further south, in the Fens, a climatic fluctuation occurring from AD 270 has been suggested (Webster *et al.* 1967). The possibility exists that the failure of the experiment at North Thoresby, with the pottery evidence suggesting a late third century date for the site, reflects these climatic fluctuations, and that the climate changes put a sudden end to this particular experiment. The location of any associated settlement has not been established.

6.5 Saxon landscape colonisation

Archaeological evidence for Saxon activity is slight in this zone (Figure 6.8). The settlement at Holton le Clay must have been established early in the period, with the evidence of a cemetery (174) within the village (Sills 1982). Finds from the vicinity of Tetney (156, 1065) also suggest that a settlement may have formed in this area.

Burial activity is attested by the presence of a small plain Anglo-Saxon vessel recovered during the excavation at Beacon Hill Bronze Age round barrow in Cleethorpes (2011). However, this has not been dated any closer than the Anglo-Saxon period, and it probably signifies an Early Saxon re-use of the prehistoric monument.

Find spots that suggest Scandinavian influence in the zone include a Danish dagger from Cleethorpes (1996) and Danish beads from Humberston (2023). A coin hoard discovered in Tetney (158) in 1945 included over 400 coins. It is estimated to have been deposited at *c.* AD 970. Of the coins, 417 are of kings of England, and the three remaining coins show three of the Viking kings of York (Blackburn *et al.* 1983).

Saxo-Norman stonework has been recorded at Old Clee, Holton le Clay, Conisholme (299), North Thoresby (133) and Humberston (Stocker 2000). A monument fragment from Holton le Clay, which was imported from York, is one of the earliest Anglo-Scandinavian examples from Lincolnshire. Parallels to this monument have been excavated from cemeteries within York, highlighting Hiberno-Norse connections; Stocker and Everson (2001) suggest that the person buried with this monument was trying to assert his position as an incomer from the kingdom of York.

The monument from Humberston is an outlier of a group of mid-tenth century grave slabs that were being made in the Ancaster area. These have a mixture of Christian iconography and elements that resemble an early grave slab form that had developed from hogbacks (Stocker and Everson 2001). The majority of these forms are found in south-west Lincolnshire.

For the area of Lindsey, the most common form of mid-tenth century monument was a flat stone grave-cover decorated with simple interlace within a cable-moulded frame. These were produced from quarries in the Lincoln area and exhibit little in the way of distinctive Anglo-Scandinavian character. However, they do have clear connections to Merica and Wessex (Stocker and Everson 2001). The example from North Thoresby (133) falls within this group (Figure 6.9), and a total of 21 examples are recorded in Lincolnshire (Stocker and Everson 2001).

Evidence for Late Saxon salt-making has been found at Marshchapel (1380), in a location set slightly back from that of the potential Roman coastline (Fenwick, H. 2001). Evidence from the site suggests that production would require access to the inter-tidal zone. As such this salt-working would have been close to the coast at the time. Although suggestions have been made for early coastal defences there is no evidence for any structures in this zone. The number of salterns recorded in

Domesday would suggest that this zone was left unprotected during this period in order to aid this industry. The presence of the proposed offshore protection would also have made this zone less prone to excessive tides and erosion (Robinson 1970). It is also suggested that the permanent settlements in this zone, develop on the top of old, presumably Saxon, saltern mounds (Owen 1984). Evidence from the Marshchapel site indicated a different method of salt production, which did not produce the large waste mounds seen in the Medieval period (Figure 6.10) (Fenwick, H. 2001).

That settlements develop in the Middle Marsh during this period is shown by the place-name evidence (Figure 6.11). Holton le Clay has been mentioned above as providing evidence of early activity, and this is fully supported by the place-name evidence of an Old English *–tun*. Other early settlements are suggested at Humberston (another *–tun*) and Waltham (an Old English *–ham*) located to the north of the sample area, and in the Outmarsh at Eskham and North Cotes. All of the *–ham* names in the Lincolnshire Marsh occur within the two northernmost zones. There are few Scandinavian names within the Outmarsh itself, this form of name is mainly located on the Middle Marsh in a cluster to the south of the Waithe Beck. A number of the place-names provide evidence for settlements built on an island or a spur of higher ground. These include the group of names with a 'holme' element, such as Wragholme and Conisholme.

A settlement pattern develops which sees two lines of settlements forming on the Middle Marsh. One of these forms towards the base of the Wolds and includes the settlements of Waithe, North Thoresby and Ludborough. The second line of settlements forms at the edge of the Middle Marsh and Outmarsh, and includes the settlements of Tetney, Fulstow and Cawthorpe. There is a further line of settlement which begins to develop, potentially close to the edge of the coastline during this period, with North Coates, Eskham and Grainthorpe. One settlement within this line, Conisholme, has evidence of a late tenth or early eleventh century cross (299), suggesting that an early church may have been located on the site. While the other settlements may have developed as seasonal offshoots of those on the Middle Marsh, there was some potential for permanent settlement within the zone. There is currently no evidence to indicate whether any modification of the landscape was

carried out in this period, but the need to have an area that could avail of the tidal resources is apparent, and any sea defence would have been counterproductive.

6.6 Medieval settlement and landscape utilisation

The basic pattern of three lines of settlement is expanded upon in the Medieval period. The settlements on the line in the Outmarsh become permanent with their own communities and parishes, consequently partitioning off the eastern end of the earlier parish structure. This is clearly evidence at Marshchapel, and can be suggested for other parishes such as South and North Somercotes.

By the twelfth century the two westernmost lines of settlement are in evidence (Figure 6.12). The third line of settlement can be seen to be beginning to develop. The Domesday landholding shows that the settlements in the Middle Marsh are primarily manors, but a number of the vills are only recorded as sokelands of distant manors (Figure 6.13). On the whole, the manors are more compact than those in other zones, with fewer berewicks and sokelands. A number of the vills within the Middle Marsh have multiple manors as well as sokeland of other manors. For example, Fulstow records three manors, and Holton le Clay has three manors and one sokeland. The three manors at Fulstow, along with a further holding at the vill, maintain a degree of separation. On the map of 1595, two major landowners are mentioned, and two manor houses are indicated as North Hall and West Hall, both of which are moated sites (Walshaw 1935). The presence of a total of three moated sites in the village may indicate the original tripartite nature of the vill.

The land recorded at Grainthorpe, the only one within the Outmarsh, is the sokeland of manors at Gayton le Wold and Covenham. A settlement is suggested from the population of 28 and land for 0.5 ploughs. In actuality, 4.25 ploughs are recorded suggesting that there was more extensive agricultural land, or more likely that the settlement was quite dispersed over the area. Six salterns and 100 acres of meadow are recorded, suggesting that settlements in this area were utilising a range of resources.

Domesday population figures for this zone do not show any settlement as highly populous, with a range of 17 to 77 inhabitants recorded. Settlements, which have

established early origins, such as Holton le Clay and Tetney, show the higher figures (77 and 44 respectively). The population is dominated by freemen with only Tetney, Fulstow and Covenham having a larger proportion of villagers. Fulstow is perhaps the most interesting of these settlements as it also has the largest proportion of smallholders in the zone. An absence of sokeland has been postulated as the explanation for the absence of freemen. That the absence of sokeland should represent an absence of freemen is not correlated throughout the Marsh, though there are a number of vills such as Fulstow, that only record manors or manors and berewicks that do show smaller numbers of freemen.

Other calculations, such as the population per carucate, value per tenant and value per carucate, all provide similar figures within the zone as a whole. This suggests an even population density across the zone. The majority of vills either maintain or increase their value from 1066 to 1086 with those that decrease concentrated close together in one area of the Middle Marsh. Neighbouring settlements show an increase in value, and this may indicate villages competing for resources.

By the fourteenth century the settlements in the Middle Marsh have continued to develop, with the majority now having churches; markets are present at Ludborough and Tetney (Figure 6.14). The population taxed in 1377 varies across the zone from 28 in Brackenborough to 300 in Somercotes, although this combines figures for two settlements, one of which is within the next zone. Brackenborough also appears on the maps of Zone Two, though it strictly falls within the area defined as Zone One. The majority of settlements fall within the range of 76-220 people and the low figure for Brackenborough suggests that the village, which is now deserted, was already in decline in the fourteenth century. The village also provides one of the lowest returns in the 1334 lay subsidy at 308 pence, with only Autby being lower at 164.25 pence, and this settlement was also to become deserted.

By the sixteenth century the two easternmost lines have become fully developed (Figure 6.15). There are more complete tax records for the sixteenth century for this zone than were previously available. These reveal the growth of population in the Outmarsh, with similar figures for the easternmost line of settlement to those of the middle line of settlements on the Middle Marsh. The settlements on the line at the

base of the Wolds show relatively low populations. From the amount paid in the 1524 subsidy there was apparently an even distribution of wealth across the region. By 1563 a number of settlements dominate the population figures, with Tetney, Fulstow and North Somercoates showing high numbers. However, all three settlements included a number of hamlets, and are, as such, poly-focal settlements.

The development of the Outmarsh, and a gradual decrease in the value of the settlements in the Middle Marsh, is confirmed in the archaeological record with the final desertion of the settlements at Autby, Waithe and Grainsby, thereby reducing the number of settlements on the westernmost line (Figure 6.16). There is some pressure on the settlements of the middle line, with that of Cawthorpe becoming deserted.

The settlements of the easternmost line appear to develop along a previous coastline. Suggestions have been made that these follow the line of the Saxon sea bank (Hoskins 1955), but there is no physical evidence of this feature. Documentary evidence does suggest some form of sea defence but its size and scale are unknown (Williamson 1948, Owen 1975, 1996). The Late Saxon saltern at Marshchapel provided a date range of ceramics from the tenth to twelfth centuries, suggesting that salt production may have continued at the site into the Medieval period. As such the sea bank would need to be a later feature. Owen (1984) suggested that the settlements developed on old saltern mounds, however, the earlier methods of salt production did not result in these large mounds. Potentially settlement development in this zone may resemble the pattern in part of the Norfolk Fens, where villages develop close to the coast, along higher ridges of saltmarsh (Silvester 1988).

> 'The round groundes at the Easte end of Marshchappell are called mavres and are firste framed by layinge together of great quantities of moulde for the making of Salte. When the mavres grow greate the Salt makers remove more easte and come nearer to the Sea and then the former mavres become in some fewe years good pasture groundes. Those that have the Cotages nowe upon them are at the presente in use for salt.'
> (Walshaw 1935: 198)

By the Medieval period, after the establishment of the third line of settlements, the

land on the seaward side of the line develops apace due to the salt industry. The process is described in the quote above, which is written on the 1595 map of the parishes of Fulstow and Marshchapel. The plots of aerial photographic data and the areas of salterns on the map from 1595 show that from the line of settlements, for over 1 km eastwards, the land surface is comprised of numerous saltern mounds (Figure 6.17). The quote from the map highlights the way in which much of this landscape was reclaimed as part of this activity, but it suggests that this was an unintentional by-product of the industry and not intentional reclamation. Field boundaries to the east of the line of settlement attest to this landscape development, as many field boundaries are formed at the base of the mounds, thereby producing sinuous patterns (Figure 6.18). It can be seen from the 1595 map and plot of aerial photographic saltern mounds that no new mounds appear to have been created after the map had been drawn.

Moated sites are found in the Middle Marsh, and these are mainly concentrated in the second line of settlement. These may have formed the bases for a number of landholders who were pushing forward out into the Outmarsh. These sites acted as status symbols and the moats would not necessarily be needed for drainage, but were statements of wealth and ownership.

6.7 Elements within the landscape

From the information outlined above, and the nature of the historic landscape as determined from the second edition Ordnance Survey maps, is it possible to investigate the nature of a number of elements within the landscape (Figure 6.19). This will be considered alongside the documentary evidence of the available resources and agricultural regimes.

6.7.1 Lines of communication

The road system within this zone has developed from the initial east-west routes established by the Romans. The exact antiquity of these routes cannot be shown, and the relatively few finds of prehistoric date suggest that these routes may not have been in use previously. The clustering of prehistoric finds along the Waithe Beck may suggest that this was one of the important routes within this period. The line of

the prehistoric trackway, Barton Street, runs along the edge of the zone, along a line that would have provided a clear view over the Middle Marsh and Outmarsh.

The road system that develops from the Roman structure combines with the linear development of settlement and produces a number of north-south routes that join the east-west routes. This communication system then provides the framework within which the field systems of the zone develop. The parish boundaries also developed along similar lines, with long linear east-west boundaries on the lines of the Roman routes and the Waithe Beck. These gradually become divided as pieces of their eastern ends developed new settlements and new parishes in their own right.

By the time of Domesday, two havens - Mare and Swine - are recorded on the coast. The location of Swine Haven has been identified in the parish of Grainthorpe; Mare has been more difficult to locate but possibly lies within Somercotes (Owen 1954). The documentary evidence for Mare Haven is slight and it would appear to have gone out of use by the end of the twelfth century (Owen 1954).

6.7.2 Field systems and drainage

Domesday records indicate an equal amount of less ploughs than ploughland and more ploughs than ploughland recorded. An even spread of 'land for x ploughs' and number of ploughs is shown throughout the zone. This suggests that most settlements were undertaking comparative amounts of agriculture and no one vill stands out as having a higher share than the others. The mills recorded within this zone are concentrated on the Waithe Beck. Meadow is recorded throughout the zone, with only two settlements having no meadow recorded. There is no woodland recorded for this zone in the Domesday Book. There is a single entry for waste within the Domesday Book for this zone at Clee.

Only two manors record turbaries in the Domesday Book for the Lincolnshire Marsh, both within this zone. One is attached to the manor of North Thoresby and Autby and the other at Grainsby. Both of these are in an area which has a high concentration of salterns recorded in Domesday Book, and there is a possible connection between salt production and the need for peat as a fuel source.

The field systems that develop around the settlements on the Middle Marsh, tend to represent two field systems (Figure 6.20). Within each parish there were also a number of other resources such as ings and marsh which would provide meadow, perhaps meaning a full three field system was not required as grazing could be provided elsewhere. Further to the east, where land is gradually being reclaimed due to salt production, early enclosures can be seen, as new fields are established on the old saltern mounds. Many of the settlements do show evidence for early private enclosures throughout the zone especially those along the coastal edge. These settlements are therefore lacking in Parliamentary Enclosure Awards and their field systems are harder to reconstruct. Documentary evidence from Fulstow indicates enclosure of waste and pasture by Louth Abbey in the late thirteenth and early fourteenth century (Williamson 1948). The fact that enclosure was an ongoing and historically lengthy process is apparent; the 1595 map of Marshchapel and Fulstow indicates many areas that had already been enclosed (Walshaw 1935).

Monastic input into the development of the Marsh would appear to be minimal. It is apparent that they acquired small areas of land, and that they possessed the tithe rites and a number of churches. There is, however, no wholesale landscape ownership apparent. The small amounts of land that were held by religious institutions in the Lincolnshire Marsh can be illustrated with the example of land in the parish of Fulstow. Here the Abbey of Louth and the Priories of Ormsby, Kirkstead, Alvingham, Gokewell, Greenfield, Nun Appleton and the Templar Preceptory of Willoughton all had small grants of land or rents in the parish. However, this was interspersed with four other secular landholders who held the majority of the actual area of the parish. None of the monastic holdings amounted to any great spatial extent (Williamson 1948).

A number of small drainage features can be seen across the zone. Their sinuous nature would support the observation that these are most likely the natural small run-off streams from the Wolds or old saltmarsh creeks, which have been utilised as field boundaries, and not purposefully created as drainage channels. This system is partly obscured by the creation of the Louth Canal in the 1760s, which reduces the importance of the Waithe Beck. More drains are mapped in the area that has been reclaimed by salt production, than in the surrounding agricultural land.

An early sea bank is postulated by several authors (Hoskins 1955, Robinson 1970) for the north of the region and this feature is given an eleventh century date. However, it should be noted that there is little direct evidence to support this date. The postulated sea bank links the settlements of North Coates, Marshchapel, Wragholme, Grainthorpe, Conisholme, North and South Somercoates and Skidbrooke. It would appear that the assertion of chronological age is made on the grounds of the development of the settlements as opposed to firm evidence for the construction of the sea bank itself (see section 6.6). This area of the coast is less volatile and has fewer records of floods, than the zones to the south, with the first datable sea bank appearing in 1576, but with extensive flood defences only appearing in 1638. A number of small sections of banks have been postulated from the aerial photographic data, in most cases linking saltern mounds (Grady 1998). These have remained undated, and should not be seen as wholesale reclamation, but as small attempts at improving the natural reclamation that occurred due to the salt mounds. This is not transformation it is modification.

During the Medieval period this section of coast was also accreting; as erosion of the Holderness coast to the north increased, the amount of sediment deposition along this coast increased (Berridge and Pattison 1994). Here drainage may have been more important than the construction of banks.

6.7.3 Settlement

The late nineteenth century settlement pattern reveals the three lines of settlement which developed in the Medieval period (Figure 6.21). Dispersed settlement is apparent away from the main villages. On the eastern side of the last line of settlements, a range of farmsteads have developed as the area was gradually reclaimed, and many of the farmsteads most likely occupy the position of former salt cotes.

6.7.4 Salt production

Salt production is in evidence within this zone in the Late Bronze Age, but disappears from the record by the middle of the Iron Age. This may be due to the overburden from the Medieval production, but may also be indicating a shifting focus of the industry to other zones along the Lincolnshire Marsh. That there is a

revival of the industry in later periods is apparent from the concentration of Domesday salterns recorded from the zone. The only saltpans within the Outmarsh are those recorded at Grainthorpe. The highest concentration of saltpans is recorded at the vills of North Thoresby and Autby, and Fulstow, which most likely held the rights to the Outmarsh. One of the saltpans, possibly associated with Fulstow, has been excavated at Marshchapel (Fenwick, H. 2001).

There is considerable evidence for the continuation of the Domesday salt production in this zone. The aerial photographic evidence reveals the constant movement of the coastline as the saltern mounds encroached onto the saltmarsh and gradually raised the height of the ground surface. The exact date of the saltern mounds seen on aerial photography is unknown, but some degree of chronological age can be suggested from the 1595 map, which shows a number of salterns still in use at this time.

6.7.5 Historic landscape character

There are a variety of landscape character types apparent (Figure 6.22). On the Middle Marsh, the character is mainly intermediate blocks or regular blocks of fields suggesting an origin in either early, or Parliamentary Enclosure. This area also coincides with the Roman road system that provides a structure within which a regular field system can develop. Along the Outmarsh there are indications of areas of planned reclamation. In at least one area this reclamation is post-sixteenth century in date, as it was unreclaimed on a map of 1595. This northern zone of regular reclamation shows differences to that of the south, which has small strips suggestive of a system based on strip farming.

A large area of the Outmarsh in this zone is characterised as irregular salterns where the pattern is a result of salt production. Other areas of the Outmarsh fall into the two intermediate categories of blocks and strips, which are, in many cases indicative of reclamation undertaken using the natural stream patterns as a basis for the system.

Hence the distinctive characteristics of this region can be split into a number of groups. The field pattern belies two origins. One results from the accidental modification of the landscape through the salt industry resulting in irregular field boundaries, surrounded by a sinuous drainage pattern. This covers around 30% of the

Outmarsh within the sample area (Figure 6.23). Towards the inner edge of the Outmarsh and into the Middle Marsh there is evidence of a regular field pattern which has developed within the constraints of a Roman road system (Figure 6.24). The settlement pattern within this zone has developed in a linear form, with a line of settlements at the foot of the Wolds and one on the 10 m contour line (Figure 6.25). A further line of settlements develops in the Outmarsh. The resulting road system of the area is a number of north-south and east-west routes, and the landscape is easy to navigate. The cultural context of the region also reveals a pattern of development and evolution that has resulted in a number of different landowners within the region. The map of Fulstow and Marshchapel illustrates the end of the period under consideration but reveals two main landholders, but numerous smaller parcels owned by other individuals.

6.8 Landscape evolution

The first real inroads into this region occurred during the Roman period. Prior to this, small-scale exploitation of the resources in the Outmarsh is in evidence through salt-working. In addition, the Middle Marsh plays a part in the rituals of the dead, with round barrows marking a potential line at the edge of the maximum extent of marine transgression (Figure 6.26: A). With the introduction of at least one Roman road, and a number of other potential routes, along with an intensification of activity, this zone was provided with the structure that would constrain the development of the field system in future periods (Figure 6.26: B). This expansion into the Outmarsh was also reacting to a sea-level regression in the Middle Iron Age.

A phase of Late Roman marine inundation of the area would appear to have put an end to the settlement within the Outmarsh. The Saxon period settlement is concentrated on the Middle Marsh, but the salt resources are being exploited at the edge of the zone (Figure 6.26: C). The settlements in the Middle Marsh develop along two lines, one at the base of the Wolds and the other on the 10 m contour line, close to the edge of the Outmarsh. As the conditions improve, settlement begins to expand onto the Outmarsh, and a third line of settlement develops. This line of settlement lies slightly further east than the extent of the known Roman settlement.

It has been suggested that these settlements developed along a Late Saxon/Medieval sea bank, but the necessity of access to the inter-tidal zone, and the protection afforded by offshore barriers, may well have negated the need for this extra defence at this early stage. Documentary sources may be referring to a boundary marker or small-scale banks rather than actual large-scale defence in this area (Figure 6.26: D). An alternative proposition for the development of these settlements is on an area of raised saltmarsh deposits or sand deposits, which have been mapped for small areas of the zone (Berridge and Pattison 1994). With the growth of these settlements, those along the line at the edge of the Wolds begin to suffer, as economic activity is concentrated in the other two lines of settlement.

The salt-working at the coast, in the long run, helps modify this section of coast to the extent that areas are reclaimed unintentionally from the sea, and as a consequence, the industry has to move further eastwards. With this development a number of farmsteads are located within the area. These take advantage of this expansion, and areas of enclosed fields become apparent. The first firm evidence for sea banks in this area is in the sixteenth century, and until this point the salt industry held economic sway in the region. Documentary evidence for sea defences probably indicates small-scale protection of established habitations. The historic landscape features indicate that areas of intentional reclamation only appear in the later Medieval period as much of the earlier management was based on the natural streams.

To return to the model of coastal wetland use proposed by Rippon (2000) (see Chapter 1), the evidence from this zone would suggest the following strategies for the use of the area from Cleethorpes to Yarburgh: minor exploitation (early prehistory) → major exploitation (later prehistory and Roman period) → minor exploitation (Saxon period) → accidental modification (Medieval period). The accidental modification is a refinement of Rippon's (2000) model, which tended to see modification as an intentional act. Within this zone there is evidence of accidental modification occurring due to the waste products of the salt industry. Although this modification was utilised, it was not intentionally sort. After all four zones of the Lincolnshire Marsh have been reviewed, Chapter 10 will provide a

comparison of the four zones of the Lincolnshire Marsh, and this will be placed in the wider British and European context in Chapter 11.

6.9 Summary

Early exploitation of the zone is apparent with evidence of woodland clearance, settlement activity on the edge of the Middle Marsh and extensive burial activity in the Bronze Age. The further exploitation of the zone's resources is apparent from the Late Bronze Age salt-working evidence at Tetney (Palmer-Brown 1993). From the Neolithic through to the Bronze Age a series of transgressive and regressive sea-level episodes have been identified which would have affected the extent of the settlement (Chapter 2).

Settlements develop in the Middle Marsh during the Iron Age and it is possible that at the beginning of the period, their inhabitants were undertaking salt production on a seasonal basis as an integral element of their subsistence regime. The Roman road network provides inroads into the zone and an increase in activity during this period is in evidence, especially in the Outmarsh.

Settlements develop by the Middle Saxon period in the Middle Marsh, as evidenced by sites at Holton le Clay and possibly Tetney. This pattern expands in the Late Saxon period with a number of Scandinavian place-names occurring alongside an increase in the archaeological evidence. The settlement pattern develops as two north-south lines of villages. This is partly due to the communication routes which have developed in the earlier periods, but it is also possibly reflecting an earlier settlement pattern, with Roman settlement evidence found in the same location as the Middle Saxon material at Holton le Clay.

In the Medieval period this settlement pattern increases further with a third line of settlement on the Outmarsh. Extensive salt-working helped with this expansion as well as facilitating the reclamation of a large area of land to the east. Domesday records show this settlement pattern in development, with the majority of the settlements showing similar levels of status and population numbers.

A greater disparity is seen by the fourteenth century, with the villages in the Outmarsh increasing in importance at the expense of settlements on the western edge of the Middle Marsh. This is a pattern which continues into the sixteenth century.

To return to the aims of this thesis (see Chapter 1, section 1.6), a model of landscape evolution and settlement development for this zone has been developed (Figure 6.26, section 6.8). The relationship of this development with the salt industry is clearly apparent in the Medieval period, but the extent to which this contributed to the earlier development is negligible. The nature of human-landscape interaction has also been investigated, and a number of different characteristics have been highlighted, including a highly visible reaction to rising sea-levels in the Bronze Age.

The following chapter will explore Zone Two, to the south. It will show that while there are a number of elements and characteristics that continue from Zone One, there are noticeable differences, which have created a distinct landscape evolution.

Chapter 7

Zone Two – Saltfleet to Withern

7.1 Introduction

The sample area within this zone incorporates Alvingham and Saltfleet in the north to Legbourne and Gayton le Marsh in the south (Figure 7.1). In a number of ways this zone shares a range of characteristics (such as the three lines of settlement) with Zone One, but the later Medieval development follows a number of different paths. As with Chapter 6, all references to archaeological sites and finds are followed by a unique identifier. Further information can be found in Appendices 9 (early prehistory), 10 (Iron Age and Roman) and 11 (Saxon). This chapter will initially review the evidence for the physical background of the zone (section 7.2), followed by a discussion of the archaeological and documentary evidence for each period (sections 7.3-7.6). A number of elements of the landscape will then be considered (section 7.7), and a model for the landscape evolution of the zone will be proposed (section 7.8). This will suggest the strategy adopted in each period according to Rippon's (2000) model. A general summary of the zone will then conclude the chapter (section 7.9).

7.2 Physical background

This zones lies predominately within the Middle Marsh and Outmarsh (Figure 7.1). The lower reaches of the River Lud cross the Middle Marsh in the north-western part of this zone, and the Great and Long Eau cross the south-eastern part of the zone. Palaeoenvironmental data is available from a sequence across the Great Eau at Withern, on the edge of the Outmarsh and Middle Marsh (Schofield 2001). This provides an indication of the environmental conditions along the Great Eau, and full details are available in Chapter 2. There are no environmental samples from the coastal area within this zone. The area witnesses a change in coastal processes, with deposition occurring in the north of the zone and erosion to the south, from Mablethorpe. The northern part of the zone would have been protected during its earlier history by offshore barriers (Robinson 1970).

Coastal erosion is evidenced at Mablethorpe St Peter, with the settlement completely lost to the sea (Owen 1952). The first damage to the church was recorded in the

Louth Chronicle in 1287, and floods and loss of land and livestock are recorded in Mablethorpe throughout the following centuries (Owen 1952). The final destruction of the church was recorded as occurring 50 to 60 years prior to the drafting of a document in 1602. Descriptions of the sea defences at the end of the seventeenth century reveal that little had been done to keep the sea at bay (Owen 1952).

7.3 Early prehistoric landscape interaction

Prehistoric activity is more extensive in this region than in Zone One (Figure 7.2). A Mesolithic scraper (1344) indicates that early hunter-gatherers were utilising the area. A further Mesolithic find spot is located just to the south of the sample area at Stain (1536), and this includes a number of Late Mesolithic flints. The Mesolithic activity is located near to the Long Eau suggesting close links to river resources. At Withern, the environmental evidence indicates dense woodland and changing tree species, with birch-pine woodlands being replaced by elm-hazel woodlands during the Mesolithic period (Schofield 2001).

Neolithic activity occurs sporadically throughout the region, including in the Outmarsh in the south of the zone. In the Middle Marsh this activity appears to be associated with the edge of the wetlands and the waterways throughout the region. The finds include a number of axes, perhaps suggesting a degree of woodland clearance. These are mainly located on the Middle Marsh (185, 326, 327, 328, 707, 708, 743, 997, 1029, 1451), but are also found along the coastal edge (353, 2064). From within this zone, the only example of a Group I axe in the Lincolnshire Marsh has been recovered from Legbourne (707). Group I axes originate from Cornwall; this group shows a limited and random distribution throughout Lincolnshire as a whole (Cummins and Moore 1973). The style of the axe is unusual, as it is a Bridlington type which is found in large numbers in East Yorkshire, but which is usually from a Group XVIII source. It is suggested that this axe may have been locally re-worked from the original Group I axe (Cummins and Moore 1973).

A single axe of Group IX was discovered at Mablethorpe (2064). This group has its source in Northern Ireland, and there are only three examples of the group in Lincolnshire as a whole. The examples from the rare groups (I and IX) may suggest exchange/trade links with a wide area.

Rising sea-levels resulted in paludification of the Outmarsh through the Late Neolithic and into the Bronze Age. A reduction in the amount of lime pollen is noted. This is probably due to the intolerance of lime to wetter conditions, as ponding back occurred due to the impeded run-off at the coast (Schofield 2001). The evidence for this impact reaches the Outmarsh/Middle Marsh boundary at Withern. Evidence from the edge of the Outmarsh at Withern indicates a reduction in tree and shrub pollen which is indicative of continued deforestation. The first appearance of cereal pollen occurs at Withern during the Bronze Age (Schofield 2001).

Bronze Age activity continues within the region, with a concentration of barrows along the River Lud (1504, 1506, 2047). In addition, there is also a possible barrow at South Cockerington (1505) within the Outmarsh. Many of these barrows have yet to be proven on the ground, but they are also associated with enclosures, which are dated to the prehistoric period. This again may be seen as a reaction to changing sea-levels with barrows located in the areas most affected by changing water levels. A cluster of three barrows is suggested at Louth (2047). A smaller cluster of possible barrows exists at Keddington (three examples). Although there is a clear concentration of round barrows around a number of the rivers, they appear to be absent from the Long Eau and are only present at the Wolds end of the Great Eau. One of the prehistoric artefact scatters (101) occurs on a till outcrop within the Outmarsh. This suggests that this is a transitional area between this zone and Zone Three to the south, where the till outcrops allow settlement within the wetter areas.

A number of prehistoric enclosures may indicate settlement activity, but these need to be securely dated. This evidence is however indicative of the partial exploitation of this zone, in that settlements were located within the region, and that the Middle Marsh played an important part in the landscapes of the living and those of the dead. If the barrow at South Cockerington (1505) can be confirmed then this displays similar characteristics to that at Grainthorpe in Zone One, suggesting islands of activity in the Outmarsh. These sites, located on the undulating till surface were elevated above the saltmarsh deposits, and therefore the inter-tidal zone, in this period (Davies and Van de Noort 1995).

7.4 Later prehistoric and Roman landscape exploitation

At Withern the palaeoenvironmental evidence attests a very open landscape with cultivation and pasture during the Iron Age (Schofield 2001). There is little evidence for Iron Age settlement within this zone, with the exception of a settlement site (362) located on the modern coast, and a ditch at Manby (1340) (Johnson 1997). However, Roman activity is spread throughout the area (Figure 7.3). Continuing the pattern established in Zone One, there is a Roman road crossing this area (Margary 273), with another possible road postulated to the south. Scattered throughout the area is evidence of settlement, mainly in the form of pottery concentrations, which are found in the Middle Marsh and Outmarsh. The number of artefact scatters in the Outmarsh suggests that at this point the Roman coastline was further to the east than has been postulated for Zone One.

A number of the scatters and sites cluster around either the Roman roads or the river courses, linking activity with the communication routes. In addition, the finds in the Outmarsh are located along possible extensions of these routeways. The material that can be assigned a more precise date provides evidence from the first century occurring at Louth. Material in the Outmarsh is dated from the second to fourth centuries, and the material in the Middle Marsh is attributed to the fourth century. As the later material is located further inland, it may indicate a retreat from the coast in the later periods, possibly associated with a Late Roman inundation. However, some sites appear to indicate continued occupation in the fourth century, such as Manby (1341) and Mablethorpe (365), perhaps reflecting their location on elevated positions which remained dry.

Although Roman settlement activity has been located within this zone there is no evidence for salt-working associated with this occupation. This possibly suggests that in this zone, the coastal processes were unsuitable for salt production, or that it was carried out further to the east and the evidence is now lost to the sea. It would appear that the human exploitation of the whole of the zone was possible and that settlement, of differing status, was sustainable within the Outmarsh during the Roman period. The evidence for settlement at Great Carlton (1701) suggests a low status farming community with associated field systems, but in contrast pottery recovered from Saltfleetby St Peter (1905) suggests a high status site with

continental contacts (Precious 2003). This latter site was discovered after an area had been machine excavated during dyke construction. It revealed a large quantity of pottery which would appear to have been dumped in a creek. The evidence suggests that a building must have been located in the near vicinity.

Further settlements may exist in the zone, as Roman material has been recovered from within 500 m of a number of undated cropmark enclosures, including small rectilinear enclosures at Castle Carlton (943 - pottery, 2048 - enclosure) and Great Carlton (200 - pottery, 1953 - enclosure). This latter site includes evidence of internal structures within the enclosure. It is also the only enclosure identified from aerial photography in the Outmarsh from the Lincolnshire Marsh as a whole, with all other sites identified on the Middle Marsh or the Wolds.

7.5 Saxon landscape colonisation

Archaeological evidence of Saxon activity within this zone is limited (Figure 7.4). Louth, which would appear to have early origins, is located just outside the sample area. It was the location of an early monastic site by the late eighth century, when the Abbot of Louth was appointed Archbishop of Canterbury in 792, but the area is still lacking any structural evidence for this settlement (Ulmschneider 2000b). By comparing the locations of other known early monastic sites in Lincolnshire, Stocker (1993) has suggested that the site of the early monastic site at Louth may well lie to the east, away from the current town. This inference is based on the fact that many of these monastic sites were located on islands within wet, marshy areas. He has suggested that the site of Louth Park, the later Cistercian Abbey, is the likely location of this monastic site. In contrast, Owen (1997b) argues for a site within the current bounds of Louth, which would have had island characteristics formed by the River Lud.

Evidence for settlement is focussed at the edge of the Middle Marsh, as well as to the south of the zone, especially on till outcrops. A pit with 34 sherds of Early to Middle Saxon pottery was uncovered during development work at North Reston (1243), just outside the current sample area. Excavations at South Cockerington (1178) revealed Middle Saxon occupation in the area, with Ipswich Ware being recovered (Healey

1994). Other finds recorded as simply 'Anglo-Saxon' include pits and pottery (1181) and a fibula brooch, all from Louth (324).

Archaeological finds uncovered by metal detectorists have revealed a cluster of findspots around the Great Eau, suggesting its importance as a waterway in the Early and Middle Saxon period (Leahy 2003). Evidence for activity in the Outmarsh is attested by the discovery of a sceatta, dated to AD 720-40, from Mablethorpe (2068). Some of the metal detected finds have undisclosed locations, and a number of items have simply been recorded as being from 'near Louth'. These finds come from a range of different sites and include coins with a date range of AD 675-810 (Ulmschneider 2000b). A number of the finds recorded from metal detectorists suggest possible trading links with the continent, and they include Merovingian coins from 'near Louth' (Ulmschneider 2000b).

The nearest cremation cemetery to the Lincolnshire Marsh is located just outside this zone, to the west of Louth, at South Elkington (103). Here, over 200 cremations were excavated in the 1940s, and it has been estimated that only a quarter of the cemetery was uncovered (Webster 1951, Leahy 1993). As such, this cemetery will most likely extend to within the study area. It is suggested that this cemetery was associated with a settlement at Louth, as many of the large cremation cemeteries appear to be close to the location of important settlements (Leahy 1999). Due to the amount of metalwork that has been recovered near Louth, Leahy (1993) has also inferred the existence of a possible inhumation cemetery in the immediate area.

A range of Late Saxon metalwork finds has been recovered in Withern parish. These include a Ringerike-style book mount (99), suggesting Scandinavian influence. This influence is further evidenced by a large silver ring from Theddlethorpe, which most likely functioned as bullion and originally came from Gotland (Leahy and Paterson 2001). In addition, Late Saxon pottery has been recovered from Trusthorpe (376).

The finds of parts of grave slabs and markers suggest the establishment of churches and burial areas in places where, as yet, there is no evidence for settlement of the same period. A fragment of interlaced cross within the structure of the church at Manby (593) may suggest that either burials, or an early church, were present in the

general vicinity (Figure 7.5). Saxo-Norman stonework has also been found at Little Carlton (1267) and Theddlethorpe St Helen (343) (Stocker 2000). A Late Saxon grave cover has been recovered from St Edith's Church in Little Carlton (1267), which had been used within a rubble wall fill. A late tenth/early eleventh century grave slab is now incorporated into the wall of Theddlethorpe St Helen Church (343). This has also been taken to suggest an early church at the nearby Theddlethorpe All Saints (Sawyer 1998).

All three of the examples above fall within the group of the most common form of mid-tenth century monuments, a flat stone grave-cover decorated with simple interlace within a cable-moulded frame. These were produced from quarries in the Lincoln area and exhibit little in the way of distinctive Anglo-Scandinavian character, but they have clear connections to Mercia and Wessex (Stocker and Everson 2001). All of the 21 examples from Lincolnshire, of this type of monument, are recorded from Lindsey. It appears that the elite at this time were using the monuments to signify a cultural difference from the area to the north and one that showed allegiance to Wessex and the English rulers, rather than to the Danes (Stocker and Everson 2001). Stocker and Everson (2001) suggest that this may have been as a result of the re-acquisition of Lindsey from the Danes and the need to cut visible ties with the kingdom of York, by of the establishment of a Wessex elite.

A Late Saxon church that was dedicated to St Adelwold was founded in Alvingham (557). This church was possibly built in the second half of the tenth century, but was destroyed in the eleventh century. It is not mentioned in Domesday, and the foundations are thought to have become incorporated into the current structure.

The place-name evidence reveals a number of Old English names in the Middle Marsh forming the two lines of settlement continuing from Zone One, along the base of the Wolds, and along the 10 m contour line (Figure 7.6). This zone has the highest concentration of early names within the Marsh. These include Alvingham, and four *tuns*. Also present are four *–tuns* with Scandinavian additions indicating later re-naming. The evidence from these place-names suggests this may be the first zone colonised in this period; however, the archaeological evidence has so far, not

supported this conclusion. The proximity to Louth may have played a part in this development.

An expansion of settlement within the two lines is apparent from the appearance of two *–by* names, but their location on either side of a Roman road would suggest that these were new Scandinavian names for existing settlements. Place-names within the Outmarsh are mainly Scandinavian in origin. The presence of two *-thorp* names suggests secondary settlement, although the late nature of settlement development in this area results in only a few place-names being available for study. This evidence suggests that by the end of the Saxon period, permanent settlement had been established within the Outmarsh, although the majority of this was introduced towards the end of this period. A number of the place-names do suggest an even later re-naming, with the three definite examples of Continental German personal names in the Lincolnshire Marsh all occurring in this zone. Grimoldby, Theddlethorpe and Mablethorpe all suggest a Norman influence in naming (Fellows Jensen 2001).

A number of the topographic place-names provide indications of past environments. Three of these are suggested river names, such as Louth derived from the River Lud and Cockerington possibly being derived from a lost river name (Ekwall 1960).

7.6 Medieval settlement and landscape utilisation

As with Zone One the two lines of settlement are expanded within this period, with a further easternmost line spreading throughout the Outmarsh. Several settlements are dividing to create a number of separate settlements, such as the Theddlethorpes and Saltfleetbys (Figure 7.7). There is extensive evidence for settlement development in the Outmarsh, most likely developing on the area of storm beach and sand dunes which lined the coast. In the Middle Marsh two settlements become deserted, one at Alvington (94) and the other at Brackenborough (1317). The latter actually lies in Zone One, but is shown on the maps of the current sample area, due to a small area of Zone One appearing in the north-west corner. The middle of the lines of settlement hugs the 10 m contour line, with the villages being evenly spaced along this line. Within the Outmarsh the pattern deviates from the line, and over time many of these settlements do not remain as strong as their Middle Marsh counterparts,

shrinking in size. In addition, two become deserted, Skidbrooke (210) (Figure 7.8) and Stain (1004).

The parishes in this zone show division of land as settlement increases. The 1851 parishes boundaries show the intermixing of land in the parishes of Saltfleetby All Saints, St Clement and St Peter. A similar situation occurs at Theddlethorpe (see Figure 5.44).

Salt production is evidenced in this zone through documentation, however the physical remains for the industry are limited (Rudkin and Owen 1960). This may be due to later alluvial and drainage process. The limited evidence for salt production is likely to be due to the nature of the coastline at this point. Conditions in the south of the zone saw erosion, with the settlement of Mablethorpe St Peter disappearing by the seventeenth century, although it had been damaged by flooding from the thirteenth century onwards (Owen 1952). These conditions may not have been conductive to the salt industry.

A number of moated sites have been identified throughout the zone, both in the Middle Marsh (the same location as Zone One), but also within the Outmarsh. This may reflect the different nature of settlement in the Outmarsh in this zone, which sees settlements modifying the landscape in order to provide suitable locations for permanent settlement and with moated sites acting as initial colonisation catalysts.

The development of the three lines of settlements is in place by the twelfth century, with the most intensively settled line being that on the 10 m contour (Figure 7.9). The pattern of Domesday landholding again shows that the land within the Outmarsh is solely sokeland and berewicks, with manors located within the Middle Marsh (Figure 7.10). The majority of the manors to which the Outmarsh holdings belong are located beyond the study area, or in Zone Three. The manors on the Middle Marsh do not generally seem to hold berewicks or sokeland on the Outmarsh, with the exception being Brackenborough. Areas of Outmarsh may have occurred within their manors to provide access to these resources and they therefore needed no further offshoots closer to the coast.

Domesday population figures for this zone show the dominant position of Louth with 124 people, perhaps partly due to the fact that it is the only borough and market recorded in this period. The remaining vills record a range of 11 to 87 people. Legbourne, at the end of the Long Eau, returns the figure of 87 and it may be that its position on this waterway was of importance. The settlements in the Outmarsh return similar figures to their Middle Marsh counterparts. The population is dominated by freemen, especially on the Outmarsh, with all settlements in the zone apart from Mablethorpe, having freemen as the highest proportion of the population. At Mablethorpe only villagers are recorded. This may be an artefact of the data as there is an amalgamated record which contains Mablethorpe at Wainfleet. This record records 83 freemen, which may include some of those which appear missing from Mablethorpe. The value of the majority of the vills increases within the zone between 1066 and 1086, but unfortunately no values were recorded for the settlements in the Outmarsh. Calculations of value per tenant and value per carucate show an even distribution through the vills of the Middle Marsh.

By the fourteenth century the settlements in the Middle Marsh are well established with their own churches (Figure 7.11). Settlement in the Outmarsh has developed with further offshoots of the original settlements seen in the development of churches away from the main settlements, although they are often taxed as a whole. Compared to Zone One, where development of markets and fairs occurs in the Middle Marsh, in this zone the markets develop along the coastline. These are the settlements which conduct the trade and a number of havens along this stretch of coast have been utilised as the mainstay of the economy rather than the salt industry.

The population taxed in 1377 varies across the zone from 22 at Little Carlton to 684 at Louth. Below Louth, the highest populations can be found mainly on the coast at Mablethorpe (278) and Skidbrooke (343). Cockerington in the Middle Marsh also produces a high return at 266. These figures suggest that at this time the Outmarsh proved a popular choice for settlement in this zone. These settlements also provided high returns in the 1334 lay subsidy with Mablethorpe and Skidbrooke being the second and third highest contributors after Louth. Calculation of the potential wealth per head of the population though shows high wealth clustering at Manby and Little and Great Carlton. The prosperity and trade in this region prompted the development

of the new town at Castle Carlton; however, this actually failed to develop to the extent that was hoped (Owen 1992).

By the sixteenth century many of the settlements were taxed separately and a number of further hamlets have been established (Figure 7.12). In this period the tax records reveal the strength of the Outmarsh. The population figures taxed on the Outmarsh are higher than the Middle Marsh (with Louth as the only exception). The westernmost line of settlements returns the lowest figures. In 1563 the number of households recorded in the Marsh reveals the nature of these large populations, with a more dispersed settlement pattern indicating that previous taxes were including several settlements under one figure. Within this dispersed pattern there is a more even distribution of population across the zone. A number of settlements paid a high contribution to the 1524 subsidy and this is associated with market status (at Louth and Saltfleetby) and the location of havens (Saltfleetby and Theddlethorpe).

7.7 Elements within the landscape

The second edition Ordnance Survey maps provide an overview of the landscape of the region (Figure 7.13). The three watercourses of the River Lud, Great Eau and Long Eau provide some of the structure to the zone.

7.7.1 Lines of communication

As with Zone One, the Roman roads of the region provide the initial structure to the road system. From these a number of other east-west lines develop. The settlements which develop in the Middle Marsh also provide north-south communication. The communication routes in the Outmarsh are a little more complex due to the rivers and a less straightforward settlement pattern. However, a communication route does develop along the coastline, linking a number of the potential havens in the area.

The main haven was to be found at Saltfleet, and was recorded in the Domesday Book. Wilgrip Haven is recorded from 1378 to 1728 but its exact position has been difficult to establish, with Theddlethorpe Haven and Mablethorpe both having been suggested (Owen 1955, 1999). That the outfall of the rivers of the region played an important part in the development of the havens is apparent, but they were also manipulated to aid with the maintenance of these havens. The northern area of the

coast, instead of suffering from the erosive nature of the southern area, was heavily affected by silting. The Great Eau was diverted to outfall at Saltfleet Haven to aid with the removal of this silt and the documentary evidence shows that this had occurred before 1347 (Owen 1954).

7.7.2 Field systems and drainage

Domesday Book, on the whole, records more ploughs than ploughland suggesting dispersed settlement over much of the zone (Higham 1990). This is apparent with the lines of settlement in the Middle Marsh and the Outmarsh having a large area in-between to farm. The 'land for x ploughs' is relatively small within the zone, suggesting that agriculture was under-developed. This coincides with large amounts of recorded meadow, suggesting limited arable land. Only a single example of settlement with no meadow is recorded in this zone. A rather even spread of ploughs is recorded in the zone. Mills are recorded on the rivers in the region, with a particular concentration on the River Lud. Woodland is also recorded in this area, all on the Middle Marsh, with all three types of wood, woodland pasture and underwood being present. This further explains the low number of 'land for x ploughs' in this zone.

More waste is recorded in this zone than any other within the Lincolnshire Marsh with waste at Grimoldby, Saltfleetby, and Saltfleetby and Skidbrooke. All these vills are mentioned under different landowners with no waste, suggesting that this was not necessarily the true picture for all manors within these vills, just particular landholdings.

There are a few documentary references to field systems and resource management for the zone. That many Medieval manors maintained land across wide areas is apparent. The manor of Castle Carlton in the mid-fifteenth century included land in Castle Carlton, Great Carlton, Little Carlton, Dalby, Sausthorpe, Dexthorpe, South Reston and Manby, and that of Little Carlton included land in Little Carlton, Theddlethorpe, Somercotes and Mablethorpe among others (Owen 1996). It is apparent that most parishes tried to have access to a mixture of resources. Grants of land to Alvingham Priory include mention of arable land as well as marshes, meadows and pasture in Alvingham and Cockerington (Stenton 1922). The modern

parish boundaries hide a pattern wherein parishes would have extended from the Middle Marsh into the Outmarsh, as later parishes have now divided the Middle Marsh parish from its land in the Outmarsh.

The evidence available, including Enclosure Awards and documentary references, for the Medieval field systems seems to indicate two- and three-field systems in the Middle Marsh, but more enclosure in the Outmarsh (Figure 7.14). As with Zone One many of the parishes have indications of early enclosures and the importance of other resources such as fen and ings are attested. The field boundaries in the Middle Marsh generally reveal a largely enclosed pattern of large fields. In the Outmarsh, there are a number of regions which show small, linear strips. Very few records survive in this zone for Enclosure. Intercommoning is apparent from a document dating to 1424-5, connected with the manor of Castle Carlton, which notes that South Reston field was used by Castle Carlton and South Reston (Owen 1996).

Again, as with Zone One, the main drainage features of the area are the natural sinuous waterways and streams coming off the Wolds. There appears to have been little attempt at modifying the route of these waterways. That flooding was a problem is noted in the documentary evidence, with floods along the River Lud recorded in 1253 (Owen 1996). In the south of the zone floods affected Mablethorpe from the thirteenth century onwards and breaches in the sea bank were a common occurrence (Owen 1996). In 1286 Mablethorpe was affected by floods, with the church being destroyed and in 'one township almost fourscore were found dead' (Owen 1996: 72). In 1289 Mablethorpe was affected on at least two separate occasions in that year, once in February and again in August (Owen 1996). In 1443 the two funds for the church at Theddlethorpe St Helen were united as the wealth of the population had declined due to 'abnormal flooding from exceptional tides and from fresh water, as well as plagues and epidemics leading to barrenness of the land, [and a] scarcity of farmers' (Owen 1996: 119). Sea banks in this zone were ineffective and let in spring tides, with a breach of the sea bank at Mablethorpe recorded in 1425 (Owen 1996).

The actual existence of the sea banks has been difficult to ascertain. That they are documented from the thirteenth century is obvious (Owen 1975), but their location,

height and extent have not been proven. It is likely that they were small individual sections of bank, attempting to provide protection to small areas of land, not a wholesale attempt at reclamation.

7.7.3 Settlement

The late nineteenth century settlement pattern highlights the two lines of settlement to the west, and the scattered nature of settlement in the Outmarsh (Figure 7.15). Here, settlement has formed in areas of the havens near the coast, and along the routes inland, but the areas in-between have a more dispersed settlement pattern of farmsteads.

That certain individuals saw the potential economic value of the Marsh is apparent. With Louth being the only borough and main trading settlement within the area at Domesday, entrepreneurial landowners took the opportunity to expand, with the main example being at Castle Carlton. Here a grant, most likely of mid-thirteenth century date, gave privileges which were suggestive of borough status to the settlement (Owen 1996). Between 50 and 52 plots were laid out on either side of the road, ten remaining in the hands of the lord and the remainder being let (Owen 1992).

Castle Carlton provides an example of deliberate expansion within the region. There is no doubt that other expansions were more piecemeal, but the multitude of settlements which have been divided into two or three, at various times, such as Theddlethorpe All Saints and Theddlethorpe St Helen, and Saltfleetby All Saints, Saltfleetby St Peter and Saltfleetby St Clement, show the nature of expansion. A number of examples of this development may be due to the multi-manor vills that had developed before Domesday. That this expansion over-stretched the population of the region is apparent from the number of deserted and shrunken settlements.

7.7.4 Salt production

There is no evidence for prehistoric or Roman salt-working in this zone. This may be due to the conditions on the coast not being suitable for this production. In the north of the zone, the competition for access to the foreshore in the later periods would have come from the havens, and precautions were taken to avoid their silting. No

salterns are directly recorded within this zone in the Domesday Book, but a combined record for Wainfleet, Theddlethorpe and Mablethorpe may include a number of salterns in this zone. There has been no firm evidence for these salterns, or ones recorded in later grants, but it has been suggested that a number of the churches, such as Saltfleetby St Peter, sit on top of earlier salterns (Rudkin and Owen 1960, Owen 1984).

7.7.5 Historic landscape character

The historic character of this zone is varied (Figure 7.16). The Middle Marsh is mainly characterised by intermediate blocks or regular blocks, indicative of Enclosure. An area of irregular drainage is present along the River Lud where land has been reclaimed along the river edges. To the south of the zone, the character is beginning to change to one of a more irregular nature which is continued into the next zone.

A mixture of characteristics is found in the Outmarsh, with large areas of regular systems, both of the block and strip variety, in evidence. To the north of the zone an area of intermediate strip is apparent. On the whole the strip-based zones are found closer to the coast than the block-based zones, suggesting that the small strips were partly formed to aid with drainage in this zone. An area of irregular field system occurs near the coast. This is suggestive of a more complex developmental history. The majority of the zone is bordered by a strip of regular reclamation along the coast.

Hence the distinctive characteristics of this region can be split into a number of groups. The field pattern is affected by the natural drainage pattern and flat topography of the area (Figure 7.17). Within the constraints of the natural watercourses and drainage system, many small fields have developed, in some areas formed from narrow strips, especially on the Outmarsh, with larger blocks appearing in the Middle Marsh (Figures 7.18 and 7.19). The settlement pattern within this zone has developed in a linear form, with a line of settlements at the foot of the Wolds and one on the 10 m contour line. Further settlements have developed initially along the coast, with settlement spreading back inland from the initial developments. The resulting road system of the area is a number of north-south routes with a more

complicated set of east-west routes resulting in difficulty to move between areas of the coast, and those in the Middle Marsh.

7.8 Landscape evolution

Although the Roman roads do provide some of the structure to the development of this zone, it is not as marked as Zone One. In Zone Two, the Roman roads provide the parish boundaries of Stewton, Grimoldby, Legbourne and Manby, and also the division between Great Carlton and Gayton le Marsh. However, much of the other structure comes from the lines of the watercourses that travel across the region.

Prehistoric activity is concentrated on the Middle Marsh, with little evidence of activity in the Outmarsh, suggesting that if this area was being exploited then the nature of this activity must have had a minimal impact upon the landscape (Figure 7.20: A).

The pattern once again changes with Roman activity across the Middle Marsh, suggesting potentially permanent settlement in many areas (Figure 7.20: B). There is no evidence for salt-working in this zone during the Roman period, thereby suggesting that the landscape proved uninviting for this activity but it was well suited to settlement. Changes at the end of Roman period had a great effect on the settlement pattern, with the earliest Saxon settlement being located within the Middle Marsh, and very little evidence of activity in the Outmarsh until the Late Saxon period. Within the Middle Marsh a number of the settlements that develop are of earlier origins, according to place-names, but this has not been supported by the archaeological evidence.

The settlements that do develop form the continuation of the two lines of settlement in Zone One, located on the Middle Marsh. The place-name evidence suggests that the expansion into the Outmarsh is Late Saxon and later in date, and although a number of these settlements thrive, there are also many instances of settlement contraction (Figure 7.20: C). Initial settlement may be based on storm beaches along the coast. By the Medieval period, the fortunes of these settlements were closely linked to the havens along the coast and as natural silting processes moved these havens eastwards or completely silted the approaches, then the settlements suffered

(Figure 7.20: D). In the south of the zone, the coastal processes are erosive, and flooding and land loss have occurred from the thirteenth century onwards. Some form of sea bank was in place but this was generally ineffective. Much of the historic landscape is indicative of a form of modification utilising small strips along the Outmarsh in this zone.

To return to the model of coastal wetland use proposed by Rippon (2000) (see Chapter 1), the evidence from this zone would suggest the following strategies for the use of the area from Saltfleet to Withern: minor exploitation (early prehistory) → major exploitation (later prehistory and Roman period) → major exploitation (Saxon period) → intentional modification (Medieval period). This zone has seen major exploitation from the Roman period onwards. In the Medieval period it sees intentional modification of the coastal zone, whereas this was more accidental for much of Zone One. Intentional modification in this instance is evidenced by the manipulation of the drainage pattern to aid with the settlement and use of the land – the more traditional view of modification described in Rippon (2000).

7.9 Summary

Early prehistoric activity is found mainly in the Middle Marsh, suggesting exploitation of the resources, especially along the river valleys. In the majority of the area, the Outmarsh appears unexploited. Extensive evidence of Roman activity is mainly based around the road and river system, with the available dating suggesting a possible retreat inland by the fourth century. A range of evidence has been located which suggests both low and high status settlements.

There is a general lack of archaeological evidence for Saxon colonisation of this zone. Despite this, the place-name evidence indicates a high concentration of Old English place-names with later inroads occurring into the Outmarsh. The early development in the Middle Marsh may be associated with the development of Louth. Two lines of settlement continue in the Middle Marsh from Zone One, but the Outmarsh shows a different development with more settlements recorded in the twelfth century. With the developments in the Outmarsh, it is the settlements to the west that suffer and shrink, or become deserted. Throughout the Medieval period there is one exception, Louth, which maintains its status as a major economic centre.

The growth of settlements is witnessed in the fourteenth century, and this is linked to trade at a variety of havens, and the Outmarsh returned high levels of population. By the sixteenth century the Outmarsh is, in general, populated and taxed at a higher rate than the Middle Marsh.

To return to the aims of this thesis (see Chapter 1, section 1.6), a model of landscape evolution and settlement development for this zone has been developed (Figure 7.20, section 7.8). The relationship of this development with the salt industry is not apparent. The nature of human-landscape interaction has also been investigated with a number of different regimes postulated, including the importance placed on the waterways in all periods, and the development of the havens as the economic mainstay of the region.

The following chapter will now examine the third zone. Here there are noticeable changes in the way the region developed. These are partly a result of the physical nature of the zone, but there are a number of key early developments that have resulted in continued settlement, in certain areas, from the prehistoric period onwards.

Chapter 8

Zone Three – Maltby le Marsh to Addlethorpe

8.1 Introduction

The zone encompasses Tothill and Maltby le Marsh in the north to Skendleby and Addlethorpe in the south (Figure 8.1). It extends north outside the sample area shown on the maps and includes part of the Great Eau valley as it travels through the Middle Marsh. The sample area includes areas on the Wolds, Middle Marsh and Outmarsh. As with Chapters 6 and 7, all references to archaeological sites and finds are followed by a unique identifier. Further information can be found in Appendices 9 (early prehistory), 10 (Iron Age and Roman) and 11 (Saxon). This chapter will initially review the evidence for the physical background of the zone (section 8.2), followed by a discussion of the archaeological and documentary evidence for each period (sections 8.3-8.6). A number of elements of the landscape will then be considered (section 8.7), and a model for the landscape evolution of the zone will be proposed (section 8.8). This will suggest the strategy adopted in each period according to Rippon's (2000) model. A general summary of the zone will then conclude the chapter (section 8.9).

8.2 Physical background

Unlike the zones to the north, this region does not represent a clear-cut division into Middle Marsh and Outmarsh. Within this zone the tripartite division between Wolds, Middle Marsh and Outmarsh can be seen, but the distinction between Middle Marsh and Outmarsh is complex (Figure 8.1). The presence of a number of till outcrops within the zone has provided a series of islands within the wet Outmarsh, which have seen evidence for activity from the earliest times. Areas of sands and gravel are also present in the Middle Marsh. The till outcrops and small islands of gravel have been the focus of settlement at locations such as Huttoft and Cumberworth. The Outmarsh region is therefore much more variable than in the previous zones considered, and the maximum width of alluvial deposits only occurs in the south; for much of the zone the Outmarsh is around 4 km in width.

Palaeoenvironmental work undertaken in the area of Chapel St Leonards, Anderby and Sandilands has provided an indication of conditions in the Outmarsh (Wright

and Churchill 1965, Gaunt and Tooley 1974, Hunt *et al.* 1990, Brew 1997, Wilkinson *et al.* 1997, Clapham 1999). Investigations at Butterbump and Aby Grange provide some indication of conditions in the Middle Marsh (Suggate and West 1959, Greig 1982, Lillie and Gearey 2001a), and at Giants' Hills conditions on the Wolds (Evans and Simpson 1991) are attested. This is the only zone where environmental data is available for all three physiological regions.

Pollen samples from a small in-filled lake in the undulating till surface of the Middle Marsh, at Aby Grange, has revealed evidence for the warming of the climate, which developed from early Post-glacial tundra conditions to a landscape of increased woodland cover, with birch as a pioneering species closely followed by pine (Suggate and West 1959). The sequence at Aby Grange is limited to the initial Post-glacial period.

The undulating till surface also contains buried river valleys such as that identified at Sandilands, which has a suggested width of *c.* 1.7 km (Brew 1997). Seismic records have recorded this valley continuing for at least 5.4 km eastwards under the North Sea, and cores inland between Hannah and Asserby have also recorded the inland route of this valley. Brew (1997) suggests that the valley may not have finally in-filled until the later stages of the Post-glacial sequence represented by the later *Scrobicularia* clay.

The timing of the inundation of the undulating till surface and the submergence of the developing early Holocene forest varies at different locations. Samples from Wolla at Chapel St Leonards are dated to 3370-3020 cal BC (OXA-5966) (Wilkinson *et al.* 1997) and 3650-3100 cal BC (OXA-5965) (Clapham 1999), placing the events in the Early Neolithic. The sampling at Wolla also indicated that this mixed woodland of alder, oak and ash was not as dense and devoid of an understorey as had been previous suggested, with bramble, blackthorn, and sedges (Cyperaceae undiff.) being identified (Wilkinson *et al.* 1997).

An Early to Late Neolithic date is confirmed by samples from tree stumps at Anderby Creek which were dated to 3360-2960 cal BC (OXA-5963) and 3650-3100 cal BC (OXA-5964) (Clapham 1999). Samples at Chapel Point date the end of the

peat formation to 2900-2100 cal BC (Q-685), the boundary of the Late Neolithic/Early Bronze Age (Wright and Churchill 1965). However, a peat horizon near a regressive contact north of Sandilands provides a date of 3510-3010 cal BC (A-7504) (Brew 1997), thus providing an earlier date for the inundation for this section of the coast. Clapham (1999) has argued that discrepancies in these dates may relate to the type of material dated and the exact position of the samples in relation to the coast at the time.

Examination of samples taken on the coast at Vickers Point revealed evidence for a predominately forested environment, but with sufficient grass, cereal and herb species to suggest that there were cleared areas, possibly under agriculture, in the near vicinity (Hunt *et al.* 1990). Only limited pollen from marsh plants was present. While this suggests that there were a number of wet areas in the locality, it does indicate that during the Neolithic period this area of the present coastline was under inter-tidal influences, and not completely submerged.

The pollen from Butterbump has shown that the Neolithic landscape of the Middle Marsh would have been covered by a mixed deciduous woodland with lime as the dominant species, and with oak and elm as secondary components (Greig 1982). In the vicinity of the kettle hole, where the samples were obtained, alder carr with oak as a secondary component is attested, and there is very little indication of open areas of grassland. Limited evidence for cereal pollen is recorded, but this is insufficient to suggest any large-scale arable landscapes. However, there is enough evidence to suggest that an initial phase of Neolithic land clearance occurred in the Middle Marsh.

On the Wolds, the Giants' Hills 2 barrow site provides more substantial evidence for land clearance (Evans and Simpson 1991). Molluscan evidence, from the soil and tree hollows under the Neolithic long barrow and the ditches of the barrow, indicates a complex change of environments over the different phases of barrow construction. The barrow itself would appear to have been constructed on, or next to, land that had been cultivated. This land, however, had reverted to grassland at the time of the initial barrow construction (Evans and Simpson 1991). The initial primary fill of the earliest ditch reflects this open landscape, but the molluscan evidence then indicates

the establishment of woodland, which continues even when there is evidence of human activity at the site. This appears in the form of the apparent intentional back filling of the ditch and construction of the later burial mound (Evans and Simpson 1991). When Beaker pottery appears in the ditch fill, there is an associated decrease in the woodland molluscan species, suggesting that during the Early Bronze Age woodland clearance is followed by evidence for grassland.

During the Bronze Age there is a reduction of tree and shrub pollen indicative of continued deforestation in the Middle Marsh. Samples from Butterbump, although not securely dated, suggest a reduction in lime and elm, and an increase in ash and birch. These changes indicate a more open woodland, a greater amount of grassland vegetation, and an increase in cereal pollen, all of which suggest cultivation in this area (Greig 1982).

The available evidence from the Wolds implies that formerly cultivated areas in the Early Neolithic had reverted to dense woodland, even where anthropogenic activities such as barrow construction were continuing. This picture only changes in the Early Bronze Age with the clearance of woodland for cultivation, albeit for a short period of time. Grassland then takes over for the majority of the Bronze Age and into the Iron Age, with apparently no cultivation or woodland regeneration (Evans and Simpson 1991). There is also no evidence for grazing of this grassland during this period (Evans and Simpson 1991).

The environmental evidence indicates that a second marine transgression occurs in the Late Bronze Age/Iron Age when the upper peat was overlain by marine clays with dates of 1270-800 cal BC (Q-844) and 1050-400 cal BC (Q-687, Q-688) at Chapel Point (Wright and Churchill 1965). Information from samples taken at Chapel St Leonards suggests the existence of tidal flats in an area which is now on the beach. The palaeoenvironmental evidence also indicates that away from these zones the landscape was one of diverse mixed woodland, with areas of cleared agricultural land (Hunt *et al.* 1990). The pollen assemblage also suggests that the agricultural economy shifted from arable to pastoral, and then back to arable.

Environmental studies indicate that the upper peat is forming in different environments and at different times along the coast. At Vickers Point, the evidence suggests a freshwater marsh, whereas at Chapel St Leonards there is saltmarsh followed by a reed swamp and then a bulrush bed (Hunt *et al.* 1990). This may reflect local conditions and a response to local sedimentation (Hunt *et al.* 1990). Examination of samples from a saltern site at Trunch Lane, Chapel St Leonards suggests that the area was open and treeless, being predominately used for agriculture. There is also evidence for the growth and processing of cereals on or very near the site (Hunt *et al.* 1990). All of these sampling locations are in close proximity, highlighting the variable nature of coastal development during this period.

At Butterbump, in the Middle Marsh, forest clearance continues into the Iron Age (Greig 1982). Evidence from the Wolds at Giants' Hills 2 long barrow shows that the area finally returned to cultivation during the Iron Age, and this continued through to present times (Evans and Simpson 1991).

Into the Medieval period, the coast in this zone was affected by coastal erosion rather than deposition, with the disappearance of settlements from Trusthorpe, Sutton and Chapel (Owen 1952). Excavations in Orby have revealed molluscan evidence that suggest high water tables in the tenth and eleventh centuries, but drier conditions in the twelfth and thirteenth centuries (Rylatt 2000a).

8.3 Early prehistoric landscape interaction

There is extensive evidence for prehistoric activity within the zone, primarily from the Wolds and Middle Marsh, but also from the Outmarsh (Figure 8.2). Mesolithic activity is clearly evidenced by two find spots (89, 1497), and Mesolithic material also forms part of later assemblages (67, 71), as evidenced in the cluster around the chronologically later barrow cemetery at Butterbump. The Mesolithic finds are generally located on the Wolds and the small gravel islands, suggesting that these were favoured locations for camps for the exploitation of the surrounding area.

Extensive evidence for Neolithic activity is apparent in the region. Burial activity is concentrated on the Wolds, with the long barrow groups of Deadman's Graves and

Giants' Hills highlighting this (Figure 8.3). Both these clusters are located close to possible prehistoric trackways. The cluster of three barrows at Giants' Hills (831, 1012, 1337), with two more barrows to the north (1159, 1160), is located on the eastern side of the valley known as Fordington Bottoms, where springs flow down to meet the River Steeping. A further two barrows are located to the south of this group (83, 2062), and also on the eastern side of the valley. The group at Deadman's Graves (1011, 1231, 1336, 1347) includes four barrows positioned on the northern side of a small dry valley, with one barrow located slightly to the west (1232).

The excavations at Giants' Hills 1 and 2 provide evidence for the methods of construction of these barrows, and these have been discussed in Chapter 2 (section 2.4.2). In summary, the excavations appeared to reveal two phases of activity at these sites. A pre-barrow phase, consisting of a wooden mortuary area, was dated at Giants' Hills 2 to 4250-3700 cal BC (OXA-642), placing it in the Early Neolithic (Evans and Simpson 1991). This phase ended with the burning of the timber structures and the burial of a number of individuals in the centre of the area. It was followed by the construction of a mound over the area at some time after 3600 BC. Later Neolithic activity in the area is attested by the presence of Peterborough Ware in the secondary fill of the barrow ditches, and Beaker pottery sherds occur at the top of the fill (Evans and Simpson 1991). The secondary fill of the ditches occurred in a wooded environment, but the Beaker sherds were found within a layer of frost-shattered rubble which, according to the environmental data, reflects an environment that was under cultivation (Evans and Simpson 1991).

A further two outlying barrows occur on the Wolds near South Thoresby, just outside the sample area for this zone (2050, 2051). These are positioned in a way that shows similar characteristics to the two main clusters. They are located on either side of the small valley of the Great Eau, set back from the Wolds escarpment, and are close to the line of the Blue Stone Heath Road. They are also part of a larger cluster along the Great Eau valley, with the remaining barrows being outside the current study area (Jones 1998a).

Evidence for settlement activity tends to be located in the Middle Marsh rather than on the Wolds. This suggests that settlement was concentrated in the areas overlooked

by the long barrows, or conversely that the barrows were positioned so that they could be seen from the settlements. The finds from the Middle Marsh cluster in areas that partly coincide with those areas where fieldwork has been undertaken, but that also coincide with a gravel outcrop. This is close to the edge of the areas which were potentially wet at the time. Seventeen flint and stone axes support the idea of occupation and clearance within this zone. All the identified stone axes from this zone belong to Group VI, the most common source for axes from the Lincolnshire Marsh.

Occasional finds in the Outmarsh from this period indicate that some of the area may have been occupied, possibly on smaller drier islands. This suggestion is supported by the environmental evidence from a location just to the south of the sample area at Vickers Point (Hunt *et al.* 1990). In addition, the limited cereal pollen from Butterbump indicates an initial phase of land clearance in the Neolithic within this zone, but it would appear that this clearance is not undertaken to any large extent (Greig 1982). Evidence from the Wolds suggests an ever-changing environment shifting from cultivation to grassland to woodland, with clearance again occurring in the Early Bronze Age (Evans and Simpson 1991).

In the Bronze Age there is a slight shift of focus with activity moving from the Wolds down into the Middle Marsh and Outmarsh. This is supported by the environmental evidence, with little evidence for cultivation or grazing occurring at Giants' Hills after the Early Bronze Age through until the later Iron Age (Evans and Simpson 1991). The evidence from Butterbump indicates an increase in cultivation in the Middle Marsh in the Bronze Age (Greig 1982).

Like the long barrows, there are a number of round barrows located on the Wolds, but there is also an extension of this activity into the Middle Marsh, with a large number of round barrows being identified on the undulating till surface. The transition from long barrow to round barrow in Lincolnshire is unclear. The earliest dated round barrow burial in the study area is that from Butterbump dated at 2650-1600 cal BC (HAR-490), although this date has a large error range (Greig 1982). What can be seen is that one of the largest concentrations of Neolithic burial

monuments on the Wolds, at Deadman's Graves, appears to be succeeded by one of the highest concentration of round barrows at Butterbump, in the Middle Marsh.

Although scattered throughout the Middle Marsh in this zone, there are distinct clusters of round barrows, which are suggestive of barrow cemeteries. The best known of these groups is the Butterbump cemetery, which is located next to an elongated piece of wetland. At Butterbump there are the remains of seven definite barrows (137) and the possible crop mark evidence for a further eleven in the surrounding area (1091). Excavation of one of the barrows has provided an Early Bronze Age date for the first burial under the barrow, the date being 2650-1600 cal BC (HAR-490) (Jordan *et al.* 1994). This primary burial was also associated with a bronze dagger (Fenwick *et al.* 2001b). A number of secondary burials were then added to the barrow over the next 1000 years, with the latest dated to 1650-950 cal BC (HAR-489) (Jordan *et al.* 1994).

The dates from Butterbump place the excavated barrow within the Bronze Age, however, this may be viewed as a transitional monument of the Later Neolithic/Early Bronze Age. It should be noted that this is just a single excavated example from a cemetery of possibly eighteen barrows. Neolithic pre-barrow activity is present in the form of flint-work recovered from beneath the excavated barrow and in the adjacent area, however the nature of this activity is not known (Figure 8.4). The excavation also revealed the considerable length of time over which these monuments were used, with burials continuing into the Iron Age.

More recent excavations at Butterbump revealed a number of worked wooden stakes, all of which were dated to the Bronze Age (Figure 8.5). Unfortunately they were not retrieved from a secure context so their precise function cannot be assessed (Fenwick *et al.* 2001b). It is tempting to view them as some form of structure associated with the edge of the wetlands and the ritual activity of the barrows. During this period of great flux, with changing water levels and landscapes, barrow builders were choosing areas close to rivers and kettle holes that, while safe from the complete inundation that was occurring in the Outmarsh, were still experiencing these changes.

Although Butterbump is the clearest example of a barrow cemetery, many of the other barrows identified in Zone Three cluster in groups, such as those at Aby (923, 1514, 1515), Claxby (1520, 1512) and South Thoresby (1518, 1519). These concentrations are clearly suggestive of focal cemeteries.

An important ritual focus has also been identified at Driby where at least four possible round barrows (1510, 1511, 1512, 1517) are centred on a possible henge (1510). The henge has been identified from aerial photographs, and at 33 m in diameter it is at the smaller end of the henge size spectrum (Darvill 1987). Without further excavation and survey, the exact nature of this monument is unknown.

The burial activity represents funerary landscapes, but the evidence also suggests continued occupation, and indicates that there was no clear division between the landscapes of the living and the dead. Enclosures and flint scatters are located within the immediate vicinity of the barrow cemeteries, suggesting exploitation. Clear settlement evidence within the zone comes from excavations at Well (1228), which indicated Bronze Age settlement with a number of pits containing pottery. The number of axe finds from the area also suggests extensive occupation of the Middle Marsh and, on suitable outcrops, the Outmarsh.

Also within this zone are numerous enclosures and finds that are dated to the prehistoric period. Many of these may be later in date, but the proximity to the sites already mentioned seems to show a developed landscape that was settled on the drier areas in order to fully exploit the surrounding resources.

8.4 Later prehistoric and Roman landscape exploitation

There is sparse evidence of Iron Age activity, but where this is attested, it is mainly concentrated in the south of the zone, with salt-working identified along the modern day coastline and further inland (Figure 8.6). The zone of salt-working suggests that extensive areas of tidal creeks were present in the south of the zone. A single ditch at Mumby (1526) suggests that occupation did continue on the till outcrops (Clay 2002). A number of salterns in this zone as well as a number of enclosures have been given a late prehistoric date. These include a rectilinear enclosure at Cumberworth (2054) with potential associated field boundaries.

Roman activity is extensive; Margary 27 runs through the zone, across the Wolds, and a road has also been postulated as running out into the Outmarsh from the prehistoric routeways to the north. Although there is no direct evidence for this road, the concentration of Roman activity along its proposed route would suggest it to be a likely roadway. The Roman material is spread throughout the zone with clusters along Margary 27, in areas of the Middle Marsh such as at the base of the Wolds, and along the wetland edge. Finds are also located on the islands in the Outmarsh and along the coast, suggesting that in this period settlement was possible along the coastline, though salt-working appears to be concentrated in the south of the zone.

The dates of the material recovered shows that in the first and second centuries, the earliest settlement was concentrated on Margary 27, and upon the till islands. Many of these sites continue in use through into the fourth century. Settlement also expands along the edge of the Wolds, and appears on the coast from the third century onwards. Just to the north of the sample area there is evidence for activity along the coast from the second century, thereby suggesting that the coast in Zone Three was more stable than the coast of the zones to the north and south.

Roman settlement within the zone includes the extensive roadside settlement at Ulceby Cross (819, 824, 2056), which consists of a number of enclosures and field boundaries. Excavations in the early 1900s revealed evidence for activity at Ulceby Cross, extending either side of the Roman road (Tatham 1919, Whitwell 1992). The layout and exact nature of the structures at the site were not established but a range of finds was recovered, including coins dating from the first to fourth centuries. Aerial photographic transcriptions also confirm extensive occupation in the area. In addition to Ulceby Cross, a complex arrangement of cropmarks occurs at Bilsby (2049), and another set of enclosures, suggesting settlements and field systems, is visible at Welton le Marsh (2058).

Just outside the sample area at Skendleby (2057) is an enclosure which has slight evidence of being double-ditched (Figure 8.7). This is the defining characteristic for villa sites on the Wolds (Jones 1998b). Excavations at Mumby (1525) indicate continuity of settlement in certain areas from the Iron Age, with Roman ditches located in the same areas as those of Iron Age date (Clay 2002).

Enclosures that are currently dated as Iron Age/Roman need to be considered with other sites in the locality. One such enclosure, which fits the characteristics of a small Iron Age/Roman farmstead (rectilinear with a single entrance), is that from Skendleby (2061). However, the site is located only a few hundred metres to the south of Giants' Hills long barrows. Analysis of possible Neolithic long barrows on the Wolds has noted that some of these monuments are associated with these small enclosures, and a Neolithic origin and function may be possible here (Jones 1998a). A number of currently undated enclosures are also likely to be associated with prehistoric activity. An irregular complex of rectangular enclosures at Ulceby (1167) is situated in the middle of the concentration of long barrows at Giants' Hills and it is possible that they may also indicate associated activity with these monuments. A small enclosure at Driby (1611) is located only 100 m from the possible henge site; and the enclosure at Willoughby (1564) is located next to the Butterbump barrow cemetery.

Other undated or prehistoric enclosures may well be proven to be Roman in date, especially when finds from the locality are considered. Finds within 500 m of the aerial photographic evidence suggest Roman activity at the possible enclosure with field system at Willoughby (1561), and also the possible field system at Welton le Marsh (2059). Few enclosures show evidence of internal or external structures, but round houses have been identified at Ulceby Cross (2056), and Ulceby (1167), and they are also found adjacent to the possible enclosures at South Thoresby (1593) and Calceby (1608). Further internal structures may be in evidence within the enclosures at Willoughby (1561), Welton le Marsh (2058), and Skendleby (2057), although their exact nature cannot be determined.

8.5 Saxon landscape colonisation

Archaeological evidence for activity is sparse in this period, but there is some evidence for concentrations of settlement occurring in two areas – Huttoft and Cumberworth (Figure 8.8). Numerous evaluation trenches have been excavated in Huttoft (1221, 1483) over the last decade and these have provided slight evidence for Early and Middle Saxon activity. However, to date no firm structural evidence has been uncovered (Field and McDaid 1995, Thompson and Snee 2001, Rayner 2002). The large size of a number of the pottery sherds recovered suggests that the pottery

is from a primary context, and that any settlement must be close by (Rayner 2002). Excavations at St Helen's, Cumberworth (1495, 1496) have revealed evidence for a sunken-featured building, followed by a Late Saxon graveyard (Green 1997). Other finds along the postulated line of the Roman road suggest continued occupation in this area.

Finds from the Alford area, include cruciform brooches (984) and Middle Saxon coin finds (2067) which are suggestive of settlement, as do those from Claxby (842, 1143). Two ninth century strap ends have been recovered from Maltby le Marsh (2069) and further Middle Saxon metalwork has been recovered from Willoughby (93). Just to the north of the sample area settlement along the current coastline is indicated at Sutton on Sea (1151), with a wooden structure on the foreshore being dated to 690-1010 cal AD (Beta-85547) (LINHER 43148). Human remains and weapons were reported during the construction of a reservoir in Welton le Marsh (887), and these have also been interpreted as representing Anglo-Saxon activity in the form of burials.

Late Saxon pottery has been recovered from Mablethorpe (1349) and Alford (1370). Excavations within the core of present day villages continue to provide evidence of Late Saxon occupation. Environmental data from some of these sites testify to higher water levels during this period. At Orby (767, 1527), excavations on land to the north of the moated site revealed evidence of a range of boundary features dated to the tenth and eleventh centuries. The molluscan evidence from this site has shown that the ditches were waterlogged for most of the year throughout the tenth and eleventh centuries. In contrast, the molluscs recovered in contexts dated to the twelfth and thirteenth centuries were representative of dry terrestrial environments, suggesting a possible lowering of the regional water tables (Rylatt 2000a). At Huttoft, continued occupation has been identified at a number of the sites which have revealed earlier Saxon activity (Field and McDaid 1995).

Place-name evidence reflects a Late Saxon occupation of the area, with the majority of the settlements having names which are Scandinavian in origin (Figure 8.9). Settlements with earlier Saxon archaeology, such as Huttoft and Cumberworth, have Old English names. Cumberworth is a personal name combined with *worth*

suggesting homestead, both elements being Old English. Huttoft suggests some impact from the Scandinavians, and is one of the hybrid habitative forms, suggesting some attempt at re-naming with a Scandinavian form. The majority of the other settlements in the area are either *–bys* or *–thorps* suggesting that these were not just Scandinavian re-naming exercises, but new foundations. The picture that was seen in the archaeology from the Roman period is in marked contrast to the later place-name evidence. In the intervening period there has been a contraction of settlement to two important centres in the Outmarsh at Huttoft and Cumberworth, with little settlement elsewhere in the Marsh. The *–by* names in the area outnumber the *thorps*, which appear to fill in a number of gaps that may have been left after the initial colonisation of the area. This colonisation would only appear to occur in the Late Saxon period.

The *–thorps* are viewed as smaller, secondary offshoots from this initial settlement and are often much smaller (Cameron 1970). That some of these settlements were founded anew has been suggested by Cameron (1975) when comparing the drift geology of an area, the location of earlier settlements and those of the *-by* settlements. In the area of Alford, he notes that this Old English settlement name is located on a band of gravel, and is then surrounded by a number of smaller settlements, all *–by* place-names such as Ailby, Tothby and Bilsby. Some of these are located on the less attractive till, and these may possibly indicate later settlement in this area. A plot of the *–thorps* with definite Scandinavian specifics shows a strong grouping in the south of the Lincolnshire Marsh, particularly in this zone (Fellows Jensen 1978).

Indications from the place-name evidence suggest that during the period of naming settlements, the Middle Marsh was still quite wet. From the species of trees that are mentioned in the place-names there is a predominance of those that can tolerate a wet environment such willow (Willoughby), whilst Belleau indicates meadow lying close to water.

Saxo-Norman stonework at Willoughby confirms the Domesday Book record of a church in this manor. However, excavations at Cumberworth have suggested that not all of the churches present in 1086 were recorded in the Domesday record (Green 1997). At Cumberworth (1496), excavations revealed ninth to tenth century burials

that were sealed beneath a construction platform which held a timber structure. This structure was possibly the first church on the site in the tenth to eleventh century (Green 1997). The first stone church on the site was constructed in the late tenth to eleventh centuries (Green 1997). A grave slab identified at Cumberworth is one of the most-common forms in the mid-tenth century, and was produced in quarries in the Lincoln area (Stocker and Everson 2001).

8.6 Medieval settlement and landscape utilisation

Medieval archaeological evidence is extensive, and indicates that the Late Saxon colonisation of the region may have not been completely successful as many of the settlements in the Middle Marsh and on the Wolds have been deserted (Figure 8.10). The settlements that do survive are those with earlier origins, such as Cumberworth and Huttoft, but many of the other settlements are either completely deserted or shrunken in size. A number of moated sites appear at settlements both within the Middle Marsh and Outmarsh.

The parish structure in this zone shows the development along the coast in one example. The settlement of Mumby, situated on one of the till outcrops in the Outmarsh, develops a chapel closer to the coast, which becomes the focus for settlement at, and the later parish of, Chapel St Leonard (Owen, D. 1975). The parishes inland tend to develop around the settlements on the outcrops.

By the twelfth century the settlement pattern had developed in the Middle Marsh and Wolds, with the islands within the Outmarsh occupied, but no settlements developed on the area of alluvial deposits (Figure 8.11). Only a small number of churches are in evidence. The Domesday landholding shows that many of these settlements were manorial centres, with only a scatter to the north being solely sokeland or berewicks (Figure 8.12). The manors within the zone had sokeland and berewicks in the Middle Marsh, Outmarsh and Wolds producing a more complex pattern of landholding than Zone One and Two. Several landowners have sokeland and berewicks at a distance from manors located within the study area. For example two of the manors at Claxby, have sokeland and berewicks in Withern, Strubby, Maltby le Marsh and Saleby, suggesting that these may once have formed part of a larger estate which has since been subdivided. Some of the landholding patterns suggest an attempt to

maintain access to a variety of resources, with manors in the Middle Marsh and Wolds having single berewicks in the coastal Outmarsh area. An example of this is the case of the Archbishop of York who, from his manor at Rigsby, had a berewick including land at Sutton le Marsh, Trusthorpe and Addlethorpe.

The majority of vills were either single or two manors though they often included sokeland or berewicks of other vills. Only a small number of the berewicks and sokelands were of manors outside of the region.

Domesday population figures for this zone show a wide variation with a number of dominant vills. There are many settlements with very low figures, such as the one person recorded at Ulceby and Haugh, and many settlements with population numbers in the range of 1-13 people. The highest population figures include 95 at Mumby, 97 at Fordington, 106 at Swaby and 112 at Huttoft. All these figures, apart from Mumby, are false as they contain a single population figure for a Domesday entry which includes several different vills within its total.

The types of population within this zone are much more varied. High proportions of villagers are found on the areas of till islands and on the edge of the Wolds, suggesting an older population in these settlements, and a manor structure which was fully developed before the expansion of settlement in the zone. Cumberworth records solely villagers, while Haugh and Calceby solely smallholders. Haugh and Calceby are included with the figures for Wainfleet, which includes 83 freemen. This may suggest that there were freemen at the settlement. The only record for Cumberworth is that of a manor, and it is possible that the lack of sokeland has produced the resulting lack of freemen. A similar pattern appears for Bonthorpe and Sloothby. Bonthorpe records a manor with a single berewick (at Sloothby), and Sloothby has a manor and a number of berewicks from other manors. Again the absence of sokeland may explain the absence of freemen.

That the absence of sokeland should represent an absence of freemen is not correlated throughout the region, but a number of vills that only record manors or manors and berewicks do show smaller numbers of freemen, e.g. Claxby. However, Hasthorpe, which is recorded as being solely a berewick, also included freemen.

suggesting that sokeland is not necessarily a prerequisite for freemen. It is traditionally thought that more freemen are found at settlements of Scandinavian origin (Leahy and Paterson 2001). The highest proportions of freemen are located in the north of this zone in the Middle Marsh.

The settlements located on the islands in the Outmarsh have a large, well-established area of resources and are taxed at a higher level within the Domesday record than the surrounding settlements (Figure 8.13). Calculation of population per carucate shows a possible high density at Well and Markby. The latter figure is an effect of the record as it is a joint entry with Bag Enderby, which is located outside the Lincolnshire Marsh. The value per tenant and value per carucate shows high figures on the Wolds edge. A mixture of fortunes had faced the settlements between 1066 and 1086 with some settlements either increasing or decreasing in value whilst a number remained the same. Those that decreased in value are situated on the Middle Marsh or Wolds.

By the fourteenth century there has been an increase in the number of churches in the region, but the contraction of settlement appears to have begun, with two settlements having disappeared since their entry in the Domesday Book (Figure 8.14). The population taxed in 1377 is relatively low across the zone, with Fordington at 27. However, Huttoft at 375 and Mumby at 403, maintain their importance and are the exceptions to the general trend. The majority of settlements fall within the range of 26-100 people taxed. The relative struggle of those settlements on the Wolds can also be seen in the 1334 lay subsidy returns, with most settlements returning 500 pence or less. The majority of settlements in the Middle Marsh return over 500 pence with Mumby returning 2091 pence. By this period Alford was also growing in importance with grants of a market and fair.

By the sixteenth century the settlement pattern has expanded slightly to accommodate settlements near the coastline (Figure 8.15). Population continued to be concentrated in the Middle Marsh and islands within the Outmarsh in 1524, 1543 and 1563. These settlements also contribute the most lay subsidy and show a generally greater wealth per head of population than the Wolds.

8.7 Elements within the landscape

The late nineteenth century Ordnance Survey map data provide an insight into this zone, which has remarkable differences to the preceding two zones discussed (Figure 8.16). This is mainly due to the absence of the clear division into two defined strips of Middle Marsh and Outmarsh. In this zone the topography and drift geology play vital roles in the development of the landscape.

8.7.1 Lines of communication

The road system is influenced in the south-west corner by the Roman and prehistoric road systems, although this does not continue into the rest of the zone. The road system has developed around the various islands within the alluvium, upon which settlement gradually developed, producing a radial road pattern linking all of these islands. None of the major watercourses of the region cross through this zone.

8.7.2 Field systems and drainage

Domesday records a high concentration of less ploughs than ploughland in this zone suggesting that the area was being farmed very efficiently, and that this is also a denser area of settlement (Higham 1990). The 'land for x ploughs' recorded throughout the zone is low, with the exception of Huttoft and Mumby. The former also included land from a number of other vills, and these two settlements also record a higher number of ploughs than other settlements. A number of mills are recorded on the edge of the Wolds. Not all settlements record meadow, and the largest areas are recorded in the Outmarsh. The settlements on the Middle Marsh record woodland of all three types. Hasthorpe, Sloothby and Willoughby all record marsh in Domesday, which possibly reflects the fact that these vills are recording separate portions of the manor nearer the coast, which provided access to marsh.

The field systems that developed from the settlement on the islands have produced more radial and irregular patterns than the regular systems, which were a characteristic of Zones One and Two (Figure 8.17). There is substantial evidence for early enclosure of large areas in this zone, prior to Parliamentary Enclosure, such as at Cumberworth (Russell and Russell 1987). Field systems appear to indicate a system originally of two or three fields, with other resources such as ings, woodland and marsh. Occasionally there appears to have been the sharing of a common field

system between two parishes, such as at Swaby and Belleau, which maintained a four-field system (Russell and Russell 1987). This communal organisation may go back much further, as from the Domesday record there is a close link between Swaby and Belleau. This zone also contains larger areas of woodland than are recorded in the other zones. Detailed Enclosure records do not exist for the majority of the zone.

A single record of waste in the Domesday Book occurs at Ulceby, but this vill is also recorded under other landowners with no waste. There is little evidence of drainage features, but a small number of streams must have provided some element of water removal. The one area which does provide evidence of drainage is in the north of the zone, where one of these streams has been straightened and a more regular field pattern is apparent. Numerous documents, especially for the Huttoft area, record pasture for sheep throughout the thirteenth century. This was often located between the sea bank and the sea, with much being owned by Bullington Priory (located to the north-east of Lincoln) (Owen 1996). Owen (1993) has estimated from the documents that 2130 sheep were grazed on the seaward side of the sea bank, suggesting a potential area of grazing land of 1420 acres, much of which has since been lost. Other grants of pasture imply that it lay on the seaward side of the sea banks at Sutton, Anderby and Mumby (Owen 1993, 1996).

With the 'stormy centuries' there are records of floods and breaches in the sea banks. Floods are recorded in 1253 which reached Hannah cum Hagnaby (Owen 1996). In 1286 Hagnaby was flooded (Owen 1996). In 1289 Maltby was affected on at least two separate occasions in that year (Owen 1996). In the late fourteenth century the church at Sutton was destroyed (Tann 2004). The earliest evidence suggesting sea banks comes in the form of place-names for the *fossatum maris* (earliest reference at Anderby, Mumby and Hogsthorpe *c.* AD 1200) (Owen 1975). The remains of these early banks are not visible in the landscape. One old sea bank that can be traced, from Sandilands to Chapel St Leonards, is known in places as 'Roman Bank'. This date has been dismissed, but the actual date is unknown (Phillips 1934). The bank is substantial and now carries a road.

The area of the coast in this zone was constantly battered by rising tides, with land and livestock lost and churches destroyed. In many of these areas the sea banks were ineffective as defences, and many needed constant repair (Owen 1952). Attempts to construct a new bank on the landward side of the existing bank at Trusthorpe in the mid-seventeenth century met with difficulty as every high tide overtopped the seaward bank, eroding the foundations of the new bank (Owen 1952). All but three houses in Chapel St Leonards were destroyed when the sea broke through the bank in 1571 (Owen 1963).

8.7.3 Settlement

The late nineteenth century settlement pattern reveals that the main concentration of villages is maintained on the islands in the Outmarsh and in the Middle Marsh (Figure 8.18). To the east of the zone, along the coast, settlement has developed, but only in the form of farmsteads rather than extensive settlement, providing a pattern of dispersed settlement.

8.7.4 Salt production

Evidence for salt production within this zone is very limited. There is evidence of Iron Age and Roman salt production in the very south of the zone, which then continues into Zone Four. However, this evidence does not extend further northwards along the coast. Occasional finds suggest that salt-making took place in this zone during the Medieval period, but that this was not undertaken to the same degree as to the north, possibly due to the erosive nature of the coast at this location.

8.7.5 Historic landscape character

The majority of this zone is characterised by an irregular pattern of development, partly due to topographic factors. These affected the settlement development of the zone, and also the early enclosure of much of the area (Figure 8.19). To the north a strip of reclamation is apparent on the coast, with an area of intermediate blocks and strips to the west possibly suggesting later enclosure. In the very west of the zone an area of regular blocks is present, which may indicate late enclosure. However, this is also located along a Roman road, suggesting this may have influenced the regular pattern.

Hence the distinctive characteristics of this region can be split into a number of groups. The field pattern is affected by the natural topography and geology of the region. As settlement developed on the islands within the Outmarsh, their field systems developed around them following natural topographic features rather than the landscape being carved up from a flat Outmarsh (Figure 8.20). The settlement pattern within this zone has developed focused on these islands (Figure 8.21). The resulting road system of the area is a radial pattern connecting the islands, and a landscape which is not the traditional flat marsh (Figure 8.22).

8.8 Landscape evolution

The parish structure of this region belies the more organic development of the zone; with original settlement on islands, and a radial share of the resources around the initial settlement. From the earliest days, people have utilised these islands as bases for the exploitation of the surrounding areas (Figure 8.23: A). The closeness of the edge of the Wolds to the Outmarsh in this region sees all three zones linked in all periods. The Neolithic long barrows overlook the wetland zones, and by the Bronze Age, burial activity was taking place close to the settlements in the Middle Marsh.

Salt-working becomes important in the south of the zone by the Iron Age, and settlement is suggested on the islands (Figure 8.23: B). Extensive evidence of Roman activity indicates occupation across all areas and along the coastline by this time. This activity has ceased by the Saxon period, with settlement retreating to the islands and Middle Marsh. This is probably associated with the Late Roman inundation which is evidenced throughout north-west Europe, as well as the general economic decline at the end of the Roman period. Substantial Saxon settlement is suggested from these islands, especially at Huttoft and Cumberworth. There is a general expansion in the Late Saxon period, with initial settlement indicated by the occurrence of several *–by* settlements and further colonisation suggested by a high concentration of *–thorps* (Figure 8.23: C).

There is only slight expansion of settlement in the Medieval period, and many of the settlements become deserted or shrink, with Cumberworth and Huttoft among those that manage to maintain their importance (Figure 8.23: D). Sea banks are mentioned, and these are associated with the inland settlements such as Huttoft, Mumby and

Anderby (Owen 1993, 1996). These defences appear to have been ineffective and were in constant need of repair. The historic landscape of the zone indicates an early organic development with little evidence of control, planning or reclamation.

To return to the model of coastal wetland use proposed by Rippon (2000) (see Chapter 1), the evidence from this zone would suggest the following strategies for the use of the area from Maltby le Marsh to Addlethorpe: major exploitation (early prehistory) → major exploitation (later prehistory and Roman period) → major exploitation (Saxon period) → modification (transformation) (Medieval period). In this zone it is apparent that there has been major exploitation from the prehistoric period onwards, with this exploitation utilising the islands in the Outmarsh. By the Medieval period, modification is in evidence with attempts at transformation, but the extent to which this is achieved is negligible.

8.9 Summary

Extensive evidence for early prehistoric activity suggests that conditions within this zone were suitable for a wide variety of regimes. Burial activity provides a visible focus to the prehistoric archaeology of the zone and appears to be closely linked with settlement in the Middle Marsh. To the south of the zone, salt production flourished in the Iron Age, and continued into the Roman period. Settlement spread throughout the zone with a major site located at Ulceby Cross along Margary 27, and a number of smaller farmsteads being evidenced, particularly on the Middle Marsh and till islands. The fact that salt-working is not found in the north of the zone suggests that the coast was not suitable for this activity at this location.

Early and Middle Saxon colonisation of the area would appear to be concentrated on the till islands, possibly indicating a continuation of settlement in these areas. The prime examples are Huttoft and Cumberworth. The place-name evidence suggests that a major expansion of settlement occurred in the Late Saxon period, with Scandinavian influence evidenced in the naming of villages. This pattern initially continues in the Medieval period with settlements located in the Middle Marsh and islands in the Outmarsh. At Domesday it is these latter settlements that record the highest levels of population and wealth, and by the fourteenth century the

settlements of the Middle Marsh are in decline. This decline continues into the sixteenth century.

To return to the aims of this thesis (see Chapter 1, section 1.6), a model of landscape evolution and settlement development for this zone has been developed (Figure 8.23, section 8.8). The relationship of this development with the salt industry is not apparent. The main evidence for this activity appears in the Late Iron Age and is more relevant to the discussion of Zone Four, which is considered in the following chapter. The nature of human-landscape interaction in the zone has been investigated and a number of strategies postulated, with the main emphasis of settlement development being the high, drier islands in the Outmarsh, which allowed continued occupation of this zone from the Iron Age onwards.

The next chapter will review the evidence from the final, and southernmost, zone. Here, there is a focus on the extensive salt-working that was seen in the south of Zone Three, and a potential centre for this industry is seen at Burgh le Marsh. The majority of the region consists of the Outmarsh, and there is only limited settlement activity in this region, and a more dispersed settlement pattern.

Chapter 9

Zone Four – Orby to Wainfleet

9.1 Introduction

This zone encompasses the area from Orby and Ingoldmells in the north to Wainfleet in the south (Figure 9.1). The sample area, shown on the maps, covers the majority of the zone, with only a small area to the south, at the very edge of the current study region, being outside its limits. Only a limited area of the Wolds is included within this zone, on its western side. As with previous chapters, all references to archaeological sites and finds are followed by a unique identifier. Further information can be found in Appendices 9 (early prehistory), 10 (Iron Age and Roman) and 11 (Saxon). This chapter will initially review the evidence for the physical background of the zone (section 9.2), followed by a discussion of the archaeological and documentary evidence for each period (sections 9.3-9.6). A number of elements of the landscape will then be considered (section 9.7), and a model for the landscape evolution of the zone will be proposed (section 9.8). This will suggest the strategy adopted in each period according to Rippon's (2000) model. A general summary of the zone will then be presented (section 9.9). Finally there will be a short review of all four development zones discussed in Chapters 6-9 (section 9.10).

9.2 Physical background

The zone is dominated by the Outmarsh, which at this point meets the Fenland embayment. Alluvial deposits cover the entire width of this zone in the south; with the north-western quadrant of the study area being till dominated (Figure 9.1). The River Steeping meanders through the south of the region, with part of the current course being highly canalised. In the southern part of the zone is a beach bar upon which Wainfleet has developed, and the majority of the features on the seaward side of this deposit are indicative of reclamation.

The only available palaeoenvironmental evidence for this zone comes from Ingoldmells, at the northern edge of the zone (Smith 1958, Lillie and Gearey 2001a). Pollen samples, from a feature at an Iron Age saltern, located on a clayey outcrop exposed on the beach, were examined. The samples recovered from Ingoldmells only

reveal evidence for the Iron Age period onwards. The sequence indicated that as this feature was infilling, the area was open with restricted tree cover (Lillie and Gearey 2001a). It has been suggested that freshwater conditions returned, allowing peat development, until another marine transgression occurred, possibly at *c.* AD 100-300 (Davies and Van de Noort 1995). This correlates with the general picture for north-west Europe, where a standstill phase is suggested in the general pattern of sea-level rise, between AD 100-300, after which there is marine inundation, often termed the Romano-British transgression (Devoy 1990). During the Medieval period, the coastline down to Skegness was affected by coastal erosion and flooding, with parts of Skegness being lost to the sea (Owen 1952).

9.3 Early prehistoric landscape interaction

There are four noticeable clusters of prehistoric activity within this zone: a gravel island in the Middle Marsh, where Burgh le Marsh subsequently developed; the area of Skegness; near the River Steeping (Figure 9.2); and just to the west of the sample area at Halton Holegate.

Mesolithic activity has been recovered from the area of Burgh le Marsh and Skegness, suggesting wide exploitation of the zone's resources. The Mesolithic flint scatter recovered from Burgh le Marsh (1475) was interpreted as a Mesolithic campsite. This scatter included 22 pieces of flint, with three small blade cores and five blades, which were recovered during trial trenching (Malone 2001). The amount of cortex present on the tools suggested that the site represented a temporary camp where tools where quickly made and then taken elsewhere in the search of game (Malone 2001). Skegness has produced a number of Mesolithic flints (90, 91), and a further concentration of finds is found at Halton Holegate (1155, 1471).

The distribution of material also reflects the fieldwork which has been carried out in recent years. A number of the find spots are associated with the Humber Wetlands Project, with the finds from Halton Holegate reflecting locally active field walkers, and the finds clustered at Burgh le Marsh showing the archaeological importance of this settlement, and the planning conditions which have been placed on development.

Neolithic activity has been found in all of the physical regions in the study area. The many axe finds from the zone suggest that clearance was undertaken in certain areas (510, 602, 603, 611, 631, 923, 924, 1095, 2065). Two examples (923, 2065) are from Group VI, but there is also an example of a Group XVIII axe, which was found at Croft (631). A long barrow has been identified from aerial photographs and recorded on the HER at Skegness (1140). This is a most unlikely example as it lies within the Outmarsh, and therefore should be buried beneath a range of later deposits. If it is the remains of a long barrow, then this will change the current ideas on the Neolithic of the Marsh, but at present it would seem an unlikely candidate.

Further onto the Wolds, Neolithic settlement activity has been identified at Halton Holegate during trial trenching (1472). The finds included a number of Late Neolithic pits which contained flint and pottery (Rylatt 2001), with the pottery including Clacton style grooved ware dating from the Middle to Late Neolithic. The evidence from the flint within the pits indicates flint working, with a number of cores and a hammer stone in evidence. A number of potboilers were also discovered within the pits (Rylatt 2001). Stake holes were identified at the bottom of the pits and the site has been interpreted as having a ritual component (Rylatt 2001). The surrounding landscape includes a number of Bronze Age round barrows (1473) and a possible causewayed ring ditch (1892). This has been interpreted as a causewayed enclosure, which acted as the centre of this ritual landscape (Figure 9.3) (Rylatt 2001). The number of barrows suggests a cemetery in the area.

The evidence from Halton Holegate is tantalising, but further work will need to be carried out on the associated enclosures in order to establish the true nature of activity within the area. However, the site does provide the settlement evidence that is lacking for the majority of the other identified Neolithic sites in the region. The dating of the site to the Middle and Late Neolithic also conforms to that provided by the axes for an increase in activity in the area during this period.

Bronze Age activity has been identified at a number of locations across the zone. However, unlike the previous zones, there is limited evidence of burial activity. The majority of the finds of this date are individual find spots, perhaps indicating that the area was too wet for full-scale exploitation. Finds from Burgh le Marsh suggest that

this location provided a focus for settlement activity within view of the surrounding Outmarsh. A possible Bronze Age burial was discovered on the beach at Ingoldmells (581), but the dating evidence here is very tentative.

9.4 Later prehistoric and Roman landscape exploitation

Iron Age activity is concentrated in the north of the zone with extensive evidence of salt-working (Figure 9.4). The settlement sites associated with this activity have yet to be located, although just to the north of the zone, settlements have been identified on the Middle Marsh. Iron Age settlement evidence has been found at Burgh le Marsh (1141), suggesting some form of continuity from the earlier prehistoric period. This evidence also follows through to the Roman period (Malone 2001).

The exploitation of salt is intensified in the Roman period and a major settlement must have existed at Burgh le Marsh (Figure 9.5). This settlement currently lies at the southern end of the projected route of Margary 27. There has been considerable debate regarding a possible extension to this route, and settlement at the coast, possibly with a ferry link to Norfolk (Phillips 1932b). The evidence from Burgh le Marsh includes large numbers of coins, pottery, ditches and a burial, although to date there has been little evidence for structural remains located. The number of coin finds (at least 70) suggests a substantial settlement, and the distribution of finds indicates that activity was occurring throughout the present area of the settlement of Burgh le Marsh (Figure 9.6). Pottery from the settlement has been claimed to resemble examples from 'urban' environments (LINHER 41529).

Away from Burgh le Marsh and the salt-working to the north, Roman evidence is apparent from along the route of the River Steeping. A settlement at Wainfleet (727) was suggested by William Stukeley (1724: 27), but no firm archaeological evidence has been located for this site. Early Roman activity is suggested by first century finds on the coast, and by finds at Burgh le Marsh. The evidence at Burgh continues into the fourth century. Elsewhere in the Outmarsh the archaeological evidence suggests a later date for activity in the third and fourth centuries with the exception of Ingoldmells. Here settlement has been suggested from the second century onwards (549, 551, 553). The date of salt-working sites suggests that the Iron Age activity was taking place further east than those simply dated as later prehistoric, and also

those indicating Roman activity. However, these sites can be difficult to date with any accuracy. The number of finds does not support evidence for a major settlement at Skegness unless all trace has been completely washed away. This settlement has been postulated due to place-name evidence and antiquarian records (see Chapter 2).

Evidence from aerial photography shows a range of activity, but many features are without dating evidence. An enclosure at Halton Holegate (2063) is similar to sites outside Lincolnshire that have been assigned an earlier prehistoric date, and it could potentially be pre-Iron Age in date. On the whole there are fewer aerial photograph enclosure sites within this zone. This may reflect biases introduced by later alluvial activity, which is resulting in conditions that are not conductive to site detection.

9.5 Saxon landscape colonisation

Saxon archaeological material is sparse, with concentrations at Burgh le Marsh and the area of Wainfleet, being mainly occasional pottery finds (Figure 9.7). The pottery located at Wainfleet (737, 738, 740) is Saxo-Norman in date, suggesting a late foundation for the settlement. Numerous sites in Burgh le Marsh (1352,1408) have produced Anglo-Saxon pottery, but unfortunately no structural evidence (Snee 2000, Malone 2001). Middle Saxon coins have also been recovered from Burgh le Marsh, including Frisian examples (470, 473). Pottery recovered from Addlethorpe (1361) provides a tenth century date for this settlement. The unlocated, metal detected, site known as 'near Skegness', lies in the zone. Numerous finds, including eighth century tags and ninth century strap ends, pins and coins have been recovered (Ulmschneider 2000b).

Located within this zone is the possible Early Saxon barrow of Cock Hill, Burgh le Marsh (1326). Excavations in 1933 uncovered a seventh century belt buckle with disturbed human remains. Re-evaluation of the monument in 1976 suggested considerable Medieval enlargement of the mound (Figure 9.8). The continued occurrence of residual Roman and Anglo-Saxon material from the area of Burgh, along with the disturbed nature of the remains found in 1933, have been used to dismiss the barrow theory (White 1977, Everson 1993).

No evidence of monumental fragments has been recovered from this zone. This would reinforce the supposed later development of many of the settlements. Place-names confirm an established settlement pattern, with Burgh le Marsh and Wainfleet both having Old English origins. The majority of the remaining place-names are Scandinavian in origin (Figure 9.9). These later settlements cluster in the area of the Middle Marsh, along the line of the Roman road, which must have maintained its importance as the route to Burgh. The Burgh le Marsh place-name is Old English, suggesting a fort (possibly indicating the previous Roman settlement in the area). There remains a large area of the Outmarsh which has little in the way of evidence for Saxon settlement.

9.6 Medieval settlement and landscape utilisation

The archaeological evidence reveals the struggle of settlement expansion in this zone; in some cases these settlements did not survive (Figure 9.10). Numerous Scandinavian settlements in the Middle Marsh either shrink or become deserted. Inroads into the Outmarsh also struggle, and there is a general clustering of activity close to Wainfleet All Saints.

A number of moated sites are in evidence, suggesting that they played a part in the development of settlement within this zone. There is limited evidence for salt-working, although it is documented and it occurred extensively just to the south of the current study area.

By the twelfth century the settlement pattern on the Middle Marsh had become established and inroads were made in the Outmarsh (Figure 9.11). The Domesday landholding shows that the manors were mainly located on the Middle Marsh, with Croft and Addlethorpe being the only manors on the Outmarsh (Figure 9.12). The remaining settlements were all berewicks or sokeland. The vills of the region were mainly single manors but with a number of sokelands and berewicks. Many of these berewicks and sokelands were the property of distant manors but Candlesby and Burgh le Marsh had land at Skegness.

Domesday population figures for this zone show concentrations at Wainfleet (176) and Addlethorpe (100) in the Outmarsh. There are a range of numbers in the Middle

Marsh, from two at Bratoft and Ashby by Partney to 72 at Great Steeping. The population structure varies, being mainly dominated by freemen, except in three cases where villagers dominate (two of which are Bratoft and Ashby by Partney). The figures for Bratoft and Ashby by Partney are a construct of the data, as land at both vills is also recorded in the amalgamated vill value with Fordington, which includes 49 freemen. Calculations of population per carucate, value per tenant and value per carucate show an even spread throughout the zone, although values are only recorded for a few of the vills. There has also been a near even loss and gain in value since 1066. Decreases have been seen at two vills in the Middle Marsh, values have remained the same at two vills on the Wolds, and increases occurred at two vills in the Outmarsh and one in the Middle Marsh. This may indicate some of the first developments in the Outmarsh of a more sustainable agricultural regime.

By the fourteenth century the settlement pattern had intensified, with additional settlements in the Outmarsh, and Wainfleet establishing its importance as a market (Figure 9.13). The population taxed in 1377 reveals higher figures in the Outmarsh than the Middle Marsh with 678 at Wainfleet and a range of 51-125 on the Middle Marsh. This pattern is reinforced by the amount taxed in 1334, with Wainfleet providing the highest figure at 3726 pence.

This settlement pattern is retained into the sixteenth century (Figure 9.14). The pattern sees very few settlements within the Outmarsh, with a more general dispersed settlement pattern over the region as a whole. The population figures reveal an apparent decline at Wainfleet; however, this is mainly due to a lack of records. On the whole, the Outmarsh maintains its dominance with an increase in population at Burgh le Marsh suggesting a move from the coast back to the edge of the Middle Marsh. The amounts paid in 1524 also show the dominance of the Outmarsh settlements, and Burgh le Marsh. The calculation of pence paid per person suggests that the wealth of the Middle Marsh had been maintained in relation to its size of population.

9.7 Elements within the landscape

The second edition Ordnance Survey maps show a marked different between the Middle Marsh and Outmarsh in this zone, with drains clearly apparent in the Outmarsh (Figure 9.15).

9.7.1 Lines of communication

Although a Roman road ran to Burgh le Marsh, which continued to be important into the Middle Ages, the line of the road is abandoned for a route slightly further south. From Burgh le Marsh a number of roads radiate across the Outmarsh. To the south of the zone, the River Steeping provides an important link inland. The inland stretch of the River Steeping, known as the River Lymn, was re-directed to help with the scouring of Wainfleet Haven, with the first mention of 'the new Lymn' being in the late twelfth century (Owen 1996). A road follows the line of the edge of later reclamation along the coast, linking Wainfleet and Skegness.

9.7.2 Field systems and drainage

In general Domesday records an equal distribution of less and more ploughs than ploughland across the zone. The Outmarsh records less 'land for x ploughs' and less ploughs than the Middle Marsh except at Wainfleet and Addlethorpe. Less 'land for x ploughs' than ploughs is indicative of dispersed settlement (Higham 1990). The calculation for 'land for x ploughs' per carucate produces a very even spread through the region of values of one, suggesting that the carucate still represented the old value of ploughland upon which it was suggested to be based (Harvey 1985). Meadow is recorded at most vills, with the largest quantities in the Outmarsh. The only woodland recorded in this zone is underwood at Wainfleet, which is an amalgamated record and includes vills in the Middle Marsh. Waste is recorded at Wainfleet and Addlethorpe, but other records for these vills show that it is only a small part of the vill. Candlesby recorded marsh, and this probably represents the fact that this vill is recording separate portions of the manor nearer the coast, which provided access to marsh.

There is a clear distinction on the second edition Ordnance Survey maps between the Middle Marsh with field boundaries and the Outmarsh where the majority of the fields are shown as having drains as their boundaries. A large area to the south of the

zone shows evidence of late reclamation with larger fields than are seen in other areas. A mixture of types of field systems appears to have operated in this zone (Figure 9.16). Two-, three- and four-field systems are apparent in the Middle Marsh but unfortunately there is no data as to the systems in operation in the Outmarsh. One record for the maintenance of a drain that runs through Burgh le Marsh, Winthorpe and other settlements, written in 1482, divides up all the landholders' land between the north common, south common and high town, suggesting a three-field system arrangement in this area (Owen 1996). In the majority of the region, the fields appear to be of similar sizes.

A large number of the field boundaries form straight drainage systems across the Outmarsh and there is evidence for the modification of the drainage pattern to aid with water removal. The fact that in many cases these drains were ineffective can be seen in 1665, as the parishioners of Addlethorpe and Ingoldmells asked permission to be able to reduce the size of their churches. This request was made because the population of the parish had reduced due to flooding, and as a consequence the remaining parishioners were unable to maintain the structure (Owen 1952). Repairs to existing banks, and the construction of new ones, were requested at Skegness in 1560 and Winthorpe in 1570 (Owen 1963). A document of the late fifteenth/early sixteenth century records the division of responsibility between those villages called 'frontagers' and those called 'levy towns' (Owen 1996). A distinction is made between settlements which are simply in danger from the sea, such as Croft, and those that are in very great danger from the sea, such as Ingoldmells and Skegness (Owen 1996).

From Skegness to Wainfleet, much of the land to the south-east of the main road linking the two settlements has been reclaimed in recent centuries. It would appear that little land was reclaimed prior to this, and this may well indicate difference uses of the marshes than as agricultural land. A map of Croft from 1818 shows marsh and creeks to the south-east of this road (Lincolnshire Archives 3LRA9/8), and just to the south at Wainfleet, a map of 1838 notes the 'new bank' which is only a couple of fields in front of the road (Lincolnshire Archives B221), and still set back from the present location of the sea bank at this location.

9.7.3 Settlement

The late nineteenth century settlement reveals villages on the Middle Marsh and at a number of key locations on the Outmarsh. Despite this, the general character of the area shows dispersed farmsteads over most of the Outmarsh (Figure 9.17).

9.7.4 Salt production

There is extensive evidence for salt production in the Iron Age and Roman periods in the area of Ingoldmells and Addlethorpe (Figure 9.18). Many sites are in fact devoid of any dating material associated with the waste materials of salt production, and as such are often arbitrarily classed as Iron Age, Iron Age/Roman or Roman (Kirkham 2001).

Around Ingoldmells and Addlethorpe, although the dating is very crude due to the absence of associated pottery, it is possible to see that the earlier sites, dated to the Iron Age, are located further east than those dated to the Roman period (Figure 9.19). This apparent move inland may be due to gradual marine incursion in the Late Iron Age. Later in the Roman period it is suggested that a major inundation put an end to salt production in the area, and that up to 2 m of alluvium was deposited over the salterns (Thomas and Fletcher 2001). A number of anomalous sites further inland may represent transportation of briquetage with the finished product (salt), rather than actual salt-making activity.

The concentration of salterns within this area may indicate that at this location the saltmarsh creeks and tidal systems were the best disposed to salt production. This concentration may also indicate some organised control of salt manufacture in the Roman period, although this would not explain the earlier Iron Age concentration. The earlier concentration may be due to a number of factors, but it must primarily have been due to the availability of suitable production areas.

There is little evidence for any continuation of the industry into the Saxon period, but by the time of Domesday a number of salterns are recorded at Wainfleet. These may also belong to Theddlethorpe and Mablethorpe, in Zone Two, as they are recorded under an amalgamated entry. In the south of the zone there is evidence for Medieval salt production at Wainfleet St Mary (Figure 9.20). The techniques used in

this industry appear to differ from those in Zone One, resulting in smaller, elongated mounds (McAvoy 1994). A small strip of land is therefore reclaimed in this manner, but it is not the same width as seen to the north.

9.7.5 Historic landscape character

The majority of this zone is characterised by an irregular pattern, although there are areas of the Outmarsh which provide a more regular appearance (Figure 9.21). To the very south-west of the zone, the area has a very regular appearance of reclamation from the Fenland edge, which is continued further south into the Fenland embayment. Within the central northern area of the Outmarsh, an area of regular blocks and intermediate strips is present, representing a degree of control in this area. This element is not seen through the rest of the zone as a whole. In the south of the zone, two areas of more recent development are present, with the first phase of this reclamation visible as regular blocks, followed by an irregular zone which is disrupted by the creeks which run across the area.

Hence the distinctive characteristics of this region can be split into a number of groups. The field pattern belies an origin in drainage. Small field units are utilised to aid drainage towards the coast (Figure 9.22). Settlement is concentrated on the Middle Marsh and on the sand spit upon which Wainfleet develops (Figure 9.23). Much of the Outmarsh is then exploited from these centres (Figure 9.24). The resulting road system of the area is a number of roads radiating from the centre at Burgh out towards the coast. The cultural context of the region also reinforces this pattern, as unlike other regions which see extensive settlement development in the Outmarsh, this zone is mainly exploited from the dry land.

9.8 Landscape evolution

The parish structure of the zone shows a number of large parishes on the Outmarsh, signifying highly concentrated settlement, with access to resources over a wide area. Prehistoric activity is dotted through the region, highlighting activity on the coast, and along the route of the River Steeping. This suggests the exploitation of a number of the resources, such as fish and waterfowl, as well as other mammals, within this zone (Figure 9.25: A). The majority of this evidence is for settlement and exploitation rather than burial.

The northern part of this zone shows heavy exploitation of salt during the Iron Age and Roman period, and the large settlement at Burgh le Marsh may have played an important part in this industry (Figure 9.25: B). Elsewhere Roman activity is also indicated in other areas of the Outmarsh. Subsequently, the Saxon evidence contracts to two main centres, at Burgh and Wainfleet, perhaps reflecting the worsening conditions in the area in this period. The place-name evidence indicates the expansion of settlement in the Middle Marsh during the Late Saxon period (Figure 9.25: C). This continues into the Medieval period, but many of these settlements become deserted, with those that survive being located either on the coast or along the River Steeping (Figure 9.25: D).

Sea banks are noted for the north of the zone down to Skegness, which was the end of the stretch of coast that was highly erosive. However, these banks were ineffective for most of the Medieval period. Areas of coast and inner Outmarsh show signs of controlled and planned reclamation, whereas, much of the rest of the region shows that this was undertaken in a more haphazard manner.

To return to the model of coastal wetland use proposed by Rippon (2000) (see Chapter 1), the evidence from this zone would suggest the following strategies for the use of the area from Orby to Wainfleet: minor exploitation (early prehistory) → major exploitation (possible modification) (later prehistory and Roman period) → minor exploitation (Saxon period) → transformation (modification) (Medieval period). The zone adopts a range of exploitation strategies, until the Medieval period. This is a similar pattern to that suggested for the other three zones. In the Medieval period, the first evidence for transformation is apparent, although this is late in date.

9.9 Summary

Early prehistoric activity is confined to discrete areas; these people may have undertaken wider exploitation of the zone as a whole, but the evidence is sparse. In the Iron Age there is a massive expansion in exploitation of the northern part of the zone with intensive salt production, though the settlement evidence associated with this industry has not been established. This exploitation continues into the Roman period, with infrastructure added and a major settlement established at Burgh le Marsh, perhaps to oversee this industry.

Saxon evidence is sparse, but there is evidence for a possible settlement at Burgh le Marsh. The remaining archaeological and place-name evidence indicates late colonisation of this zone, and by the end of the Saxon period a large portion of the Outmarsh was still to be settled. Settlement expands slightly into the Outmarsh, however, not to any great extent, leaving a more dispersed settlement pattern than is seen elsewhere in the Lincolnshire Marsh. Several settlements, in all physical regions, become deserted over the Medieval period. The Domesday Book records high populations in the centres of Wainfleet and Addlethorpe in the Outmarsh and these maintain their importance into the fourteenth century. A lack of records in the sixteenth century, for some of the settlements, causes problems. However, the continued importance of Burgh le Marsh on the edge of the Middle Marsh is apparent.

To return to the aims of this thesis (see Chapter 1, section 1.6), a model of landscape evolution and settlement development for this zone has been developed (Figure 9.25, section 9.8). The relationship of this development with the salt industry is clearly apparent in the Iron Age and Roman periods. The development of a major settlement at Burgh le Marsh appears to be intrinsically linked with this industry. For much of the zone, the Medieval salt industry plays a small part, but to the south of the zone, the industry develops and flourishes. The nature of human-landscape interaction has also been investigated, and a number of different regimes postulated. The Bronze Age evidence for reactions to rising sea-levels, recorded in Zones One to Three, are not apparent in this zone. However, the need to keep the sea at bay can be seen in the attempts at the development of sea defence in later periods.

9.10 Summary of all four zones

This chapter, and the previous three chapters, have all explored the regional differences apparent in the development of the Lincolnshire Marsh. They have shown that although this landscape may form a coherent region, a number of different factors have resulted in different developments of the settlement and landscape across the region. The four zones have been discussed, and a four-stage model has been developed for each zone, which outlines the methods of landuse and evolution. In all four zones this began with the simple exploitation of the region of the Outmarsh when possible, as the earlier prehistoric periods see an ever-changing

relationship between dry land and wetland. The three northernmost zones react to these dynamic conditions with the specific placement of burial activity in and at the edges of this boundary. Within the third zone, there is a large quantity of evidence to support the notion that this exploitation may have been on a large-scale. By contrast, the evidence in the other three zones reflects a minor level of exploitation.

In the Iron Age and Roman periods major exploitation occurs in all four zones, with particular evidence for salt exploitation in the southern two zones. That the settlement at Burgh le Marsh may have played an important role in this industry has been highlighted, and there may have been a degree of modification associated with the industry if a centralised control was in place. However, evidence for this has, so far, not been uncovered. In the northernmost two zones, although evidence for salt-working is absent, a number of the settlement sites suggest that the area was being settled and farmed in this period.

A Late Roman inundation is evidenced at a small number of sites in the region, and as a consequence, much of the Outmarsh became abandoned. Despite this, Zone Three may have a continuation of settlement on the islands within the Outmarsh. By the Saxon period, settlements in all regions develop in the Middle Marsh, with place-name evidence indicating that Zone Two contains a number of the earliest settlements. The archaeological evidence suggested that many areas of Early and Middle Saxon settlement are located under current villages.

There is a general Late Saxon colonisation of much of the Outmarsh. Some of this may have begun as seasonal settlements, developing from those located on the Middle Marsh; others may have been the completely new settlements of an expanding population into the region. Many of these settlements grow in size and actually become more important than those on the Wolds edge and in the Middle Marsh.

The Medieval pattern of landscape evolution is varied through all four zones. In the north, salt production was very important and a large area of the zone was eventually accidentally modified by the waste products of this industry. In Zone Two there is evidence from the historic landscape of a more organised approach to modification

of the landscape; a field system and drainage system based on strip agriculture can be seen in the small narrow fields, surrounded by drains, which are still present in the landscape. Here there is a division of the modification strategy into two parts – accidental and intentional. Accidental in the sense that a by-product of the salt industry resulted in the modification of the landscape, intentional in the sense that the intended outcome was a modified landscape. In Zone Three much of the landscape would appear to be an old development, with its origins dating back into the Middle Saxon period, if not earlier. Modification at the coast was attempted in order to maintain settlement along this line, with the construction of sea banks. These banks remained ineffective in preventing inundation. Finally Zone Four shows areas of landscape which have been purposefully transformed, especially to the south-west of Wainfleet, but much of this dates to more recent times.

The conclusions that have been drawn in this, and the previous three chapters will now be considered in detail. Chapter 10 will explore the models put forward for the Lincolnshire Marsh. Chapter 11 will then place these models in a wider context and discuss how the Lincolnshire Marsh compares and contrasts with other coastal zones in Britain and north-west Europe. Finally, Chapter 12 will provide the overall conclusions of this work and propose future lines of enquiry.

Part 4

Discussion and Conclusions

Chapter 10

Landscape evolution of the Lincolnshire Marsh

10.1 Introduction

> 'It is often assumed that the normal state for a landscape, as indeed for society in generally, is a stable one which is more or less constant....It can be argued, however, that in fact the normal state for landscapes is one of constant change, and in particular change at many different levels and at many different rates' (Darvill 1997: 75).

The previous five chapters have explored a wide range of evidence for past activity within the Lincolnshire Marsh. This activity dates from the Mesolithic through to the sixteenth century AD. Chapter 5 reviewed the evidence for the region as a whole, and it highlighted the fact that the ways in which the region has been utilised in the past varies through space and time. The dynamic nature of the coastal changes which have affected this area have resulted in issues over interpretation and the visibility of the earlier record. Although it is very physically difficult to see any of the earliest archaeological periods within the current landscape due to the nature of sedimentation processes, the available archaeological and environmental evidence has provided numerous insights into the ways in which the region was exploited.

Four developmental zones have been proposed for the area. In general, whilst they may show a similar pattern of early development, differences are seen in the way the zones were utilised in later periods, especially in the post-Roman periods. Chapters 6 to 9 have reviewed the evidence for each of these zones in turn and models of landscape exploitation for each zone have been proposed (see sections 6.8, 7.8, 8.8, and 9.8). This chapter will provide an overview of the region as a whole, and will outline the landscape evolution and human-landscape interactions in the Lincolnshire Marsh (sections 10.2-10.5). The role of the salt industry will also be evaluated in detail (section 10.6). Finally, this chapter will provide a character description of the Lincolnshire Marsh (section 10.7). The first two aims of this thesis– to build a model of landscape change, and to evaluate the nature of human-landscape interaction – will therefore be concluded in this chapter. The third aim – placing the region within a national and European context – will be explored in Chapter 11. Chapter 12 will

conclude the work and propose further research themes and methodologies – the final aim of this thesis.

The consideration of the ways in which the region has developed has been based upon the key concepts of Rippon's (2000) model: exploitation, modification and transformation (see Chapter 1, Figure 1.4). A sequence of the use of the Lincolnshire Marsh, from earlier prehistory through to the Medieval period, has been proposed for each of the development zones (Chapters 6-9). These discussions have shown that there is very little evidence for full-scale transformation in any of the four developmental zones identified, at least until the late sixteenth/early seventeenth century. Any transformation that has been identified prior to this time is through the purposeful reclamation of particular areas, but not whole zones.

Over time, fluctuations in exploitation and modification appear to have taken place in the four zones, with these varying in intensity and extent. It has been shown that there are two types of modification – accidental and intentional, a refinement of Rippon's model. To re-cap, the development patterns for the four zones are given in Table 10.1 below.

	Early prehistory	**Later prehistory/ Roman**	**Saxon**	**Medieval**
Zone One	Minor exploitation	Major exploitation	Minor exploitation	Accidental modification
Zone Two	Minor exploitation	Major exploitation	Major exploitation	Intentional modification
Zone Three	Major exploitation	Major exploitation	Major exploitation	Modification (transformation)
Zone Four	Minor exploitation	Major exploitation (possible modification)	Minor exploitation	Transformation (modification)

Table 10.1: Development patterns of the four zones of the Lincolnshire Marsh

The differing exploitation strategies and their consequences in terms of landscape development are evaluated below for the whole of the Lincolnshire Marsh.

10.2 Prehistoric exploitation

As noted above, the previous five chapters have explored the available evidence for the prehistoric and historic exploitation of the Lincolnshire Marsh. It is apparent from this evidence that, due to the depositional history of the region, the resulting picture of human-landscape interaction is biased towards later periods. However, from the evidence that has been generated, it is clear that the region has been exploited in a number of different ways in the earlier prehistoric periods.

The earliest evidence for activity is primarily Mesolithic in date. At this point in time the eastern margins of the Lincolnshire Marsh were gradually forming as the land-bridge to Europe was becoming inundated as sea-levels rose (Coles 1998, Ward *et al.* 2006). The undulating till landscape that was left after the ice retreated was comprised of a number of isolated hollows that may have contained water; these could have been one focus of hunter-gatherer activity in the region. However, the evidence for the existence of small meres has only been confirmed at Aby Grange and Butterbump (Suggate and West 1959, Greig 1982). Mesolithic finds have also been recovered from locations close to the rivers that cross the region, suggesting a focus of activity near the wetlands, although the bias of later sedimentation may be affecting this distribution pattern (see Figure 5.3). This distribution highlights a similar pattern to that established for other areas of the Humber Wetlands (Van de Noort 2004).

The available palaeoenvironmental evidence suggests that the developing early Holocene woodlands contained a variety of different species of trees, and that a varied understorey was available for exploitation by hunter-gatherer groups (Wilkinson *et al.* 1997). It is clear that there would have been a range of environments in which the Mesolithic hunter-gatherers could have operated, and that their activity was not solely concentrated on the lowland areas. Evidence from Burgh le Marsh has provided the firmest evidence yet for a temporary settlement for this period (Malone 2001). However, the small amount of evidence that was retrieved, and the trial trenching conditions under which it was obtained, paints only a faint,

although tantalising, picture of Mesolithic activities (see section 9.3). The Mesolithic evidence suggests that hunting and gathering was undertaken in certain areas, particularly areas of wetland, which have a wide range of resources that have been shown to be attractive to foraging peoples (Nicholas 2006a, 2006b). No evidence for activity/occupation sites of more 'permanent' duration, as evidenced by Star Carr in the Vale of Pickering, has been forthcoming from the region.

The Neolithic evidence would suggest that activity during this period was extensive throughout the region, with a focus on burial occurring on the Wolds (see Figure 5.4). The relatively large number of axes which have been recovered from the Marsh, show that this area was not culturally isolated. The region had access to the products of a range of other regions in Britain, including the Lake District, Cornwall and Northern Ireland. The numbers of more 'exotic' imports (Cornwall and Ireland), indicate that the region had the same access to these resources, as neighbouring areas. The Marsh was clearly not marginalised, it was fully integrated into the trade or exchange networks that were being used to distribute a range of objects throughout Neolithic Britain.

The environmental evidence from the region suggests that clearance of woodlands may have been very localised. Certain areas were being cleared, while others were not being heavily exploited. For instance, there is very little evidence of clearance from the kettle hole at Butterbump in the Middle Marsh (Greig 1982), whereas evidence from Vickers Point suggests that discrete areas in the vicinity of the coast were cleared, with cereal pollen in evidence (Hunt *et al.* 1990). These clearances were occurring in areas of woodland, suggesting that clearance was piecemeal in the region (Hunt *et al.* 1990). This reflects the pattern of piecemeal clearance seen in the Early Neolithic in other parts of the country (Whittle 1999). The environmental evidence associated with the Giants' Hills 2 long barrow supports the suggestion that clearance and agricultural activity in this period were not continuous. These data indicate initial clearance, which is followed by grassland and woodland regeneration, a situation that is in evidence elsewhere in Britain at this time (Evans and O'Connor 1999).

The focus of Neolithic burial activity at the southern end of the Wolds highlights the fact that the landscape of the Lincolnshire Marsh was being settled and that monuments were being constructed to commemorate the dead. Although physical evidence for this settlement is extremely limited, the people who constructed these monuments, and used the variety of axe finds from the region, must have occupied the area. However, the evidence for woodland regeneration, not long after the construction of the mounds at Giants' Hills, would suggest that the importance of these monuments as visible aspects of the landscape was not long lived, or that their role altered with changing socio-political articulations of power and landownership (Evans and O'Connor 1999, Whittle 1999).

Evidence for major vegetation changes along the present coastline highlights the fact that the woodland cover that existed in the Neolithic, at the eastern edge of the Outmarsh, was destroyed by rising sea-levels (Hunt *et al.* 1990, Clapham 1999, Schofield 2001). The fluctuations in human activity during the Neolithic, represented in the environmental evidence from the Wolds, may well be indicating times at which the Wolds were 'abandoned', as it was possible to settle on the Middle Marsh and the western parts of the Outmarsh. This would suggest that during the Neolithic, the entire Outmarsh was not inundated.

Evidence for human activity throughout the region increases during the Bronze Age, with expanded finds distribution; in addition concentrations of activity are found along streams and isolated wetlands (see Figure 5.8). An identifiable ritualisation of the region's wetlands becomes apparent in the Bronze Age. Round barrows appear across the region, mainly on the edges of the streams, but these are also located close to other areas of wetland, such as at Butterbump (see Figure 5.10). This coincides with the creation of the 'Outmarsh', as until this period, the landscape of the Lincolnshire Marsh was characterised by the Post-glacial undulating till surface. The environmental evidence from this period suggests that the maximum extent of alluvial deposits over the Lincolnshire Marsh was reached, forming the flat Outmarsh (Aram *et al.* 1993, Robinson 1993, Schofield 2001). The location of the Bronze Age barrows may represent a reaction to this flooding of the Outmarsh. The barrows mainly cluster along the edge of the wetlands, but they also cluster in

groups, suggesting that settlements and/or society in this period were becoming more territorial, with barrow 'cemeteries' developing.

Van de Noort (2001) has previously argued that during the Bronze Age there was a dichotomy between the ways in which wetlands were viewed by society; with estuarine contexts, such as the Humber Estuary, being viewed as 'living' landscapes, while mires and river floodplains were associated with the 'dead'. This would probably place the Lincolnshire Marsh in the latter group. However, whilst at first sight this interpretation may seem credible for the Marsh, the lack of settlement evidence and the predominance of the survival of round barrows may be concealing the true pattern. The distribution of lithic scatters, of Neolithic and Bronze Age date, often occurs close to the barrows (see Figure 5.8), and there does not appear to be a clear delimitation of burial and occupation activity; it is apparent that a landscape comprising both the 'living' and the 'dead' occurs within the same physical space. The evidence suggests that the position of barrows may be indicating their deliberate placement at the interface of changing landscapes – areas of fluctuating wetland environments – and not in different 'conceptual' landscapes of the 'living' or the 'dead'.

The Late Bronze Age is the first time that there is a clear indication of the exploitation of the salt resources of the area, as attested by the discoveries from Tetney (Palmer-Brown 1993). The nature of this site is such that it would not indicate that this was a specialised activity at this time; the utilisation of a natural pool with only crudely fashioned supports suggests a broad section of the population would have had unimpeded access to the resources required (see section 2.4.8). As such, it therefore should be anticipated that other areas along the Lincolnshire coast have the potential to reveal evidence of similar activity of Bronze Age date that has yet to be recovered.

As noted above, very few features associated with prehistoric activity remain visible in the landscape today. The few examples that do exist are limited to upstanding burial mounds (such as Giants' Hills and Butterbump), and the line of Barton Street, which is probably the oldest man-made feature in the landscape. It should be

considered a possibility that a number of the other communication routes identified in the region also have a date that is earlier than the Roman date attributed to them.

10.3 Iron Age and Roman exploitation

Evidence for Iron Age occupation and exploitation of the areas studied is mainly confined to salt-working, and enclosure sites that have been identified through aerial photography (see Figure 5.11). The enclosures that have been identified suggest small farmsteads, with farmers cultivating the immediate area. However, the lack of excavated examples in the region has resulted in a dearth of evidence for the actual agricultural regimes of these farmsteads (see section 5.3.2). As with the Bronze Age, there are a number of coastal changes which would have affected the region. In certain areas a Late Bronze Age/Early Iron Age marine transgression has been identified. After a period of more stable conditions, this is followed by the Late Roman inundation (see Chapter 2).

The evidence for salt production is concentrated in the south of the region, suggesting that this area was the most suitable for the methods of production being employed at the time (see section 2.4.8). However, it should be noted that any saltern sites in the north of the region would now be buried under later alluviation and saltern debris.

It has been suggested that Lindsey was a separate kingdom in the Iron Age, whose liminal boundary on the Witham was marked by the votive deposits at Fiskerton (Field and Parker Pearson 2003). If this is the case, then the area currently under study seems to be at the very edge of this kingdom, with only limited growth in the settlement hierarchy that is seen elsewhere in the area. This settlement includes the large site at Dragonby, which has been classed as an oppida, and a hierarchy of further settlements sites (May 1993b). If Lindsey was indeed this separate 'island' kingdom, then the concentration of the salt industry may suggest a more controlled industry as part of the wider resources of this kingdom.

The Iron Age occupation of the region would appear to provide a framework for subsequent Roman settlement. Roman activity in the region is extensive (see Figure 5.14). A road network is apparent, but, as indicated above, the degree to which this

may be reflecting an earlier road system is not clear (see Figure 5.13). The main routes would suggest that activity was undertaken in all areas of the Marsh and that access to the Wolds, Middle Marsh and Outmarsh was equally important. Salt production is again in evidence in the south of the region, continuing in the areas of the Iron Age production. The extent to which any salt production occurred in the north remains unclear.

The settlement evidence in the two northern zones of the Marsh shows a variety of scales of activity, from simple pottery scatters suggesting small low status farmsteads (such as at Great Carlton), to sites with evidence for Romanised buildings (such as at Marshchapel), and higher status sites with evidence of imported Continental pottery and trade contacts (Saltfleetby St Peter and North Coates) (see sections 6.4 and 7.4). The fact that none of the settlement sites of this period have been excavated results in only a limited understanding of the way in which the region was settled and exploited. From the distribution of pottery scatters and casual finds it would appear that the intensity of the exploitation varied between zones.

During this period the coastline was not subjected to the same sets of coastal processes along its entire length. This can be illustrated by the Roman sites that have been dated (see Figure 5.15). In general, the earliest sites are primarily found in the southern two thirds of the region, especially on the till islands. Settlement then appears to develop further out into the Marsh, but a retreat is indicated by the fourth century, with sites being situated further inland. However, sites of fourth century date are found on the current coast to the south of the region. These may well indicate discrete areas that were suitable for settlement in the fourth century. Without clearly stratified finds and excavation at a number of these sites, the exact pattern of Roman settlement remains elusive, and is clearly not fully understood.

The Late Roman inundation that has been identified in many areas of Britain is evidenced at a small number of sites in the Lincolnshire Marsh. This has masked the evidence for salt production sites in the area. The fact that it has effectively masked these features could possibly indicate that any associated field systems would also have vanished from the landscape. As a consequence, there is only limited evidence for the continuation of features in the landscape from the Roman period. The roads

are a prime example of features that do survive, but the information that these provide in relation to landscape development in the Roman period is somewhat limited.

10.4 Saxon colonisation

The Late Roman inundation resulted in a partial retreat from certain areas of the Outmarsh (see Figure 5.21). However, the lack of evidence does not necessarily mean that a full-scale abandonment can be postulated. The evidence from the Fenland Survey also suggests a Late Roman abandonment, to the south of the current study region at Wrangle, as no activity is apparent from the Late Roman through to the Late Saxon periods (Lane 1993). The southernmost of the zones identified within the Lincolnshire Marsh, closest to Wrangle, suggests a similar pattern, but to the north the pattern of activity is more complex.

In some areas evidence is starting to emerge for Early and Middle Saxon settlement, indicating that in these areas, any inundation had little effect on continued occupation. This is primarily apparent from the settlements that are located on the till and gravel outcrops in the Outmarsh, and in the Middle Marsh. The evidence that has been revealed suggests that there is a long continuity of settlement in these areas, and that the areas that have the potential to reveal Saxon occupation are those that are still settlements today. However, this pattern may also be due to a bias in fieldwork, as much of the work carried out is a direct result of modern development, which is also concentrated in areas of modern occupation. Nevertheless, the patterns would appear to suggest that Medieval settlements overlie the earlier evidence. To date, no site in the alluvial Outmarsh has shown continued activity from the Roman period through to the Early and Middle Saxon periods. However, this may also be due to the visibility of the evidence from these periods.

The number of 'productive sites' that have been identified may suggest that there are a number of trading centres in the area during the Early and Middle Saxon periods. The site of 'near Skegness' is the most enigmatic, and may represent some form of coastal trading site (see section 5.4.1). The evidence from fragmentary funerary monuments suggests that a social elite had developed in the area and that many early churches and cemeteries existed across the region.

An expansion of settlement into the Outmarsh occurs throughout most of the region in the Late Saxon period (see Figure 5.23). Whether this is due to an increasing population of new immigrants cannot be established from the archaeological data currently available. The place-name evidence reveals that many of the settlements within the region were named during the period of Scandinavian influence (see Figure 5.25). The finds which are appearing from Lincolnshire as a whole would suggest that a Scandinavian population was living in the area. Many of these settlement names are *–by* types, but there are a number of *–thorp*s which suggest potential secondary settlements from the initial *–by* developments. The concentration of these names is found in the southern half of the region, suggesting that this is the real area of settlement expansion in the Late Saxon period. To the north there appears to be a greater antiquity of settlement, with more Old English place-names in evidence (see Figure 5.24).

With little structural evidence concerning the nature of the Saxon settlement it is difficult to establish the extent to which the size and layout of the present villages is a reflection of this early settlement. The presence of churches in the areas of excavated settlement evidence, and the fact that they remain foci for the later Medieval developments, would suggest that these areas have maintained an important role in the settlement development of the region.

The evidence from the Domesday record for the Late Saxon landholding shows a large number of landholders whose manors were not consolidated blocks of land but could be parcels of land scattered throughout the area. This piecemeal landownership continues into the Medieval period, with many multi-manor vills recorded across the region.

A range of factors seems to promote an increase in settlement in the Outmarsh during the Saxon period: improved physical conditions; increases in population, including an immigrant element; and the exploitation of resources. This exploitation would have included the salt resources, but physical evidence for this activity is limited.

10.5 Medieval exploitation to modification

The Medieval development of the region is extensive. Documentation from Domesday onwards shows fluctuations in the fortunes of the different regions of the study area. A gradual predominance of the Outmarsh occurs at the expense of the Wolds edge and, on some occasions, the Middle Marsh. It is within this period that it becomes clear that there are a number of different development zones within the Marsh. These are apparent from the earlier archaeology, but become fixed within the landscape at this point in time.

In the north, the salt industry plays a key role in the development of the landscape, although this is an accidental by-product of the activity (see section 6.6). The northern area has intensive salt production, and a number of small havens to the south were acting as foci for the transport of this product further afield; there were also transportation links inland, along the Roman roads. Settlements in this zone developed along three lines as more land became available for exploitation. The easternmost line of these settlements most likely developed along the raised area of a former coastline, or sand deposits, and not on an early sea bank or saltern debris as has been suggested elsewhere (Hoskins 1955, Owen 1984).

The second zone sees more intentional modification of the landscape as a number of large havens develop along the coast (see section 7.6). These havens grow in size and importance, and the economic importance in this zone would appear to be from trade rather than the production of salt. The centres acted as an important link between two major industries – that of salt production and that of herring fishing. The need to maintain clear havens and provide support for these settlements, initiates the development of fields with drainage systems. This was not full-scale reclamation; the areas were already habitable, if a little prone to flooding. The offshore barrier provided protection to the north of the zone. When this failed, attempts at protection were undertaken, but these endeavours were hardly effective and cannot be seen as transformation (Owen 1975). Sediment accretion in the north of the zone caused problems in later years as continued silting reduced the capacity and viability of the havens.

These two zones have resulted in a refinement of Rippon's (2000) model of exploitation, modification and transformation. The modification category has now been divided into accidental and intentional (see sections 6.8 and 7.8).

The third zone suffered heavily from coastal erosion and attempts to ease the problem were never completely effective (see sections 8.6 and 8.7.2). These cannot be seen as true attempts at transformation. They were piecemeal endeavours by individual communities attempting to protect their, and their neighbours', land. Away from the coast, settlement was still concentrated on the till islands within the Outmarsh.

The final area, in the south, potentially exhibits an example of landscape development that is the closest example to full transformation seen in the Marsh (see section 9.7.2). The land to the south-east of Wainfleet is gradually reclaimed, although the majority of this occurred in later Post-Medieval time periods that have not been considered in this thesis. Settlement in this zone was concentrated in limited areas across the Outmarsh, with the remainder surviving on the Middle Marsh and the Wolds. The importance of Burgh le Marsh, which had been established in the Roman period, would seem to have continued. This location remained a focus for settlement and economic activity, until it was gradually superseded by the activity at Wainfleet. Later, more recent, development sees the expansion of holiday resorts across much of this zone.

The extent to which landowners played their part in the development of the region appears to be minimal. The evidence within Domesday suggests a relatively free population, and this may be indicating the relatively young age of the settlements in the region (see section 5.6.1.3). It also shows the fragmentary nature of the landholding. This continues into the nineteenth century with many of the parishes in the Outmarsh being classed as open parishes, that is multi-owner parishes, rather than a closed parish with a single owner (Bennett 1993). Although there are many monastic landowners present within the Marsh, there is little evidence for large-scale ownership of any particular area within the Lincolnshire Marsh by any religious house. The limited extent and scattered nature of much of their landholding has meant that the monastic houses generally contributed to the development of the

region, but they did not play a pivotal or leading role in that development. They were single landowners, in an area with a history of small-scale and dispersed landownership (see section 6.7.2).

Landscape change appears to have occurred on a small-scale, with individual and small community involvement, in limited areas. Who actually took the decision to reclaim is not apparent from any documentary evidence but must have been taken at different levels. On some occasions there is evidence of agreements between major landholders to protect areas, such as Barlings Abbey and William of Willoughby who agreed in 1263 to protect their holdings in Mumby, Hogsthorpe and Anderby (Owen 1996). That much of the actual physical work and cost of protection was probably passed onto tenants is apparent from leases including the requirement to maintain drainage such as one for land in Mablethorpe written in 1328 (Owen 1996).

The small-scale nature of many of the defensive measures alludes to a personal choice whether to protect your landholding. Records of grievances against tenants for not maintaining the drainage seem to suggest that not everyone viewed it as an essential part of survival (Owen 1996). That it was not one single landowner who commanded drainage and defence is also reflected in the communal responsibility, in certain areas, for coastal defence. There is no evidence for overall control along the whole coast, and the need for protection appears to be a community decision and undertaking.

It is apparent from the above discussion that due to a lack of archaeological work at the rich array of Medieval sites in the Marsh, it is the documentary and cartographic evidence that has provided the backbone to our understanding of the development of the region.

10.6 The role of the salt industry

The one resource that has been clearly exploited in the region since prehistoric times is salt. The evidence shows that by the Late Bronze Age salt processing was occurring in localised areas along the coast. The true extent of this activity is unknown, but the evidence from Tetney in the very north of the study region, and from Hogsthorpe (dated to the very Early Iron Age) towards the south of the region,

suggests that this activity may have been widespread. It is suggested that this was possibly a small-scale activity that may originally have been undertaken on a seasonal basis, from settlements in the near vicinity. This would have allowed for a mixed subsistence economy to be undertaken in the Late Bronze Age.

The available evidence does not suggest that earlier salt production occurred in the Neolithic and Early Bronze Age periods, although this should not be ruled out. The fluctuations of the coastal margins in these earlier periods, due to sea-level oscillations, may mean that any earlier sites are yet to be found, and that they may even lie beyond the current coastline. The influence of the salt industry in the prehistoric period has highlighted the presence and exploitation of the resource, although, many other factors no doubt affected the nature of settlement within the area. Salt should not be seen as the only reason for occupation, but perhaps it can be seen as a fortuitous bonus.

By the Iron Age a concentrated salt industry had developed in the south of the region (see section 5.3.3). Although other areas further to the north and south may have undertaken salt processing during this period, there is currently no evidence to support the idea that an industry developed on a similar scale to that in evidence in the Ingoldmells and Addlethorpe areas. Settlement sites associated with the industry have been hard to pinpoint, and a possible seasonal/semi-permanent industry may be inferred. Iron Age settlements have been located in certain areas of the study region, but these are mainly situated on the Middle Marsh. To the immediate north of the salt-working area, settlement is suggested on the till islands within the alluvium, and this may be a possible focus for settlement associated with this industry. If this is not the case, then it may be assumed that more distant settlements would have been undertaking this activity.

A continuation of the industry is evident in the Roman period, but further dating evidence is required in order to establish the exact nature of this continuity. The development of a substantial, although not verified, settlement at Burgh le Marsh may indicate some form of control of the industry. Elsewhere in the region there appears to be a focus on agricultural activity rather than salt production, but trade may also have been occurring along the coast.

The available dating evidence for salt production in the Lincolnshire Marsh suggests that this activity only continued into the Early Roman period. This decline has been noted for other areas of eastern and southern Britain. Rippon (2000) postulated a number of reasons for this decline: environmental changes; the development of a villa-owning class; technological change; reclamation for agriculture; increased competition; and a change to a state monopoly. Rippon (2000) dismisses environmental change, such as a marine transgression, as a prime factor in the decline of the salt industry nationally, as he concludes this would have been counteracted by the development of new salt-workings in other areas. In the Lincolnshire Marsh the evidence does show a movement of salt production inland from the Iron Age to the Roman period, and it may be possible to suggest that this was a reaction to rising sea-levels. That all the saltern mounds have also been covered by alluvium also indicates a marine transgression, but this may have occurred some time after the decline of the industry.

The suggestion that the villa-owning class may have caused a decline in salt production in certain areas cannot be supported in the Lincolnshire Marsh. The region is apparently devoid of such sites, and the social mechanisms which went with them. A technological change has been argued for by a number of authors (Rodwell 1979, Barford 1988, Bradley 1992), possibly relating to the use of less archaeologically visible methods, such as lead pans. However, Rippon (2000) argues that a change in technology would still produce evidence of activity, even if the significant quantities of briquetage were not in evidence, so a technological change is probably not a valid argument. In the Lincolnshire Marsh a small amount of pottery, dated to the third and fourth centuries AD, has been recovered from the area of known salt production. However, no evidence for salt production is indicated, and as noted above, changes in technology would still provide some form of archaeological evidence. The lack of a large quantity of later material provides evidence against any reclamation of the area for agriculture.

Competition from other salt producing areas is one possibility for a decline in Lincolnshire, with the inland brine springs in Cheshire being one centre of production (Rippon 2000). It has also been suggested that the state may have played a role in the industry in the Roman period, with a concentration of production in the

Brue Valley, Somerset. This location is on the trade route of Black Burnished ware from Dorset to the South Welsh military establishments (Rippon 2000). This concentration of the industry into a number of key, controllable, areas, may have seen the decline of the industry elsewhere (Rippon 2000). This could therefore be another reason for the decline in Lincolnshire, and if any earlier control of this industry were present, the most likely location for the centre would have been at Burgh le Marsh (see section 9.4). Any evidence for any small-scale continuation of the industry is currently absent.

Further work is needed at the sites along the coast, and it should be considered possible that the missing part of the jigsaw may have been washed out to sea. It would appear that the decline in salt production in the Lincolnshire Marsh was due to a combination of factors, including changing physical conditions and competition from inland sources. The one thing to note is that from the current archaeological evidence salt production during this period was an industry that was concentrated in the Ingoldmells area, and does not characterise the region as a whole.

The exploitation of the northern and southern parts of the zone by the Late Saxon period would suggest a shift in the focus of the salt industry. No salterns are recorded in Domesday from the parishes that contain the sites dated to the Iron Age/Roman industry (see Figure 5.52). A shift in the location of the industry may indicate a hiatus in salt production until the Late Saxon period. A suggested dramatic growth in the herring industry in England in the early eleventh century may indicate a possible impetus to increased salt-production by the time of Domesday (Barrett *et al.* 2004).

As only a single saltern from this period has been physically identified, discussion of the extent of the industry recorded within Domesday is limited. The two centres of Saxon salt production continue into the Medieval period, and as both of these areas are within the zone of accretion rather than erosion (where the previous concentration of sites was located) the evidence may suggest that changing methods of salt production have led to a change in location. However, the excavated Late Saxon saltern at Marshchapel would indicate a method of production more akin to the Roman, as opposed to Medieval, methods (see section 2.4.8). This activity did not result in the large mounds of the later period, and therefore did not play a major

role in the development of higher, drier ground suitable for settlement. However, it may have provided an impetus to the settlement of the area.

In the Medieval period, the salt industry played a vital role in the development of Zones One and Four, being most apparent in the north. Here the saltern mounds created were clearly used for agriculture once the industry moved further eastwards. Field boundaries were formed around individual mounds, creating an irregular shape. These fields would also appear to have become enclosed on creation rather than becoming part of any communal field system. In the south, the mounds are more difficult to distinguish and would appear to be smaller in size. The reclamation of much of this zone, although aided by the salt industry, was undertaken in a more controlled manner, thereby resulting in a regular field pattern. The size of the Medieval industry again reflects a close relationship with the large-scale herring industry off the coast.

As the above discussion suggests, the salt industry was clearly important in the development of the region. It provided an impetus to the exploitation of the Lincolnshire Marsh, but it was not practised evenly throughout the region. It was regionally specific in certain periods; some areas seem to have been little affected by salt production at particular times. It was no doubt one of the many resources available in this environment, that could be accessed by the general population, but its impact in the development of the region is spatially and temporally specific.

10.7 The character of the Lincolnshire Marsh

The character of the Lincolnshire Marsh is not uniform and cannot be categorised as a single landscape block. A number of factors have influenced the development of the region in different ways, resulting in different landscape evolution in four distinct zones. Within the concept of *pays*, landscapes can be considered as topographically or culturally similar areas (Rippon 2004a). Whilst on a broad-scale, viewing the whole of England, the Lincolnshire Marsh may be viewed as a single *pays* within the topographically distinct category of marshlands, on closer examination there are a number of smaller units and perhaps on a more local-scale the area should be defined as four separate *pays*.

There are two main zones of settlement patterns. To the north settlements have developed along three lines – at the foot of the Wolds, along the 10 m contour line and along a final line in the Outmarsh. In the south of the area, the pattern is much more irregular and dispersed. In the north there are a number of farmsteads and hamlets in between the lines of settlement, while in the south, hamlets and farmsteads are found throughout areas that have only a few nucleated settlements (see Figure 5.43). On the whole, the maps produced show that in many areas nucleated settlement was the norm, but dispersed hamlets and farmsteads filled any gaps. In all there are no areas without settlement.

The northern area maintains a strip parish pattern, with the newer settlements having partitioned a section of the strips. The only documentary evidence of this exists in Marshchapel and Fulstow, but the splitting of settlements and parishes into place-names with prefixes and suffixes alludes to similar situations elsewhere (see Figure 5.44). The parishes to the south have developed from settlement centres on the islands and Middle Marsh, forming a more radial pattern onto the Outmarsh.

The field systems associated with settlements appear to have been mainly two- or three-field systems, based around the central villages. In certain areas enclosure began early, before Parliamentary Enclosure. This early enclosure is possibly a result of reclamation activity and tenurial development, and should not be seen as a character of 'ancient' landscapes. Communal field systems dominate the Lincolnshire Marsh.

The general characteristics of the landscape which have been discussed in this thesis have shown areas of regular landscapes, particularly in the north, interspaced with areas of intermediate field and settlement patterns (see Figure 5.53, section 5.7). Irregular patterns dominate to the south. The regular systems to the north are often a construct of the regular road system, with the suggestion that there is a potential Roman origin to this system. This, along with the east-flowing streams from the Wolds, created regular blocks which were then subdivided along a regular pattern. Areas of irregular character within the northern zone are often a result of the piecemeal development of fields in association with the salt industry.

Zone Three, developed on the till and gravel islands within the Outmarsh, has a more organic pattern due to the radial system of roads and fields that developed around the settlements. The longer history of settlement at these sites, and the near lack of a rigid road system, resulted in more irregular blocks of land available to be subdivided into fields. The increased amount of woodland within this zone also led to a more piecemeal development of the landscape, resulting in the irregular pattern. Zone Four shows areas of more regular patterns, but these are often late (eighteenth and nineteenth century) in date. The large section of Outmarsh in this zone results in a large number of drainage features.

The Lincolnshire Marsh is often placed within the areas of 'planned' countryside (Chapter 1). This thesis has highlighted a number of the aspects that characterise these regions, for instance, open field systems based on nucleated systems with little woodland (Rackham 1986, Williamson 2003, Rippon 2004a). Many of the 'planned' countrysides are seen to have been transformed during Parliamentary Enclosure, but the nature of the reclamation and landownership in the Lincolnshire Marsh may suggest reasons for the appearance of earlier enclosure. That new land was created, for example from reclaimed salterns on the coast, allowed areas that were not part of the existing village field system to become enclosed and owned privately before Enclosure. This thesis has justified the placement of the Lincolnshire Marsh within the category of 'planned' landscapes (Chapter 1, section 1.2.4).

One recent study, which has unfortunately placed the Lincolnshire Marsh in an inappropriate category, is that of Roberts and Wrathmell (2000). The initial patterns of nucleated and dispersed settlement produced for this work were created from the Old Series Ordnance Survey maps of the mid-nineteenth century (Roberts and Wrathmell 2000). These patterns revealed few settlements in the Outmarsh, and hence this area was placed within the South-eastern Province, divorcing it from the majority of the Middle Marsh and the Wolds, which appeared in the Central Province. Roughly speaking, the Central Province has been equated with the 'planned' landscapes, and the South-eastern Province with the 'ancient' landscapes (see section 2.2).

The settlement analysis used within the current thesis has suggested a more nucleated settlement pattern. Many of these nucleated settlements have developed in linear form and as such they do not appear as such clearly defined concentrations. However, they actually do exist in such numbers that on a regional level the rather blank map of Roberts and Wrathmell (2000) is not an accurate representation. Although, it should perhaps be acknowledged that, as the work of Roberts and Wrathmell was undertaken as part of a national project, the local detail could not realistically be studied, a factor which clearly led to the misclassification of the Outmarsh.

The two sub-regions defined by Roberts and Wrathmell (2000), within which the region lies, are the Lincolnshire Scarplands and the Wash (see Figure 2.6). The Scarplands are characterised by a high concentration of villages, with communal field systems and a range of resources (Roberts and Wrathmell 2000). There is a low density of dispersed settlement. The settlements are often aligned along 'preferred settlement zones at scarpfoot, on scarp or at scarp tail' (Roberts and Wrathmell 2000: 49). There are also a large number of deserted villages. The Wash region as defined by Roberts and Wrathmell (2000: 40) is characterised by a drainage system 'largely into the Wash'. The region has a clearly defined settlement zone along the western boundary, and has late enclosure. The inclusion of the Lincolnshire Marsh with the Fenland is one of the key problems with many studies to date. Investigators have concentrated on the Fens, and these have often simply assumed a similar development along the coastal fringe of Lincolnshire, which is physically and economically, a very different region.

It has become clear throughout this thesis that the settlements in the Outmarsh often outperformed those on the drier areas, and that this region saw a gradual expansion of settlement for a number of reasons. Many of the characteristics that developed are the same as those on the Wolds and Middle Marsh. Settlement within the northern Outmarsh developed along preferred linear settlement zones, with those to the south also occupying preferred settlement zones on the higher till islands. The lack of consideration of the specific character of the Marsh, within the definition of the Wash zone, and the nature of the drainage to the North Sea, actually dictates that the Lincolnshire Marsh should be considered as part of the Scarplands sub-region; an

argument could be made for Zone Four of this thesis remaining within the Wash sub-province.

Therefore the Lincolnshire Marsh should really be considered as part of the Central Province rather than the South-eastern Province. It shares more similarities with the Lincolnshire Scarplands than the features of the Wash, and hence when placed within the 'tracts of settlement similarity' of Roberts and Wrathmell (2000: 8), it is clearly miss-assigned.

Another factor to be considered is whether the Lincolnshire Marsh was a marginal zone. It is physically at a margin, and subject to a range of changes over time, so it could be considered that people would avoid the area. However, the evidence presented in this thesis has shown that whenever conditions were suitable for habitation, the region was utilised.

The placing of Bronze Age barrows along the streams may be marking a reaction to changing sea-levels but the number of barrows and the amount of other evidence suggests that sea-level change was not a factor which completely discouraged settlement. It is apparent that certain resources must have maintained enough of an attraction to encourage exploitation. This continued into the Iron Age, when specialisation appears to develop within a concentrated zone of salt exploitation. This concentration continues into the Roman period, but also the number of settlements, as suggested from pottery evidence, indicates extensive activity throughout the region. This activity is not only restricted to the lower social classes, who may have been forced to use the only land available, but it actually shows a range of social statuses. The Late Roman inundation results in a number of areas becoming uninhabitable, but an explosion of settlements occurs in the Late Saxon period which may indicate new settlers attempting to find land to settle. The fact that this proves to be suitable land for habitation and exploitation is seen by the continuation of many of these settlements through into the Medieval period.

Although flooding causes damage, and a loss of land and buildings, during the Medieval period the settlements continue. Pleas are made for tax relief from payments but a wholesale depopulation of the region does not occur; settlement was

viable socially, economically and physically. It was a resource-rich zone e.g. salt, not a place of last resort. The area lies at the physical margin, but it was not economically and socially marginal.

10.8 Conclusions

Key elements of the settlement exploitation and development within the Lincolnshire Marsh region include:

- Bronze Age reactions to changing sea-levels which result in the placing of burial and potential ritual sites in 'safe' areas away from the coast, but where the effects of changes would have been noticeable i.e. along the stream edges. This is contiguous with a general increase in activity within the Middle Marsh and Outmarsh areas, including the first evidence of salt production.

- The concentration of Iron Age exploitation of salt in the south is possibly due to the nature of the coastal processes at this point.

- In the Roman period there is continued exploitation of salt in the south, and a general increase in exploitation of the rest of the region. The extent to which this involves salt production elsewhere is unknown. A possible major centre controlling salt production is established at Burgh le Marsh. A system of roads develops, particularly in the north of the region, thereby providing the framework for later development.

- After a marine inundation in the Late Roman period, much of the Outmarsh is abandoned, although settlement is maintained on islands within the till. Late Saxon colonisation has a major Scandinavian component. At some sites it is possible to suggest continuity from the Early Saxon period, and in fact, this may be even earlier (e.g. Holton Le Clay, Huttoft, Cumberworth).

- By the Medieval period, earlier regional differences are now clearly apparent in the development of the region. These are mainly signified by the economic

potential of each area, with salt being exploited in the north and south, with havens becoming important in Zone Two, and coastal erosion causing problems in the central area of the coast.

- In the Medieval period it is apparent that a distinction needs to be made concerning modification. It is clear from Zone One that the modification of the landscape was an accidental by-product of the exploitation of salt. In Zone Two it is clear that intentional modification occurred, where the drainage system of the zone was improved to aid settlement.

- The urge to transform the Lincolnshire coast was suppressed until the sixteenth century. Attempts at protection along the coast were minimal and rarely held the sea at bay.

Throughout the period of study, changes in the physical development of the coastline have affected the settlement, with on occasion, settlements being abandoned only to be resettled when conditions allowed. The settlements which were abandoned completely, tended to be those that were either washed out to sea or those whose economic livelihood was effected to such an extent that the population moved elsewhere.

As has been shown above, for the majority of the past, the Lincolnshire Marsh was exploited, with limited modification only really becoming apparent in the Medieval period. It is only in the latter parts of the later Medieval period that full-scale transformation occurs. For the region as a whole, the following model of development can be proposed, in line with Rippon's (2000) model: exploitation (early prehistory) → exploitation (later prehistory and Roman period) → exploitation (Saxon period) → modification (Medieval period). These processes occur at different intensities in the four development zones. The differences are partly explained by the varying physical conditions in each zone, but they also appear to have been affected by economic, social and political factors.

As the above discussion has established the generic development of the Lincolnshire Marsh, the following chapter will compare this development to other coastal zones in the UK, and north-west Europe, in order to assess the extent to which this can be compared and contrasted with the patterns suggested elsewhere.

Chapter 11

The Lincolnshire Marsh and coastal wetlands

11.1 Introduction

The previous chapter has developed a model for the evolution of the Lincolnshire Marsh in accordance with the first two aims of this thesis. This chapter will now explore the Lincolnshire Marsh in the context of the patterns of landscape development and utilisation in coastal areas of Britain and north-west Europe (Figures 11.1 and 11.2). For the Roman and Medieval periods, a comprehensive survey of coastal zones has already been undertaken by Rippon (2000), and this forms the basis for comparison. Within his work, Rippon has developed a number of different models of landscape utilisation for different periods, and the position within these models for the Lincolnshire Marsh has already been stated (see sections 10.1 and 10.8). The validity of this categorisation is assessed below. As the work of Rippon did not fully consider the pre-Iron Age periods, the work of key regional projects will be taken as a comparison.

In general, the pre-Bronze Age patterns for the Lincolnshire Marsh show limited evidence of human activity; however, the available evidence suggests that the region was being exploited for a number of its natural resources. As sea-levels rose into the Bronze Age, there was an increase in ritual activity at the edge of the wetlands. This ritual element will be the first to be investigated (section 11.2). Following this is a consideration of the evidence for Iron Age exploitation in coastal zones, which for the Lincolnshire Marsh is mainly evidenced in the form of salt production (section 11.3). The evidence for the range of strategies employed in the Roman period will then be explored, although the evidence for the Lincolnshire Marsh seems to indicate simple exploitation (section 11.4). The Late Roman inundation, subsequent abandonment, and then recolonisation of the wetlands of Europe will be explored, and the possible reasons behind the recolonisation are assessed (section 11.5). The assertion that the majority of the British coast shows evidence for transformation by the eleventh century (*cf.* Rippon 2000) will be investigated in light of the evidence from the Lincolnshire Marsh (section 11.6). Finally, the general development of

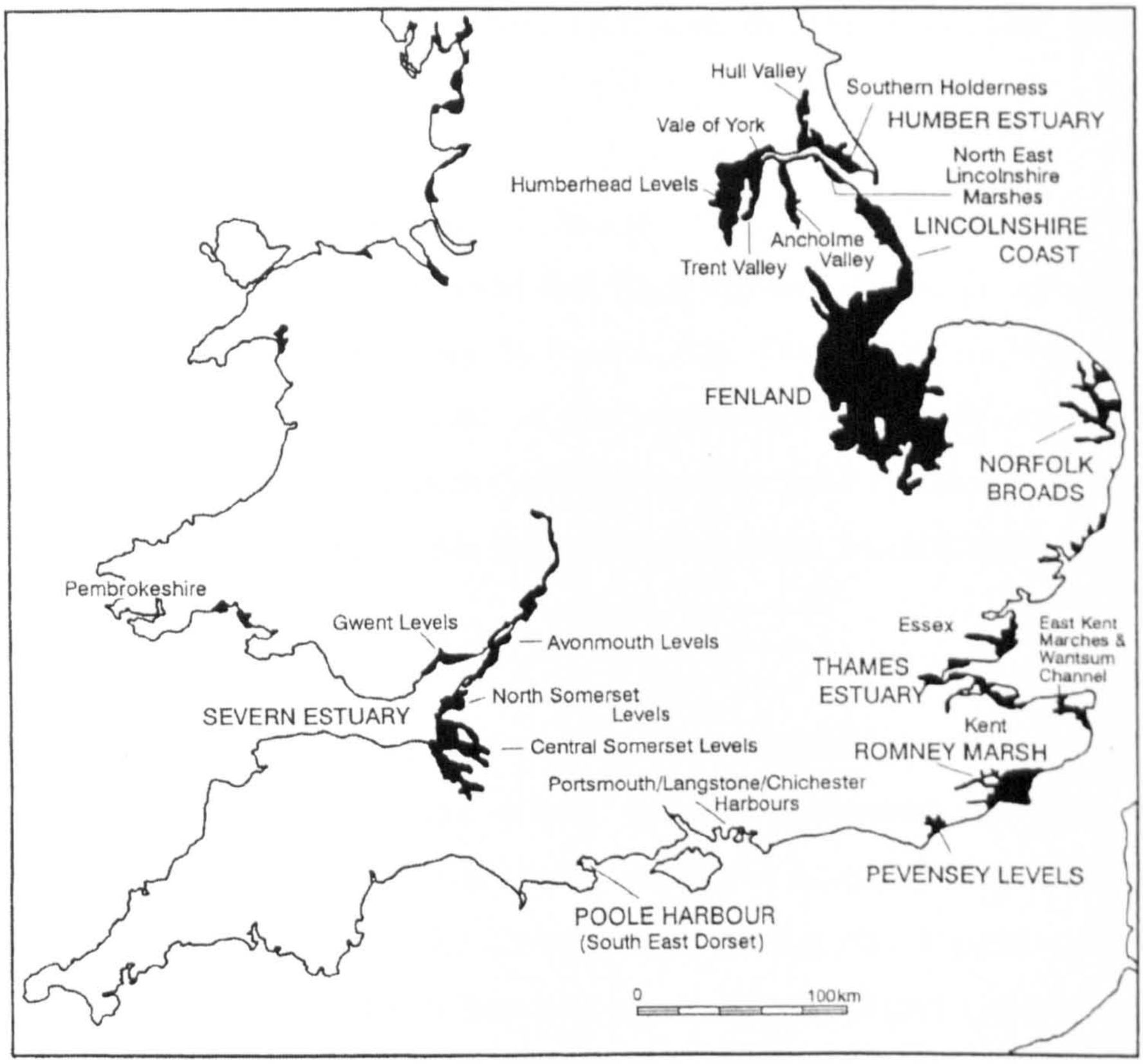


Figure 11.1: Coastal wetlands in Britain (Rippon 2000: 8, Figure 3)

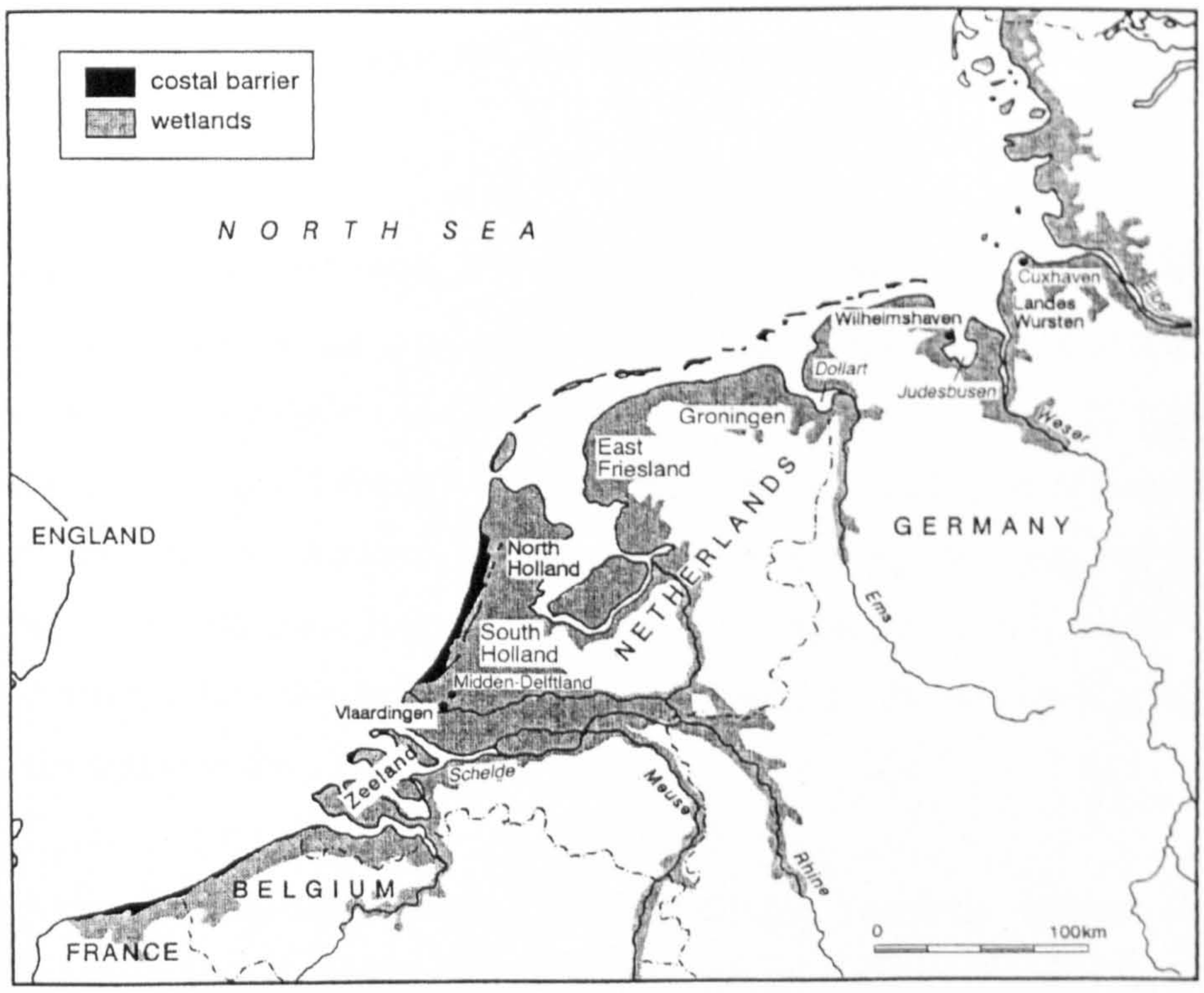


Figure 11.2: Coastal wetlands in north-west Europe (Rippon 2000: 9, Figure 4)

coastal zones will be reviewed (section 11.7) and an overall summary presented (section 11.8).

11.2 Bronze Age reactions to sea-level change

In the Lincolnshire Marsh it was noted that there was an increase of activity in the Middle Marsh and Outmarsh during the Bronze Age. This was not only apparent in general settlement terms, but also in the appearance of ritual activity, with concentrations of barrow cemeteries occurring on the edge of wetlands. It has been postulated above, that this activity may be a reaction to the fluctuations in sea-levels during this period.

The positioning of ritual monuments next to the wetland edge can be seen in the Fenland, beginning in the Neolithic period. A hengi-form monument excavated at Cat's Water, near Peterborough, was sited close to this boundary (Pryor 2001), and this placement continues into the Bronze Age. During the Fenland Survey in Cambridgeshire it was noted that barrow cemeteries were found concentrated 'on islands, peninsulas and especially at the debouchments of the major rivers into the Fen basin' (Hall 1988: 312). The barrows appeared to be positioned away from settlement areas, as many were not found in association with lithic material (Hall 1988).

Close to the Lincolnshire Marsh, a cluster of partly excavated barrows at Deeping St Nicholas was positioned on a promontory that 'would have been the last area of at least seasonally dry land on the edge of the developing succession of marine and freshwater fen' (French 1994: 1). These barrows form a small part of a much wider clustering around the Welland Valley. It has been suggested that the area was becoming wetter and more marginal in the Bronze Age, and also that this fen-edge provided a more enticing landscape when compared to the encroaching saltmarsh zone to the east (French 1994).

In the Fengate landscape 'barrows or ring-ditches regularly spaced along the marginal plain of the developing fen might have been used as markers to divide the landscape into blocks very roughly 200m wide' (Pryor 2001: 407). It is noted that

these evenly spaced barrows served a different purpose - land division - from that of the cemeteries which are seen elsewhere in the Fenland (Pryor 2001).

The evidence from the Fenland indicates different strategies for barrow placement. Single barrows appear in certain landscapes, with the development of the partitioning of the landscape. In other areas barrow cemeteries occur at the edge of the developing wetland; a similar pattern can be seen in the Lincolnshire Marsh. However, where the barrow cemeteries of the Lincolnshire Marsh and Fenland appear to differ is in the position of associated settlement; in the Lincolnshire Marsh it is postulated that settlement was occurring in the same areas as the barrows.

It was noted in the Lincolnshire Marsh that the direct evidence for the exploitation of salt appears in the Late Bronze Age. Evidence from others areas of the British coast also suggests small-scale salt production. For instance, a saltern, dated to the Late Bronze Age, has been found in the Crouch Estuary in Essex (Rippon 2000). However, large-scale exploitation of this resource does not appear to have happened until the Late Iron Age, as is evident in the Lincolnshire Marsh. In other areas, such as the Humber Estuary, there is evidence for the exploitation of the foreshore for grazing, and a number of timber trackways allowed easy access across the saltmarsh environments (Van de Noort 2004). The wetlands were also used as a major transport route, with evidence for possible sea-faring from the Humber Estuary at North Ferriby (Wright 1990, Lillie 2005).

The evidence for the Bronze Age exploitation of coastal marshes is limited, but the evidence from the Fens seems to correlate in some respects with that from the Lincolnshire Marsh. That there is limited evidence from other areas, such as the Severn Estuary, could be partly due to the lack of investigative work, but it may also signify a different, non-ritualised, response to sea-level rise.

11.3 Iron Age exploitation of resources

The main evidence of activity in the Lincolnshire Marsh in the Iron Age is for the salt industry. However, alongside this is seen the development of small farmsteads and a growth in agriculture. The concentration of the salt industry in particular areas

is also apparent across the different coastal regions of Britain, such as the Essex coast (Fawn *et al.* 1990).

Other areas, which developed Roman salt industries, have limited evidence for production in the Iron Age. On Romney Marsh it is unclear whether Iron Age settlement was associated with any salt production, with at least two of the excavated sites having no briquetage (Eddison 2000, Rippon 2000).

Evidence for settlement on coastal wetlands in north-west Europe is varied. Along the coastal zone of Saxony in Germany, settlement has been identified from the Iron Age, with evidence of settlement on levées occurring along the River Ems (Strahl 2000). This settlement was later abandoned as sea-levels rose.

The Severn Estuary wetlands were surrounded by a number of small hillforts in the Iron Age period (Rippon 1997). Initially little evidence of settlement in the period had been forthcoming from the alluvial areas, although the freshwater peats had produced considerable evidence (Coles and Coles 1986, Rippon 1997). On the Gwent Levels, rectangular house structures have been excavated on the foreshore; the area would have been freshwater peat at the time of construction (Bell *et al.* 2000). On the Gloucestershire Levels, an Iron Age settlement site was excavated ahead of the Second Severn Crossing (Rippon 1997). This evidence highlights the use of the saltmarsh areas. However, only limited evidence of salt-working has been recovered from the Severn Estuary, when compared with the Lincolnshire Marsh. The evidence from the Severn Estuary does not prophesise the concentration of activity that was to occur in the Roman period (Rippon 1997).

The small amount of work that has been carried out on Iron Age settlement in the marshes prohibits a wide discussion of this period. This lack of data is partly due to the masking of the archaeological resource by alluvial sediments, and further work on this period is of the highest priority.

11.4 Roman period differences in the utilisation of coasts

The Late Roman alluvial deposits that cover the Lincolnshire Marsh may be masking significant evidence of coastal exploitation close to the coast. Evidence from areas

with little later overburden reveals that a number of different strategies to coastal utilisation were adopted during the Roman period (Rippon 1999).

To the south of the current study area, the Fenland shows a varied development in the Roman period. There are villas located in the areas surrounding the fens with a higher concentration in the south. In the siltlands to the north, villas are absent and instead farmsteads (lacking Romanised building materials) are the norm (Rippon 2000). The pottery from these sites appears to highlight affluent farms, but this has not been carried through to the buildings, with no evidence for substantial structures. The pottery is more affluent than that discovered on the Fen, and Rippon (2000) proposes two possible explanations for this split; that the fen-edge settlements were part of larger estates which had their centres on villas in the Wolds, or that the threat of flooding in the siltlands resulted in less expenditure on built structures, and more on portable wealth. The evidence from the northern Fenland also reveals a pastoral economy, with farmsteads and droveways predominating. This has been postulated as one of the reasons that little reclamation occurred within this zone. The Fenland would also seem to have contained a number of major settlements which would have played an important part in the developments within the area (Rippon 2000). A further argument has also been made that the Fens operated as an imperial estate, supported by excavations of a substantial administration centre at Stonea (Malim 2005).

In the Fenland the settlement developed on the raised areas of 'roddons' and salt-working occurred on the lower-lying ground (Hall 1988, Rippon 1999). There is little evidence for sea walls or defences. Fluctuations in tides and sea-levels were tolerated, rather than combated. The mixed economy differs from initial conclusions regarding corn production in the Fens (Hall 1988). The dearth of large river channels in the Lincolnshire Marsh has resulted in a lack of levees and roddons for settlement. It has been shown that people used the occasional till islands that stood proud of the alluvium, but these are limited to certain zones of the Lincolnshire Marsh.

The settlement evidence in Romney Marsh and in Essex reveals that salt makers were living local to production areas; a number of Roman burials have been found at the production sites (Rippon 2000). Whether this settlement was entirely permanent

is not known, but the burials may suggest that they were occupied for a number of months at a time (Rippon 2000).

In continental Europe, especially in Zeeland and the Maas Estuary in Holland, there is evidence for Roman ditched drainage systems which have been used to modify the landscape (Rippon 2000). However, to date there is no evidence for transformation: the systems identified are very local and prone to flooding. There have also been suggestions that some form of military control was exercised over this modification (Rippon 2000). The physical conditions on the coasts of north-west Europe, that are closest to the Lincolnshire Marsh, are those occurring along the northern coast of the Netherlands and Germany. Here a large coastal plain exists, protected in a number of areas by an offshore barrier (Rippon 2000). Initial Iron Age settlement in these areas took place on the ground surface in the higher marshes (Strahl 2000). By the Roman period, settlements were often built on artificial mounds, known as terpen (terps) in Holland, in order to protect them from flooding (Strahl 2000). In Lower Saxony, from the first century AD, settlements started to be built on these raised mounds, and thus settlements could continue in use during periods of rising sea-levels (Strahl 2000). The area was apparently abandoned in the middle of the fifth to seventh centuries, but is then recolonised, again on the raised mounds. Some continuity in settlement ideas is suggested by the similarities in building structures from the Iron Age onwards (Strahl 2000).

Full-scale, systematic reclamation in the Roman period is only seen in the Wentlooge Levels in the Severn Estuary (Allen and Fulford 1986, Rippon 1996, 1999, 2000). This area lay within the region of Caerleon Roman legionary fortress, and this is a suggested catalyst for the reclamation (Rippon 2000). Here a sea bank may well have been constructed but little evidence remains, although, the drainage system associated with the reclamation does still exist. This can be partly seen in the field system, but also extends beyond the modern sea bank onto the inter-tidal zone, particularly at Rumney Great Wharf (Allen and Fulford 1986). The lack of deep post-Roman alluvial sequences over the central area of the Wentlooge Levels appears to have preserved this regular reclaimed landscape (Rippon 1996). Post-Roman flooding does appear to have affected other areas of the Levels. In the northern part of the Gwent Levels, excavations at Nash have revealed evidence for

seasonal cattle grazing which has been suggested to be linked with the Roman military market, and here attempts at reclamation were less successful with seasonal flooding apparent, and should in fact be considered as modification (Meddens and Beasley 2001).

In the Somerset Levels, also in the Severn Estuary, areas of potential sea walls have been identified as Roman in date, due to the changes in the environment from saltmarsh to freshwater, at a number of sites. It has been suggested that these features can be linked to the villa economy within these areas (Rippon 1999).

The lack of large Roman settlements close to the Lincolnshire Marsh, which could not be served from elsewhere (Lincoln could be served from the Fenland), may indicate why there were no attempts at large-scale reclamation. The lack of villas in the Marsh may also explain the lack of any sea walls, as the estate structure was not present to initiate such activities. In addition to this, especially within Zones Three and Four, the initial economic importance of the salt industry may have played a big part in keeping the area unprotected and undrained (see section 10.6). In the Severn Estuary there appears to have been a conscious decision taken to leave one particular area undrained for salt production – the area of the Brue Valley (Rippon 1997, 2000).

Rippon (2000) suggests that the concentration of salt production in the Brue Valley may be due to the modification and transformation of the other areas of the Severn Estuary, leaving this as the only area where salt processing could take place. Settlement sites in the Brue Valley cling to small islands of dry land; pottery assemblages are basic and low status. To the north of the Brue Valley, settlements appear in a landscape which is apparently reclaimed; these sites revealed much higher status finds and evidence for sustainable, well-built structures (Rippon 1997). The buildings that have been suggested for the Lincolnshire Marsh could potentially include high status occupation (Zone Two), and substantial buildings with box flue and roofing tiles (Zone One) (see section 10.3). Both of these occur without evidence for reclamation, suggesting a different form of development in the Lincolnshire Marsh from that in the Severn Estuary.

Rippon (1997) has speculated on the ritual dimensions of the Severn Estuary in the Roman period, with a potential continuation of ritual significance. This is evidenced by the number of coin hoards and temples which surround the wetlands, especially on the English side of the estuary. The lack of Bronze Age and Iron Age depositional finds has already been highlighted for the Lincolnshire Marsh (Chapter 2), and there is little evidence to suggest any ritual activity in the Roman period. The fully coastal nature of the Lincolnshire Marsh may be one factor which affected the nature of deposition. The Severn Estuary, although a coastal wetland, was still an estuary, and there was always 'the other side'. The Lincolnshire Marsh has no perceivable, or visible 'other side'; it is an edge, a boundary to a further invisible world (see section 11.7).

From the evidence outlined above, Rippon (2000) has postulated four different strategies for the use of coastal wetlands in the Roman period: transformation (evidenced in the Severn Estuary), modification (as seen in the Fenland and areas of Holland), raised settlements (concentrated in northern Holland and Germany) and exploitation (which is seen in many areas). The Lincolnshire Marsh is listed within the exploitation category. The evidence from the Lincolnshire Marsh outlined in this thesis currently fits the sole exploitation category, although, further fieldwork is required to prove completely that a lack of modification occurs in the Roman period (see section 10.3). More extensive programmes of field walking and excavation at a number of Roman farmsteads may reveal a similar pattern to parts of the Fenland. From the currently available evidence, it is unlikely that full transformation will have occurred in the Lincolnshire Marsh.

The regular pattern of Roman roads in the north of the Lincolnshire Marsh may have provided the framework for the development of regular field systems (see section 10.7). The Roman roads constrain the field pattern that develops but it does not indicate that the field systems themselves are Roman in date. This has also been seen in areas of Essex (Rippon 1991), and needs to be borne in mind when looking at the character of the historic landscape.

The evidence for the Roman utilisation of the Lincolnshire Marsh is at best a well informed guess. Comparable locations show evidence of modification, which could

have occurred in the Lincolnshire Marsh, but only further fieldwork will elucidate the situation.

11.5 Saxon abandonment and recolonisation

The Lincolnshire Marsh shows continuity of settlement in the areas adjacent to the Outmarsh and on islands which remained free of water. This continuity begins in the Early Saxon period and may date to an even earlier period, with a number of sites producing Roman material.

Like other coastal wetlands, there appears to be a Late Roman phase of abandonment of the Outmarsh. Although this may be due to a reduced artefact assemblage and reduction in pottery supply, there is firm evidence for sediment deposition over the salterns in the Ingoldmells area indicative of flooding. Rippon (2000) has discussed a range of variables which may have resulted in this abandonment of the coastal wetlands, including marine transgression, economic decline, insecurity caused by barbarian raids, and Anglo-Saxon migrations (Rippon 2000). In discussing the different factors, he also notes different dates, for the abandonment of different coasts, from the third century through to the fifth century. The latest abandonment happened in the northern Netherlands and north Germany. Here the settlements concentrated on the raised mounds, the terpen, managed to cope with the rise in sea-level, and it is the wider pattern of migrations across Europe that sees this zone abandoned as its population moves to different areas (Rippon 2000). Within this context of abandonment, the Lincolnshire Marsh is classed with the Severn Estuary, Fenland and Humber Estuary, in that the combination of the marine transgression and the economic decline associated with the departure of the Romans caused the abandonment. The available evidence for the Lincolnshire Marsh would appear to confirm this theory, with settlement maintained on the drier islands, but the economic extent of this settlement is not known (see section 10.4).

The pattern of re-colonisation of coastal marshlands in the Middle to Late Saxon period has been established in Britain for many areas (Rippon 2001). The date for the recolonisation of these zones varies. On the siltlands of the Lincolnshire Fens, Middle Saxon sites have been identified and the results from small-scale excavation at a number of the sites discovered by the Fenland Project have provided further

evidence for this recolonisation. It has been suggested that these settlements in potential 'wet' areas show that 'a considerable population was able and willing to make its living in the 'wetland'' (Crowson *et al.* 2005: 71). The evidence points to a mixed economy with farming predominating, but the population 'were probably skilled in more than teasing a livelihood from the land' (Crowson *et al.* 2005: 71). Instead of seeing initial expansion into the Fens in the Middle Saxon period as seasonal, it is seen as 'self-contained groups, inhabiting this landscape all-year round with a self-sufficient and non-specialised economy' (Crowson *et al.* 2005: 299).

The evidence from the Fens suggests that sea banks were created in a small way, possibly from the Middle Saxon period, but that the main periods of bank construction occurred in the Late Saxon period and later (Crowson *et al.* 2005). The precise dating of this construction is hard to pinpoint. Evidence of Medieval salterns on the landward side of the bank has called this earlier date into question (Crowson *et al.* 2005). The whole of the Cambridgeshire side of the Fens came into monastic ownership during the Saxon period, and this provided the impetus for the increased activity in the area (Hall 1988). The construction of banks and largely artificial drainage channels allowed large areas to be protected from flooding (Hall 1988).

The pattern of settlement development in the Lincolnshire Fens and the Norfolk Marshland (see below) has been elucidated from the study of extensive quantities of Middle Saxon pottery recovered during the Fenland Project. The absence of such finds from field walking undertaken by the Humber Wetlands Project in the Lincolnshire Marsh does not mean that settlement was not occurring. Recent work in existing villages (e.g. Huttoft, Holton le Clay, Cumberworth to name a few) suggests that much early settlement lies beneath the present villages, and more intensive field walking in a number of areas may yet produce similar sites to those found in the Fenland (see section 10.4).

The two parts of Romney Marsh, Romney Marsh proper and Walland Marsh, are divided by the Rhee Wall, a large embankment associated with a waterway. This wall allowed the early reclamation of Romney Marsh proper. Investigations have suggested that the Rhee Wall was preceded by an earlier embankment, named by Allen (1999) as the Rumenesea Wall, part of which was utilised for the Rhee Wall

(see Rippon (2000) for a slightly different model of development). Due to the occurrence of salt production in the Roman period on the Romney Marsh it is suggested that the date for this structure is early post-Roman (Allen 1999).

The early Medieval date for embankments is also found throughout north-west Europe, for example in Holland and Germany (Allen 1999). However, the timing of actual sea bank construction is a debated issue in a number of landscapes. It has been shown in Norfolk that settlements appear in an inter-tidal environment, and it is only in the tenth century that the conditions change to a freshwater environment (Rippon 2001). In north Somerset it was initially argued that the pattern of 'infields' (see below) developed after the sea bank had been constructed (Rippon 2001). However, this has been modified with these 'infields' being the initial features, to be followed at a later date by sea bank construction (Rippon 2004b). That settlement in coastal marshlands was possible without first constructing a sea bank has also been shown from the continent (Rippon 2001).

Although sea banks of an early Medieval date have been postulated for the Lincolnshire Marsh, their existence, other than in place-name evidence, has yet to be proven (see section 10.5). The banks are also proposed in areas where they would have prohibited the development of a successful salt industry. If they did exist, they no doubt would have been small-scale endeavours to protect individual homesteads and land, rather than the larger structures suggested for Romney Marsh. There has never been a suggestion, by historians of the Lincolnshire coast, that a sea bank protected the entire Lincolnshire Marsh.

Settlement in the coastal zones of north-west Europe in the Saxon period does not necessarily require reclamation. In north Somerset, analysis of the historic landscape has revealed that the settlement of this area, in the eleventh century, began with oval enclosures known as 'infields' (Rippon 2002, 2004b). This pattern has also been suggested for the Gwent Levels (Rippon 2002). These enclosures afforded a certain level of protection from the coast, and allowed small areas to be reclaimed. They differ from the later landscape; they appear to have been created when there were few features to constrain the areas in which they could develop, and are now surrounded by a more regular landscape of later fields. The road system also usually

skirts around these enclosures, suggesting that these roads were a later development (Rippon 2002, 2004b). This was one method adopted as a means for the initial colonisation of one particular coastal marshland, but there is little evidence within the historic landscape for such settlement in the Lincolnshire Marsh and different methods of colonisation need to be considered.

It has been shown that there was probably much continuity in settlement in a number of areas surrounding the coastal wetlands. In the Somerset Levels it is suggested that a number of Saxon estate centres develop, many of which were focused on the hillforts and villas (Rippon 1997). From these centres, activities on the marshland were administered.

On the Somerset Levels, the early development of a number of estates in the wetlands can be attributed to monastic houses such as Glastonbury Abbey. One such estate was that of the abbey at Meare (Rippon 2004c). The importance of Meare, and other land of Glastonbury Abbey, may have been a result of the number of early religious sites located on the small islands within this area of wetland (Rippon 2004c). Settlement at Meare has been dated to the late tenth and eleventh centuries, and palaeoenvironmental data from the region suggest an increase in the intensity of exploitation during this period (Rippon 2004c). Similar situations seem to be lacking from the Lincolnshire Marsh, which appears to be neglected by early monastic estates, and there is little evidence for grants in the Marsh during the Saxon period. It has been postulated that there was a monastic institution during this period at Louth, and there are a number of monastic sites to the south of the region.

It has been shown that sea banks were not necessary for settlement. In addition, not all areas show evidence of modification in the Late Saxon period. The Pevensey Levels appear to have remained unreclaimed, with salt-working taking priority over agricultural exploitation (Rippon 2000).

The nature of the Late Saxon recolonisation of the marshes is indicated in a number of ways. The recolonisation of the Somerset Levels has been indicated by the *wick*, *worth* and *huish* place-names; these are found in several locations, in some cases associated with the 'infields' (Rippon 1997). These name types are absent from the

Lincolnshire Marsh, where the Late Saxon colonisation of the area is indicated by names associated with a Scandinavian influence. The Domesday data for the Somerset Levels suggest that there must have been sea defences by that time, as numerous permanent settlements are recorded with high numbers of plough teams; by the eleventh century the Somerset Levels were extensively settled (Rippon 1997).

In the Lincolnshire Marsh, although settlements are recorded in Domesday within the Outmarsh, these are all sokelands or berewicks, and the extent of the settlement itself is hard to establish (see section 10.5). The colonisation of the Outmarsh in Lincolnshire had begun by the time of Domesday, but this was by no means complete, and it could not be called 'extensive'. Settlement had started to develop strongly at the western edge of the Outmarsh and on islands within it, but the true Outmarsh had not been reclaimed, and numerous resources were being exploited. Compared to the other regions in Britain, the Lincolnshire Marsh was at an early stage of development.

11.6 Medieval coastal reclamation and resource exploitation

> 'By the eleventh century the predominant strategy towards the utilisation of coastal wetlands throughout much of North West Europe had become transformation, with most substantial areas of saltmarsh having been embanked... [however] in certain areas reclamation proceeded at a much slower pace, suggesting that local factors must have affected the decision whether or not to transform those wetlands' (Rippon 2000: 186).

It has been postulated in this thesis that the latter applies to the Lincolnshire Marsh, with little evidence of transformation or substantial sea bank construction until the sixteenth century (see section 10.5).

Evidence from the Walland Marsh, part of Romney Marsh, indicates full-scale attempts at reclamation by the mid-twelfth century (Eddison and Draper 1997). The Walland Marsh has always lain below the high tide level, and therefore some form of drainage and embankment was needed to aid permanent settlement in the area. Investigation of the documentary, map and landscape features has revealed evidence for two substantial sea banks, which divide the Marsh into three zones (Eddison and

Draper 1997). The zone furthest to the north-east, closest to Romney Marsh proper, is the oldest of these zones. Here the landscape features suggest intensive occupation, with smaller sub-division of fields forming a semi-regular pattern. This zone is divided from the next zone by a sea bank, of which only small parts remain in the landscape. This second zone is characterised by a more irregular field pattern with larger fields and fewer roads. The boundary to the third zone is known as 'the great cordon' and is still visible in the landscape. The third zone is characterised by very few roads and large irregular fields. The three zones seem to show successive reclamation from zone one through to zone three. Little settlement is seen in the latter two zones, and it is considered that these were reclaimed for pasture rather than for arable concerns (Eddison and Draper 1997).

Much of this reclamation has been dated from the mid-twelfth century onwards, with only a possible single settlement in the Walland Marsh recorded in Domesday, and no early place-names in evidence (Eddison and Draper 1997). Large areas of the land were in the hands of ecclesiastical bodies and these may represent the force behind the reclamation. There are fluctuations in the intensity of this reclamation; an increase in the early fifteenth century has been linked with the growth of the Weald cloth industry and an increased need for grazing (Eddison and Draper 1997). A slightly different developmental sequence was suggested by Rippon (2000), who sees the Rhee Wall as a later implant in the sequence, replacing the Yoke Sewer sea wall (in other places known as Rumenesea Wall).

The Fenland was two distinct environments - the peat fens in the interior and the siltlands closest to The Wash. This division is not seen in the Lincolnshire Marsh, which was entirely siltland. Analysis of the settlements on the siltlands of the Fenland has shown that this environment provided excellent grazing and arable potential, with increases in population and wealth in the twelfth and thirteenth centuries (Spoerry 2005). This can also be seen in the Lincolnshire Marsh, with increased settlement from Domesday onwards.

One difference with the Fenland is the access and communication routes. Within the Fenland, the number of major rivers that cross the Fens to enter The Wash, such as the Welland, Great Ouse and Nene, provided a network of routes across the Fen.

Along these routes, the majority of settlements developed some form of quay structure, known locally as hithes (Spoerry 2005). In a number of examples, these settlements gained the characteristics of towns, with evidence of continental trade and some industrial development. These 'urban' type settlements are not seen in the Lincolnshire Marsh as by the Medieval period the rivers were silting-up and gradually reduced their capacity to carry goods.

The settlements in the Fens were dependant on the waterways on which they developed, and changing river patterns and problems with silting caused similar problems to those seen at Skidbrooke in the Lincolnshire Marsh. A port developed at Wisbech, at the point where the Great Ouse and Nene enter The Wash. However, silting started to cause problems, and the port was superseded by King's Lynn when the river system was re-directed by the monks of Ely (Spoerry 2005). Excavations at Wisbech have shown that the settlement was also affected by flooding throughout the Medieval period. The site revealed nine phases of occupation, with evidence for destruction at the end of each phase through flooding, requiring the rebuilding of the structures (Spoerry 2005). This evidence highlights the perseverance of the inhabitants of these marshland communities.

In many coastal areas, the highest and driest areas for initial occupation are close to the coast, as here there has been more deposition when compared with any backfens. Settlements could develop here without initial sea bank construction. Evidence from the Norfolk Marshland has shown the initial development along the coast of a number of settlements, which then began inland reclamation of the backfens (Spoerry 2005). With the move inland, settlements often developed along droveways into these backfens and would often split into several settlements, with many bearing the same name as the original (Silvester 1988, Spoerry 2005). Within the Lincolnshire Marsh, the area which may show similar signs of development is Zone Two. Here settlements developing at the havens may represent the initial settlement. Settlements in this zone often develop linear patterns along the main roadways, and have formed a number of separate settlements such as Saltfleetby St Peter, Saltfleetby All Saints and Saltfleetby St Clement, and Theddlethorpe All Saints and Theddlethorpe St Helen (see section 7.6). The landscape surrounding many of the

settlements is regular in character, based mainly on small strips which may represent the initial draining of the area.

Reclamation and sea bank construction did not occur wholesale throughout north-west Europe. In some coastal zones, such as the Thames Estuary, it has been suggested that the lack of large-scale reclamation may be due to the fragmented ownership of the land (Rippon 2000). Other reasons postulated include the possibility that the Thames also played an important role in the salt industry, and hence was left unreclaimed (Rippon 2000). Evidence from the Halvergate Marshes in Norfolk indicates that some areas were unreclaimed as the exploitation of the resources was perhaps more valuable than the reclaimed land (Rippon 2001). Here, the wool markets in Norfolk provided the impetus to maintain unreclaimed grazing land (Rippon 2001). In the Essex marshes, areas were also left unreclaimed, with the suggestion that the area was valued for its excellent sheep pasture (Rippon 2000). In north Germany, settlement was surrounded by ring dikes to protect the settlements and fields, and it is not until the thirteenth and fourteenth centuries that sea walls were built to reclaim large areas (Rippon 2000).

On the Pevensey Levels, the area appears to have a continuous sea bank from the late thirteenth century. The late date of this construction, when compared to other regions, is suggested to be due to the fragmentary ownership of much of the Levels, with a mixture of monastic and lay owners recorded (Rippon 2000). This is similar to the situation in the Lincolnshire Marsh, but it must also be considered alongside the evidence for Medieval salt-working in both areas. The Pevensey Levels have a number of upstanding saltern mounds reminiscent of the Lincolnshire Marsh, and while no date is given for the decline of the industry in the Pevensey Levels, it can be considered that the industry might have been one of the contributory factors towards a lack of willingness to embank.

The instigators of reclamation will now be explored. It has been suggested that there is little evidence of large-scale monastic input in any drainage activity in the Lincolnshire Marsh. This is in stark contrast to other wetlands in England. The majority of the Somerset Levels was in the ownership of the abbeys of Glastonbury, Muchelney and Athelney, along with Wells Cathedral, whilst large areas of the Fens

were controlled by Ely and the abbeys of Thorney, Ramsey and Crowland (Silvester 1999). The pattern of monastic landowners is mirrored through many peatlands, but a more mixed pattern is seen in the siltlands, as demonstrated for the Lincolnshire Marsh. In some areas monastic houses did own land but they appear as latecomers, often acquiring already drained land (Silvester 1999). The predominance of monastic houses is also partly due to documentary survival, as the monastic drainage endeavours are much more likely to have been recorded, and therefore survived in documentary form, than those of individual, smaller landowners (Silvester 1999).

Lay owners could also undertake reclamation, although this was not always carried out to the same extent in all areas. It has been demonstrated that much of the Medieval reclamation of the Gwent Levels occurred after the Norman Conquest and the division of the area between four lordships (Rippon 2001). These lordships adopted different strategies, for example, that of Chepstow leaving the marsh unreclaimed and that of Caerleon embanking the entire marsh by the twelfth century (Rippon 2001).

Reclamation is not seen to any great extent in the Lincolnshire Marsh. In Zones One and Four, this is partly due to the impact of the Medieval salt industry. It can be noted that the Severn Estuary, protected by a sea wall since the Late Saxon period, has virtually no record of Medieval salt-working. It is possible that this may be associated with the early sea bank construction in this area. In Zones Three and Four of the Lincolnshire Marsh, reclamation may well have been too difficult against a more turbulent coastline with few barriers, and a distant backfen from which to begin reclamation. That there were no landholders with large tracts of land, may also have added to the problem.

Did Medieval salt production therefore prohibit sea banks? The Medieval salt industry was also active in a number of other regions, such as the Pevensey Levels, Romney Marsh and the Essex coast (Vollans 1995, Rippon 2000), although in many of these areas the importance of the industry does not appear to have reached the level of the Lincolnshire Marsh. In a number of these areas sea bank construction was undertaken at a relatively late date. Although saltern mounds are still visible in these regions, they do not appear to have aided the 'reclamation' of the area to the

same extent as can be seen in Zone One of the Lincolnshire Marsh. Different methods of salt production on the European coast did not produce the same quantities of waste material, with salt impregnated peat being burnt, and the ash mixed with sea water, which was then boiled in a metal pan (Rippon 2000).

Rippon (2000) postulates a number of reasons for an increase in the use of coastal wetlands during the Medieval period. Traditionally the view has been that much of the earlier colonisation of the zone was influenced by sea-level and migrations (Rippon 2000). The Medieval climatic optimum began in the tenth century, which is the period where there is increased activity in a number of coastal zones, including the Lincolnshire Marsh (Lamb 1995). This conducive climate coincided with a general economic expansion across much of north-west Europe, and adds a further dimension to the move into the coastal margins (Rippon 2000).

Rippon (2000) concludes that there were three strategies for the development of the wetlands in the Medieval period: continued enclosure and drainage of backfen areas where the process had already begun in the tenth/eleventh centuries; embankment of new areas of coast from the eleventh century onwards (including areas of the Lincolnshire coast); and the leaving of areas as open saltmarsh (the outer marshes of the Lincolnshire coast). This thesis has demonstrated that in most areas of the Lincolnshire Marsh the latter strategy was dominant, and that wholesale reclamation is difficult to prove along the Marsh (see section 10.8).

11.7 The evolution of coastal zones

The utilisation of coastal wetlands in north-west Europe is varied but a number of patterns have emerged. There is little evidence for anything other than exploitation during the prehistoric period. The evidence for this period of exploitation is deeply buried in most locations due to later sediment deposition, so only rudimentary patterns of landuse are discernable. The one area where interaction with the coastal zone can be seen is at the edge of the wetlands. In the Lincolnshire Marsh, increased ritual activity is seen in the placement of Bronze Age barrows at this limit of maximum marine transgression. Barrows have also been found close to this boundary in the Fenlands, but little evidence from other areas has been forthcoming (Hall 1998, French 1994, Pryor 2001).

The Lincolnshire coast and the Fenlands, although widely different environments, do have one factor in common - they both face out into the North Sea. While Bronze Age seafaring is well recognised (Wright 1990, Lillie 2005), the experience of this form of transport on the open sea, by the general populace, may not have been widespread. As such, the increasing wetness was appearing from an unknown source, with no other visible landward edge. The Bronze Age transgressions in the Severn Estuary may have increased the area of coastal wetland, but there was always an 'other side' to the wetlands – the extent to which the people along the east coast understood an 'other side' may explain a more ritual reaction, with the placement of barrows, to the changes in the coast. It may also explain the lack of later ritual deposition of metalwork, which occurred in rivers and bogs, wetlands with edges (Davey 1973). That there is a lack of the barrow concentrations in the south of the region may be due to the visibility across The Wash, to the north Norfolk coast.

There is little evidence nationally for the ways in which the coastal wetlands were exploited in the Iron Age, with the most visible activity being the salt industry. The settlements associated with these sites have not been explored, and this period is one of the most under-researched areas of study related to coastal wetlands.

In the Roman period, the first signs of differing strategies to the utilisation of coastal wetlands occur. All three stages of Rippon's model are in evidence, although transformation is limited to the Severn Estuary (Rippon 2000). Within the Lincolnshire Marsh, settlement expands into the Marsh and although the evidence suggests exploitation, a certain degree of modification may have been required in order to allow for the active use of the wetlands. The lack of excavated settlement sites in the Marsh does not provide the types of evidence which would facilitate an elaboration of the strategies adopted. The presence of a sea wall on the Somerset Levels has been suggested, on the basis of palaeoenvironmental evidence, revealing freshwater conditions (Rippon 1997). Until such evidence for the environment and the nature of the settlements in the Lincolnshire Marsh is forthcoming, it is only possible to speculate as to the exact nature of the Roman utilisation of the Lincolnshire Marsh.

The fact that a Late Roman inundation occurred throughout north-west Europe is shown by alluvial deposition over many Roman sites. This can be seen from the alluvial deposits over the salterns in the Lincolnshire Marsh, but the full extent of this inundation inland, and whether it was uniform along the coast, has not been established.

The recolonisation of coastal wetlands varies temporally across north-west Europe, and a number of social and political reasons have been proposed to explain these differences (Rippon 2000). It is evident that by the eleventh century there was recolonisation of much of the coastal zone. In the Lincolnshire Marsh, this happened in the Late Saxon period, although there is evidence of activity from the earlier Saxon period. It can be seen that there was Early and Middle Saxon activity in settlements along the edge of the Lincolnshire wetlands (e.g. Holton le Clay) and from islands within the Outmarsh (e.g. Huttoft and Cumberworth). The development of settlement within the region occurred alongside a high influence from Scandinavian settlers, attested by place-names; the appearance of a new population in the area should not be seen as the main contributing factor to the colonisation of the zone, but it must have played a part. This also mirrors patterns of development across Europe, with migrations from the fifth century onwards providing part of the context of recolonisation of coastal zones (Rippon 2000).

The evidence from Domesday suggests that the estate structure in the Late Saxon period was very fragmented. It is this context within which the Marsh was recolonised, and although there is little evidence of modification or reclamation, these have both been previously claimed for the region (Owen 1975, Grady 1998). The lack of physical evidence for sea bank structures, along with the evidence for salt-working, implies that only exploitation or modification was practised across much of the area. The presence of a Late Saxon sea bank was postulated for the Marshchapel area, but the location of a saltern to the west of this line, which appears to have operated in the tenth to twelfth centuries, would preclude the presence of such a bank at this location. Alternatively, settlement may have developed on the higher coastal silts or sand banks, but only further palaeoenvironmental work will elucidate this. That other areas of coastal Britain remained unreclaimed, due to the

importance of the natural resources, has been suggested for parts of the Norfolk and Essex coasts (Rippon 2000).

By the Medieval period, it would seem that the majority of the coastal areas of north-west Europe had been reclaimed. The extent to which this applies to the Lincolnshire Marsh, until the sixteenth century, has been difficult to establish. The salt industry, in Zone One and the south of Zone Four, was dominant until the sixteenth century, and the map of 1595 of the parishes of Fulstow and Marshchapel shows no sea bank. That attempts were made at reclamation can be seen in Zones Two, Three and the north of Zone Four. However, these met with varying degrees of success and whether any of this could be described as complete, and permanent, transformation is debatable. Areas beyond the sea banks were still prized for their grazing rights, and it is perhaps these that were valued most by the landowners, rather than a full change to arable regimes. The distinctiveness of the Lincolnshire Marsh is therefore this remarkably late reclamation when compare to other coastal wetlands in north-west Europe.

The Lincolnshire Marsh may be viewed as being less developed than other coastal marshes of Europe, as it does not display a highly evolved process of modification and transformation. The region was heavily exploited throughout its history, and in later periods modification aided this; in certain areas, in certain periods, the natural resources of the marsh were paramount, and any attempts at landscape change which affected this resource were avoided. The cost of reclamation was high, both in manpower and risk, and the high value of the natural resources for much of its history held sway and outweighed the 'benefits' of transformation.

11.8 Conclusions

The evolution of the Lincolnshire Marsh has been compared and contrasted with other coastal wetlands from north-west Europe. This comparison has shown that the local conditions and initiatives in the Lincolnshire Marsh deviated on a number of occasions from the general pattern seen in other regions, most notably in the lateness of reclamation. However, the increased exploitation of the Lincolnshire Marsh over time does mirror that seen elsewhere.

On a number of occasions it has been noted that the evidence for the Lincolnshire Marsh is patchy, that many of the conclusions drawn have been undertaken on ephemeral evidence, and that a number of these can only constitute a best guess. The following chapter presents the overall conclusions of this thesis and, importantly, it also provides a number of suggestions for future research into this dynamic and variable landscape.

Chapter 12

Conclusions

12.1 Introduction

> 'Landscape as history, as archaeology, as itself, has no words of its own. It may speak to us, it may have to be read, but we are left free to analyze the syntax, develop our own grammar and, in the end, construct our own narratives: to make our own landscapes ... the English landscape is not simply the product of people in the past, but, like all history is an integral part of the present; something continually 'made' and 're-made' which can never be finished' (Barker and Darvill 1997:6).

This thesis has provided a landscape history of the Lincolnshire Marsh. As the above quote illustrates, this interpretation, based on a varied dataset, by one individual, is just the most current of many models of landscape change, and no doubt will be superseded in the future. Nevertheless, it stands as a best attempt under the constraints of current knowledge, and can act as a springboard for further research. The thesis has also shown that the area of the Lincolnshire Marsh has developed in a number of different ways, both spatially and temporally, and that one model will not fit the entire area. Four distinctive developmental zones have therefore been proposed (see Chapter 10). This chapter briefly summarizes the landscape history that has been developed and proposes further research which will support (or refute) this history. Future research will hopefully provide answers to some of the questions which have remained unanswered, as well as, no doubt, throwing up new questions.

12.2 Main conclusions

Although, as a coastal wetland, the Lincolnshire Marsh can be considered to be a physically marginal area, it cannot be classed as a marginal zone. The evidence discussed within this thesis has shown that a number of factors have affected the ways in which humans have used and exploited the region. It is apparent that whilst improvements in the physical character of the region, at certain points in time, have aided settlement, resources such as salt and the transport links afforded by havens provided an economic pull into the region.

The four development zones that have been discussed show different strategies adopted for coastal landscape utilisation (*cf.* Rippon 2000). In all four zones, the range of resources is simply exploited until the Medieval period, although tentative suggestions can be made of modification in the Roman period in Zone Four. In the Medieval period, there are distinct differences: Zone One evidences accidental modification; Zone Two shows intentional modification; Zone Three indicates at least modification with a possibility of transformation; and Zone Four presents the closest evidence to transformation, but this only occurs much later in its development.

Throughout the Holocene people have responded to changes along the coast in a variety of ways. The first changes present themselves physically in this region in the Late Neolithic and Bronze Age with the submersion of the forest and inundation along the coast. The effects of this would have been felt earlier to the east, but this landscape is now submerged under the North Sea.

In the Bronze Age, one ritualised reaction to rising sea-level was to place barrows close to the wetland margin, a process which is mirrored in the Fens, but not on all coastal wetlands. Due to the alluvial history of marine transgressions and regressions, it has been difficult to build a full picture of Iron Age and Roman settlement. The available evidence suggests different intensities of exploitation of the region during the Iron Age, comparable to other regions of Britain and north-west Europe. The evidence for the salt industry in Zones Three and Four, to the south of the region, would indicate a highly concentrated activity.

Activity in the Roman period appears to have intensified, although this could simply be a reflection of a more visible artefact inventory. This activity would appear to have occurred in a landscape with little evidence of modification. Only further work will be able to establish whether this is a true pattern, or whether modification had been undertaken in order to enable the settlement to take place, as happened in the Severn Estuary. Investigation of the drift deposits at Roman settlement sites may reveal the use of raised, drier areas in the landscape, but the lack of any coring or excavation precludes any further conclusions from being drawn at the current time.

In the Early Roman period salt production continued in Zones Three and Four, possibly controlled from a settlement at Burgh le Marsh. The decline of the salt industry in the region in the later Roman period mirrors the evidence from the majority of other places in Britain, and this may be related to a number of factors, including changing physical conditions with further inundations and competition from other sources.

Numerous finds from the Early and Middle Saxon periods provide evidence for settlement on the edge of the Outmarsh and upon the islands in the alluvium (Zone Three). At these settlements, the longevity of occupation, in some cases from the Iron Age or Roman period, highlights a continuity of settlement. The extent to which this activity occurred in the wider area of the alluvial deposits of the Outmarsh in these periods is unknown.

By the time of Scandinavian influence in the region there was an expansion of settlement, and indeed the majority of place-names in the Marsh are of Scandinavian origin. Domesday indicates that the initial inroads into the Outmarsh occurred in the Late Saxon period, but they do not fully develop until a century or two later. Numerous theories have been proposed for the development of settlement in the area of the alluvial Outmarsh (Zones One, Two and Three). These include settlements developing on a Saxon sea bank (Hoskins 1955, Owen 1975), and on Saxon saltern mounds (Owen 1984).

This thesis has shown that in the Medieval period, the four developmental zones that have been postulated show markedly different developments in terms of their settlement and landscape exploitation strategies. In Zone One it is suggested that, unlike earlier theories, the Outmarsh settlements may have developed on an area of sand deposits on a former coastline, thereby dismissing the ideas of a Saxon sea bank and saltern mounds. The reasons behind this dismissal rest on the evidence from excavations at Marshchapel. This site revealed the position of a Late Saxon saltern (tenth to twelfth centuries), and highlighted the methods of production which, by their very nature, invalidate the previous theories (Fenwick, H. 2001). The salt industry in this zone assisted with Medieval reclamation but should not be seen as a prelude to the establishment of permanent settlement.

In Zone Two, settlement along the coast may have similar origins to those suggested for Zone One, although its development and reclamation take a different tangent. Initial settlement near the coast on sand spits expanded inland along roads, some of which are Roman in date. These formed linear settlements, gradually split into separate settlements, much like the situation that occurs in the Norfolk Marshland (Silvester 1988). Documentary evidence of sea banks is present, but no physical indication of these structures has been forthcoming.

In Zone Three, the varied nature of the topography of the region results in little settlement in the alluvial Outmarsh. Land along the coast was modified through drainage and the construction of sea banks, but the extent to which these formed a large, single construction, rather than individual attempts at the protection of small areas, is not known.

In Zone Four, settlement in the Outmarsh was once again reliant on the development of higher, drier, coastal deposits. A dispersed pattern of farmsteads developed over much of the Outmarsh, with a number of nucleated settlement centres at Burgh Le Marsh, Croft and Wainfleet. The north of the zone was afforded some protection through sea banks, but the south developed naturally along a sand spit.

Rippon's (2000) model of exploitation, modification and transformation has been assessed against the archaeological, documentary and place-name evidence from all four zones and for four different periods, the Bronze Age, later prehistoric and Roman periods, Saxon period and the Medieval period. It has been possible to apply the model in most cases, but the distinguishing characteristics between modification and transformation have been difficult to establish. This is partly due to the problems with finding any physical evidence to support the presence of the sea banks mentioned in the documentary records. It has also become apparent that modification should be sub-divided into two categories – accidental and intentional. It has been shown that in Zone One, the landscape was modified, not following a clear human decision to improve the land, but as a by-product of the large amount of waste that was produced by the salt industry. This is in stark contrast to modification in other zones which saw the deliberate improvement of drainage in the zones to aid settlement and landuse.

It has been shown that in most areas the willingness to attempt transformation was suppressed until the sixteenth century. The salt industry held sway in Zone One and to the south of Zone Four throughout the Medieval period. The protection offered by the sand islands enabled permanent settlement without the construction of a sea bank in Zones One and Two, and in a number of areas coastal sediment accretion aided the development of the zones. In Zone Three and the north of Zone Four, the erosive coastal processes resulted in a need for protection. Attempts at transformation through the construction of sea banks in these zones, more often than not, failed and only achieved modification. This is a very distinctive character of the Lincolnshire Marsh compared with many other coastal wetlands of north-west Europe.

12.3 Suggestions for further research

As with so many studies of landscapes, this thesis has not produced the final word on the Lincolnshire Marsh; instead it has provided a basis from which further research can proceed. The wealth of sources of information available to the researcher makes a full study of the Lincolnshire Marsh beyond the scope of a single thesis. One major result of this investigation has been the highlighting of a number of major gaps in, or problems with, our current knowledge, which can only be addressed with further intensive research. The following sections outline a number of key themes.

1. The physical development of the Lincolnshire Marsh

A detailed programme of coring, sampling and radiocarbon dating is urgently required to elucidate the nature of the marine transgressions and regressions within the area. Currently, the limited number of sample locations has produced a complex picture of development, and these have indicated that there may well be regional differences in the extent and date of these events i.e. they are not synchronous. A coring programme could possibly reveal the extent of the marine incursions, so that a more accurate picture of the changing coastline could be produced.

Alongside this survey, investigation also needs to be carried out in the Outmarsh to examine any differences in the types of wetland environments in different periods. There is at present, little data regarding areas of freshwater and saltwater fens, and the exact nature of the alluvial Outmarsh. A greater understanding of the types of

environment in evidence at different times would enable models of different exploitation strategies to be developed.

2. The physical nature of the Lincolnshire Marsh

There is little evidence for the nature of creek and stream systems in the Lincolnshire Marsh, although suggestions, such as that by Brew (1997), indicate that a major watercourse may have become buried under the alluvial deposits. The coring programme discussed above could be used to try to establish the physical nature of the area, and the utilisation of new technology may also aid in the endeavour. In recent years LIDAR (Light Detection and Ranging) data have been used in areas of former wetlands with impressive results, showing former river channels (Carey *et al.* 2006, Challis 2006, Chapman 2006). LIDAR data already exist for much of the Lincolnshire Marsh, but these have yet to be consulted in an attempt to establish the extent to which they could be a useful tool in landscape reconstructions. Whilst it was financially prohibitive to use these data for the current research, the plotting of former creeks and streams may help to explain the development of the patterns of human behaviour outlined in this thesis. The investigation of the deposits upon which the main Medieval settlements of the Outmarsh have been constructed is particularly vital to an understanding of settlement development.

3. Detailed archaeological investigation of the four developmental zones

Much of the archaeological evidence for the region has come from aerial photographic data or excavations carried out as part of the planning process. There is a strong need to assess on the ground the numerous types of enclosures and other sites identified from aerial photography in order to establish their date and function. This has been carried out on a number of potential long barrows, but other forms of monuments have yet to be tested. Excavations are also needed in order to establish the nature of settlements in the Roman period, and the extent to which there was continuity from the Iron Age. Investigation in the cores of the current villages in the Marsh is also required to try to establish whether any earlier settlement exists, as has been shown at Holton le Clay, Huttoft and Mumby. Such investigation should encompass a number of settlements from the different physical zones, and should also attempt to establish when the first evidence for permanent settlement in the alluvial areas of the Outmarsh occurs.

4. Detailed documentary research for sample areas

Further detailed documentary work could include the re-creation of landownership patterns in certain parishes, and detailed investigations of field-names. This form of evidence was not fully consulted during the current research, but it has proved useful in other studies of coastal wetlands (Rippon 1996, 2004c). A clearer understanding of landownership may reveal who the decision makers were behind the various strategies adopted in the Medieval period.

5. Excavation of a northern saltern mound

This has not been carried out and would aid our understanding of the creation process of these mounds. Full excavation would also resolve issues of whether these features are masking earlier archaeology beneath. Only a single Saxon salt-making site has been excavated in Zone One, and a fuller understanding of the processes involved in this period would help in the development of theories relating to settlement development, and help establish whether there were any saltern mounds from the Saxon period which could have aided in the development of permanent settlement.

12.4 Epilogue

This thesis has gone some way to address the lack of detailed understanding of the development of the Lincolnshire Marsh, as highlighted by Rippon (2000). It has used Rippon's model as a springboard for this research and has refined this in a number of places. It has shown that the picture is complex, that the region did not develop as one coherent entity, and that four distinct development zones are apparent. The nature of the thesis has meant that although numerous patterns and theories have been developed, there are many ideas which now need confirmation by fieldwork and further documentary study. Only by undertaking the further research outlined above, can a fuller picture of the development of the Lincolnshire Marsh be achieved. This thesis has taken the first steps, but there is still a long way to go.

References

References

Aikin, J. 1788. *England Delineated; or a geographical description of every county in England and Wales*. London: J. Johnson.

Aldred, O. & G. Fairclough 2003. *Historic Landscape Characterisation: taking stock of the method*. London: English Heritage and Somerset County Council.

Allen, J.R.L. 1999. The Rumenesea Wall and the early settled landscape of Romney Marsh (Kent). *Landscape History* **21**: 5-18.

Allen, J.R.L. & M.G. Fulford 1986. The Wentlooge Level: a Romano-British saltmarsh reclamation in southeast Wales. *Britannia* **17**: 91-117.

Aram, J. 1993. Solid geology, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 4-5. Hull: University of Hull.

Aram, J., A. Bilham-Boult & B. Goodhand 1993. The making of the landscape, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 2-3. Hull: University of Hull.

Arneborg. J. 2002. Inhospitable regions and marginality – settlement at the end of the World, in G. Helmig, B. Scholkmann & M. Untermann (eds) *Centre, Region, Periphery. Medieval Europe Basel 2002. Volume 3*: 15-24. Basel: Archaologische Bodenforschung Basel-Stadt.

Aston, M. 1985. *Interpreting the Landscape*. London: Batsford.

Austin, D. 1985. Doubts about morphogenesis. *Journal of Historical Geography* **11**: 201-9.

Bailey, D. & A. Whittle 2005. Unsettling the Neolithic: breaking down concepts, boundaries and origins, in D. Bailey, A. Whittle & V. Cummings (eds) *(un)settling the Neolithic*: 1-7. Oxford: Oxbow Books.

Baker, A.R.H. & R.A. Butlin 1973. (eds) *Studies of Field Systems in the British Isles*. Cambridge: Cambridge University Press.

Baker, F.T. 1960. The Iron Age salt industry in Lincolnshire. *Lincolnshire Architectural and Archaeological Society Reports and Papers* **8**: 26-34.

Bannister, R.T. 1983. Wrangle Toft. *Lincolnshire History and Archaeology* **18**: 104-5.

Barford, P.M. 1988. After the red hills. Salt making in Late Roman, Saxon and Medieval Essex. *Colchester Archaeological Group Annual Bulletin* **31**: 3-8.

Barford, P.M. 1990. Salt production in Essex before the Red Hills. in A.J. Fawn, K.A. Evans, I. McMaster & G.M.R. Davies *The Red Hills of Essex*: 81-84. Colchester: Colchester Archaeological Group.

Barker, K. & T. Darvill 1997. Introduction: Landscape old and new. in K. Barker & T. Darvill (eds) *Making English Landscapes*: 1-8. Oxford: Oxbow Monograph 93.

Barrett, J., A.M. Locker & C.M. Roberts 2004. 'Dark Age Economics' revisited: the English fish bone evidence AD 600-1600. *Antiquity* **78**: 618-36.

Bassett, S. 1989. In search of the origins of Anglo-Saxon kingdoms. in S. Bassett (ed.) *The Origins of Anglo-Saxon Kingdoms*: 3-27. London: Leicester University Press.

Bayliss, A. 2001. Appendix 3: Radiocarbon dates, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 263-64. Hull: Humber Wetlands Project.

Bell, M. & M.J.C. Walker 2005. *Late Quaternary Environmental Change: physical and human perspectives*. London: Pearson Education.

Bell, M., A. Caseldine & H. Neumann 2000. *Prehistoric Intertidal Archaeology in the Welsh Severn Estuary*. York: Council for British Archaeology Research Report 120.

Bender, B. 1998. *Stonehenge: making space*. Oxford: Berg.

Bennett, S. 1993. Landownership and Parish Type *c.* 1930. in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 94-5. Hull: University of Hull.

Bennett, S. & N. Bennett (eds) 1993. *An Historical Atlas of Lincolnshire*. Hull: University of Hull.

Beresford, G. 1987. *Goltho: the development of an early Medieval manor c. 850-1150*. London: English Heritage.

Beresford, M.W. 1957. *History on the Ground*. London: Lutterworth Press.

Beresford, M.W. & J.R. St Joseph 1979. *Medieval England: an aerial survey*. Cambridge: Cambridge University Press.

Berridge, N.G. & J. Pattison 1994. *Geology of the County around Grimsby and Patrington*. London: HMSO.

Bewley, R.H. (ed.) 1998a. *Lincolnshire's Archaeology from the Air*. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Bewley, R.H. 1998b. England's National Mapping Programme: A Lincolnshire Perspective, in R.H. Bewley (ed.) *Lincolnshire's Archaeology from the Air*: 9-17. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Blackburn, M. 1993. Coin finds and coin circulation in Lindsey, *c.* 600-900, in A. Vince (ed.) *Pre-Viking Lindsey*: 80-90. Lincoln: Lincoln Archaeological Studies 1.

Blackburn, M., C. Coyer & M. Dolley 1983. *Early Medieval Coins from Lincoln and its Shire, c. 770-1100*. London: Council from British Archaeology, The Archaeology of Lincoln VI-1.

Bloemers, J.H.F. 2002. Past- and future-orientated archaeology: protecting and developing the archaeological-historical landscape in the Netherlands, in G. Fairclough & S. Rippon (eds) *Europe's Culture Landscape: archaeologists and the management of change*: 89-96. Brussels: Europae Archaeologiae Consilium Occasional Papers 2.

Bradley, R. 1992. Roman salt production in Chichester Harbour: rescue excavations at Chidham, West Sussex. *Britannia* **23**: 27-44.

Bradley, R. & M. Edmonds 1993. *Interpreting the Axe Trade*. Cambridge: Cambridge University Press.

Brew, D.S. 1997. Holocene lithostratigraphy and broad scale evolution of the Lincolnshire Outmarsh, eastern England. *East Midland Geographer* **20**: 20-32.

Bridbury, A.R. 1955. *England and Salt Trade in the Later Middle Ages*. Oxford: Clarendon Press.

Brookes, S. 2003. The Early Anglo-Saxon framework for Middle Anglo-Saxon economies: the case of East Kent, in T. Pestell & K. Ulmschnider (eds) *Markets in Early Medieval Europe: trading and 'Productive' sites, 650-850*: 84-96. Macclesfield: Windgather Press.

Brooks, I.P. 1990. *The Lindsey Coastal Survey 1989-1990*. Lincoln: Lindsey Archaeological Services.

Brown, A.G., I. Meadows, S.D. Turner & D.J. Mattingley 2001. Roman vineyards in Britain: stratigraphic and palynological data from Wollaston in the Nene Valley, England. *Antiquity* **75**: 745-57.

Cade, J. & M. Brayshay 1996. The taxable wealth and population of Devon parishes in 1524/1525: an application of GIS and computer cartography. *History and Computing* **8**: 105-21.

Caley, J. 1802. *Taxatio Ecclesiastica Angliae et Walliae, auctoritate P. Nicholai IV, circa A.D. 1291*. London.

Camden, W. 1722. *Britannia: or a chronological defcription of Great Britain and Ireland, together with adjacent lands (2nd edition)*. London: Awnsham Churchill.

Cameron, K. 1970. Scandinavian settlement in the territory of five boroughs: the place-name evidence, part II, place-names in Thorp. *Mediaeval Scandinavia* **3**: 35-49.

Cameron, K. 1975. Scandinavian settlement in the territory of the five boroughs: the place-name evidence, in K. Cameron (ed.) *Placename Evidence for the Anglo-Saxon Invasion and Scandinavian Settlements*: 115-38. Nottingham: English Place-Name Society.

Cameron, K. 1996. *The Place Names of Lincolnshire Part 4*. Nottingham: English Place-Name Society Vol. 72.

Cameron, K. 1997. *The Place Names of Lincolnshire Part 5*. Nottingham: English Place-Name Society Vol. 73.

Carey, C.J., T.G. Brown, K. Challis, A.J. Howard & L. Copper 2006. Predictive modelling of mutliperiod geoarchaeological resources at a river confluence: a case study from the Trent-Soar, UK. *Archaeological Prospection* **13**: 241-50.

Carter, A. 1998. The contribution of aerial survey: understanding the results, in R.H. Bewley (ed.) *Lincolnshire's Archaeology from the Air*: 96-104. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Challis, K. 2006. Airborne laser altimetry in alluviated landscapes. *Archaeological Prospection* **13**: 103-27.

Chapman, H. 2006. *Landscape Archaeology and GIS*. Stroud: Tempus.

Chowne, P., M. Girling & J. Greig 1986. Excavations at an Iron Age defended enclosure at Tattershall Thorpe, Lincs. *Proceedings of the Prehistoric Society* **52**: 159-88.

Chowne, P., R.H.J. Cleal, A.P. Fitzpatrick, P. Andrews & D. Buckley 2001. *Excavations at Billingborough Lincolnshire, 1975-8: a Bronze-Iron Age settlement and salt-working site*. Norwich: East Anglian Archaeological Report 94.

Clapham, A.J. 1999. The characterisation of two mid-Holocene submerged forests. Unpublished PhD Thesis, Liverpool John Moores University.

Clark, J.G.D. 1954. *Excavations at Star Carr, an Early Mesolithic Site at Seamer, near Scarborough, Yorkshire*. Cambridge: Cambridge University Press.

Clark, J., J. Darlington & G. Fairclough 2004. *Using Historic Landscape Characterisation*. London: English Heritage and Lancashire County Council.

Clay, C. 2002. Archaeological excavation report; land off Hogsthorpe Road, Mumby, Lincolnshire. Unpublished Report, Pre-Construct Archaeology (Lincoln).

Coles, B. 1998. Doggerland: a speculative survey. *Proceedings of the Prehistoric Society* **64**: 45-81.

Coles, B. & J. Coles 1986. *Sweet Track to Glastonbury: the Somerset Levels in prehistory*. London: Thames and Hudson.

Coles, G. & C.M. Mills 1998. Clinging on for grim life: an introduction to marginality as an archaeological issue, in C.M. Mills & G. Coles (eds) *Life on the Edge: Human settlement and marginality*: vii-xii. Oxford: Oxbow Monograph 100, Symposia of the Association for Environmental Archaeology 13.

Cooper, N. & P. Clay 2006. The national and regional context of the regional framework, in N. Cooper (ed.) *The Archaeology of the East Midlands*: 1-10. Leicester: Leicester Archaeology Monograph 13.

Cosgrove, D. 1989. Geography is everywhere: culture and symbolism in Human landscapes, in D. Gregory & R. Walford (eds) *Horizons in Human Geography*: 118-35. Basingstoke: Macmillian.

Countryside Agency cited 2003. *Countryside Character Initiative: Yorkshire and the Humber: Lincolnshire coast and marshes*. http://www.countryside.gov.uk/cci/yorkshirehumber/042a/htm cited 01/09/2003.

Cox, B. 1975. The significance of the distribution of English place-names in ham in the Midlands and East Anglia, in K. Cameron (ed.) *Placename Evidence for the Anglo-Saxon Invasion and Scandinavian Settlements*: 55-98. Nottingham: English Place-Name Society.

Crosby, A. 2001. Briquetage containers from Ingoldmells beach, in T. Lane & E. Morris (eds) *A Millennium of Saltmaking: prehistoric and Romano-British salt production in the Fenland*: 410-24. Sleaford: Lincolnshire Archaeology and Heritage Reports Series 4.

Crowson, A., T. Lane, K. Penn & D. Trimble 2005. *Anglo-Saxon Settlement of the Siltland of Eastern England*. Sleaford: Lincolnshire Archaeology and Heritage Report Series 7.

Cummins, W.A. 1974. The Neolithic stone axe trade in Britain. *Antiquity* **48**: 201-05.

Cummins, W.A. & C.N. Moore 1973. Petrological identification of stone implements from Lincolnshire, Nottinghamshire and Rutland. *Proceedings of the Prehistoric Society* **39**: 219-55.

Darby, H.C. 1957. *The Domesday Geography of Eastern England.* Cambridge: Cambridge University Press.

Darby, H.C. 1977. *Domesday England.* Cambridge: Cambridge University Press.

Darlington, J. 2002. Mapping Lancashire's historic landscape: the Lancashire Historic Landscape Characterisation programme, in G. Fairclough & S. Rippon (eds) *Europe's Cultural Landscape: archaeologists and the management of change*: 97-105. Brussels: Europae Archaeologiae Consilium Occasional Paper 2.

Darvill, T. 1987. *Prehistoric Britain.* London: Batsford.

Darvill, T. 1997. Landscapes and the archaeologist, in K. Barker & T. Darvill (eds) *Making English Landscapes*: 70-91. Oxford: Oxbow Monograph 93, Bournemouth University School of Conservation Sciences Occasional Paper 3.

Davey, P.J. 1973. Bronze Age metalwork from Lincolnshire. *Archaeologia* **104**: 51-127.

Davies, P. & R. Van de Noort 1995. Prehistoric landscape development of the Lincolnshire coastal area. *East Midlands Geographer* **18**: 3-11.

De Brisay, K.W. & K.A. Evans 1975. *Salt: the study of an ancient industry.* Colchester: Colchester Archaeological Group.

Denton, J. 1993. The valuation of the ecclesiastical benefices of England and Wales. *Historical Research* **66**: 232-50.

Devoy, R.J.N. 1990. Controls on coastal and sea-level changes and the application of archaeological-historical records to understanding recent patterns of sea-level movement, in S. McGrail (ed.) *Maritime Celts, Frisians and Saxons*: 17-26. London: Council for British Archaeology Research Report 71.

Dudley, H. 1949. *Early Days in North-West Lincolnshire.* Scunthorpe: Caldecott.

Eagles, B.N. 1979. *The Anglo-Saxon Settlement of Humberside.* Oxford: BAR British Series 68.

Eagles, B.N. 1989. Lindsey, in S. Bassett (ed.) *The Origins of Anglo-Saxon Kingdoms*: 202-12. London: Leicester University Press.

Eddison, J. 1983. The evolution of the barrier beaches between Fairlight and Hythe. *Geographical Journal* **149**: 39-53.

Eddison, J. (ed.) 1995. *Romney Marsh: The debatable ground*. Oxford: Oxford Committee for Archaeology Monograph 41.

Eddison, J. 2000. *Romney Marsh: survival on a frontier*. Stroud: Tempus.

Eddison, J. & G. Draper 1997. A landscape of medieval reclamation: Walland Marsh, Kent. *Landscape History* **19**: 75-88.

Eddison, J. & C. Green (eds) 1988. *Romney Marsh: evolution, occupation, reclamation*. Oxford: Oxford Committee for Archaeology Monograph 24.

Ekwall, E. 1960. *The Concise Oxford Dictionary of English Place-names*. Oxford: Oxford University Press.

Ellis, S. 2001. Physical background to the Lincolnshire Marsh, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 7-12. Hull: Humber Wetlands Project.

Ellis, S, H. Fenwick, M. Lillie & R. Van de Noort (eds) 2001. *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*. Hull: Humber Wetlands Project.

Elsdon, S.M. 1997. *Old Sleaford Revealed: a Lincolnshire settlement in Iron Age, Roman, Saxon and Medieval times: excavations 1882-1995*. Oxford: Oxbow.

English Heritage 1998. *Exploring our Past*. London: English Heritage.

Environment Agency 2003. *Planning for the Rising Tides: Information on managed retreat*. Leeds: Environment Agency.

Evans, I.S. 1977. The selection of class intervals. *Transactions of the Institute of British Geographers New Series* **2**: 98-124.

Evans, J.G. & T. O'Connor 1999. *Environmental Archaeology: principles and methods*. Stroud: Sutton.

Evans, J.G. & D.D.A. Simpson 1991. Giants' Hills 2 Long Barrow, Skendleby, Lincolnshire. *Archaeologia* **109**: 1-45.

Everitt, A. 1985. *Landscape and Community in England*. London: Hambledon Press.

Everson, P. 1993. Pre-Viking settlement in Lindsey, in A. Vince (ed.) *Pre-Viking Lindsey*: 91-100. Lincoln: Lincoln Archaeological Studies 1.

Everson, P. & T. Hayes 1984. Lincolnshire from the Air, in N. Field & A. White (eds) *A Prospect of Lincolnshire*: 33-41. Lincoln: Field & White.

Everson, P. & T. Williamson (eds) 1998. *The Archaeology of Landscape*. Manchester: Manchester University Press.

Everson, P., C.C. Taylor & C.J. Dunn 1991. *Change and Continuity: rural settlement in North-West Lincolnshire*. London: HMSO.

Fawn, A.J., K.A. Evans, I. McMaster & G.M.R. Davies 1990. *The Red Hills of Essex*. Colchester: Colchester Archaeological Group.

Fellows Jensen, G. 1968. *Scandinavian Personal Names in Lincolnshire and Yorkshire*. Copenhagen: Akademisk Forlag.

Fellows Jensen, G. 1978. *Scandinavian Settlement Names in the East Midlands*. Copenhagen: Akademisk Forlag.

Fellows Jensen, G. 2001. In the steps of the Vikings, in J. Graham-Campbell, R. Hall, J. Jesch & D.N. Parsons (eds) *Vikings and the Danelaw*: 279-88. Oxford: Oxbow Books.

Fenwick, C.C. 1998. *The Poll Taxes of 1377, 1379 and 1381. Part 1. Bedfordshire-Lincolnshire*. Oxford: Oxford University Press.

Fenwick, C.C. 2001. *The Poll Taxes of 1377, 1379 and 1381. Part 2. Lincolnshire-Westmorland*. Oxford: Oxford University Press.

Fenwick, C.C. 2005. *The Poll Taxes of 1377, 1379 and 1381. Part 3. Wiltshire-Yorkshire*. Oxford: Oxford University Press.

Fenwick, H. 2001. Medieval salt-production and landscape development in the Lincolnshire Marsh, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 231-41. Hull: Humber Wetlands Project.

Fenwick, H. 2002. The Lincolnshire Marsh, England – landscape reclamation and the salt industry, in G. Helmig, B. Scholkmann & M. Untermann (eds) *Centre Region Periphery: Medieval Europe Basel 2002, Volume 3*: 63-67. Basel: Archaologische Bodenforschung Basel-Stadt.

Fenwick, H. forthcoming. Medieval moated sites – landscape transformation and utilisation in the Humber wetlands.

Fenwick, H., R. Van de Noort, W. Fletcher & G. Thomas 2001a. Introduction to the archaeological survey, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 63-98. Hull: Humber Wetlands Project.

Fenwick, H., H. Chapman, W. Fletcher, G. Thomas & M. Lillie 2001b. The archaeological survey of the Lincolnshire Marsh, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire*

Marsh: an archaeological survey: 99-202. Hull: Humber Wetlands Project.

Field, N. & I. George 1994. Archaeology in Lincolnshire. *Lincolnshire History and Archaeology* **29**: 45-57.

Field, N. & M. McDaid 1995. Alford Road, Huttoft. Unpublished Report, Lindsey Archaeological Services.

Field, N. & M. Parker Pearson 2003. *Fiskerton: An Iron Age timber causeway*. Oxford: Oxbow.

Fisher, P.F. 1999. Geographical Information Systems: Today and Tomorrow?, in M. Gillings, D. Mattingly & J.Van Dalen (eds) *Geographical Information Systems and Landscape Archaeology*: 5-11. Oxford: Oxbow Books.

Fleming, R. & A. Lowerre 2004. Review article: MacDomesday Book. *Past & Present* **184**: 209-32.

Foard, G., D. Hall & T. Partida 2005. Rockingham Forest, Northamptonshire: the evolution of a landscape. *Landscapes* **6 (2)**: 1-29.

Foot, S. 1993. The kingdom of Lindsey, in A. Vince (ed.) *Pre-Viking Lindsey*: 128-40. Lincoln: Lincoln Archaeological Reports 1.

Foster, C.W. & T. Longley 1924. *The Lincolnshire Domesday and the Lindsey Survey*. Lincoln: Lincoln Record Society 19.

Foster, J. 1992. Briquetage objects, in M. Bell (ed.) *Brean Down Excavations 1983-1987*: 165-73. London: English Heritage Archaeological Report 15.

Fox, C. 1932. *The Personality of Britain*. Cardiff: National Museum of Wales.

Fox, H. 1981. Approaches to the adoption of the Midland system, in T. Rowley (ed.) *The Origins of Open-field Agriculture*: 64-111. London: Croom Helm.

French, C. 1994. *Excavation of the Deeping St Nicholas Barrow Complex, South Lincolnshire*. Sleaford: Lincolnshire Archaeology and Heritage Reports Series 1.

Gaunt, G.D. & M.J. Tooley 1974. Evidence for Flandrian sea-level changes in the Humber estuary and adjacent areas. *Bulletin of the Geological Survey of Great Britain* **48**: 25-41.

Gelling, M. 1997. *Signposts to the Past*. Chichester: Phillimore.

Gelling, M. & A. Cole 2000. *The Landscape of Place-names*. Stamford: Shaun Tyas.

Gibson, A. & A. Woods 1997. *Prehistoric Pottery for the Archaeologist*. London: Leicester University Press.

Gillings, M. & A.L. Wise 1998. *GIS Guide to Good Practice*. Oxford: Oxbow.

Glasscock, R.E. 1975. *The Lay Subsidy of 1334*. London: British Academy.

Godwin, H. & V.R. Switsur 1966. Cambridge University Natural Radiocarbon measurements VI. *Radiocarbon* **6**: 116-37.

Grady, D.M. 1998. Medieval and Post-Medieval salt extraction in north-east Lincolnshire, in R.H. Bewley (ed.) *Lincolnshire's Archaeology from the Air*: 81-95. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Graham, D. 1995. The use of a Geographical Information System in historical demography. *History and Computing* **7**: 50-63.

Grant, S.M. 1904. Ancient pottery kilns. *Lincolnshire Notes and Queries* **8**: 33-8.

Gray, H.L. 1915. *English Field Systems*. Cambridge, Massachusetts: Harvard University Press.

Green, F.J. 1997. St Helen's Cumberworth assessment report. Unpublished Report, Hampshire Archaeology TVAT Report 04/97.

Green, H. 1981. The last century of Danegeld. *The English Historical Review* **96**: 241-58.

Green, R.D. 1968. *Soils of Romney Marsh*. Harpenden: Soil Survey of Great Britian: England and Wales, Bulletin No. 4.

Gregory, I.N. 2003. *A Place in History: A guide to using GIS in historical research*. Oxford: Oxbow Books.

Greig, J.R.A. 1982. Forest clearance and the barrow builders at Butterbump, Lincolnshire. *Lincolnshire History and Archaeology* **17**: 11-14.

Gross, A. & A. Butcher 1995. Adaptation and investment in the age of the Great Storms: agricultural policy on the manors of the principal lords of the Romney Marshes and the marshland fringes *c.* 1250-1320, in J. Eddison (ed.) *Romney Marsh: the debatable ground*: 107-17. Oxford: Oxford University Committee for Archaeology Monograph 41.

Hadley, D.M. 2000. *The Northern Danelaw: its social structure, c. 800-1100*. London: Leicester University Press.

Hadley, D.M. 2001. In search of the Vikings: the problems and the possibilities of interdisciplinary approaches, in J. Graham-Campbell, R. Hall, J. Jesch

& D.N. Parsons (eds) *Vikings and the Danelaw*: 13-31. Oxford: Oxbow Books.

Hadley, D.M. 2002. Viking and native: re-thinking identity in the Danelaw. *Early Medieval Europe* **11**: 45-70.

Halkon, P. 2006. Prehistoric wetland environments and human exploitation of the Foulness Valley, East Yorkshire, UK, in M. Lillie & S. Ellis (eds) *Wetland Archaeology and Environments: regional issues, global perspectives*: 91-107. Oxford: Oxbow.

Hall, D. 1981. The origins of open-field agriculture: the archaeological fieldwork evidence, in T. Rowley (ed.) *The Origins of Open-field Agriculture*: 22-38. London: Croom Helm.

Hall, D. 1988. Survey results in the Cambridgeshire Fenland. *Antiquity* **62**: 311-14.

Hall, D. & J. Coles 1994. *Fenland Survey: an essay in landscape and persistence*. London: English Heritage.

Hallam, H.E. 1960. Salt-making in the Lincolnshire Fenland during the middle ages. *Lincolnshire Architectural and Archaeological Society Reports and Papers* **8**: 85-112.

Hallam, S.J. 1960. Romano-British salt industry in South Lincolnshire. *Lincolnshire Architectural and Archaeological Society Reports and Papers* **8**: 35-75.

Harris, T.M. & G.R. Lock 1990. The diffusion of a new technology: a perspective on the adoption of geographic information systems within UK archaeology, in K.M.S. Allen, S.W. Green & E.B.W. Zubrow (eds) *Interpreting Space: GIS and archaeology*: 33-53. London: Taylor & Francis.

Harvey, S.P.J. 1985. Taxation and the ploughland in Domesday Book, in P. Sawyer (ed.) *Domesday Book: a reassessment*: 86-103. London: Edward Arnold.

Harvey, S.P.J. 1987. Taxation and the economy, in J.C. Holt (ed.) *Domesday Studies*: 249-64. Woodbridge: Boydell Press.

Hayes, P.P. & T. Lane 1992. *The Fenland Project Number 5: Lincolnshire, the south-west Fens*. Sleaford: East Anglian Archaeology Report No 55.

Hazzledine Warren, S. 1932. Prehistoric timber structures associated with a briquetage site in Lincolnshire. *Antiquaries Journal* **12**: 252-6.

Healey, H. 1993. Salt-making II: Saxon and Medieval, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 28-29. Hull: University of Hull.

Healey, H. 1994. An archaeological watching brief at South Cockerington, Lincolnshire. Unpublished Report, H. Healey.

Healey, H. 1999. A Medieval salt-making site at Bicker Haven, in A. Bell, D. Gurney & H. Healey (eds) *Lincolnshire Salterns: excavations at Helpringham, Holbeach St Johns and Bicker Haven*: 82-101. Heckington: East Anglian Archaeology 89.

Healey, R.G. & T.R. Stamp 2000. Historical GIS as a foundation for the analysis of regional economic growth: theoretical, methodological, and practical issues. *Social Science History* **24**: 575-612.

Herring, P. & N. Johnson 1997. Historic landscape character mappping in Cornwall, in K. Barker & T. Darvill (eds) *Making English Landscapes*: 46-54. Oxford: Oxbow Monograph 93, Bournemouth University School of Conservation Sciences Occasional Paper 3.

Higham, N.J. 1990. Settlement, land use and Domesday ploughlands. *Landscape History* **12**: 33-44.

Higham, N.J. 1995. *An English Empire: Bede and the early Anglo-Saxon kings*. Manchester: Manchester University Press.

Hinton, D.A. 1997. The 'Scole-Dickleburgh field system' examined. *Landscape History* **19**: 5-12.

Hirsch, E. 1995. Landscape: between place and space, in E. Hirsch & M. O'Hanlon (eds) *The Anthropology of Landscape: perspectives on place and space*: 1-30. Oxford: Calrendon Press.

Hodgett, G.A.J. 1975. *Tudor Lincolnshire*. Lincoln: History of Lincolnshire Volume 6.

Holden, E.W. & T.P. Hudson 1981. Salt-making in the Adur valley, Sussex. *Sussex Archaeological Collections* **119**: 117-48.

Holgate, R. & A. Woodcock 1988. Archaeological and palaeoenvironmental investigations at Pannel Bridge, near Pett Level, East Sussex, in J. Eddison & C. Green (eds) *Romney Marsh: evolution, occupation, reclamation*: 72-76. Oxford: Oxford University Committee for Archaeology Monograph 24.

Homans, G.C. 1941. *English Villagers of the Thirteenth Century*. Cambridge Massachusetts: Harvard University Press.

Hoskins, W.G. 1955. *The Making of the English Landscape*. London: Hodder and Stoughton.

Hoyle, R. 1994. *Tudor Taxation Records: a guide for users*. London: PRO Readers' Guide 5.

Hunt, C.O., K.J. Dorning, J.L. Harding & A.M. Jones 1990. The environmental report, in I.P. Brooks *The Lindsey Coastal Survey 1989-1990*: 28-56. Lincoln: Lindsey Archaeological Services.

Hunter, J. & I. Ralston (eds) *The Archaeology of Britain*. London: Routledge.

Huntley, B. & H.J.B. Birks 1983. *An Atlas of Past and Present Pollen Maps of Europe 0-13,000 years ago*. Cambridge: Cambridge University Press.

Hurst, J.D. 1992. *Savouring the Past*. Worcester: Hereford & Worcester County Council.

Hurst, J.D. 1997. *A Multi-period Salt Production Site at Droitwich: excavations at Upwich*. York: Council for British Archaeology Research Report 107.

Ingold, T. 1993. The temporality of the landscape. *World Archaeology* **25**: 152-74.

Johnson, S. 1997. Archaeological field evaluation report (part 2). Land north of Church Lane, Manby, Lincolnshire. Unpublished Report, Pre-Construct Archaeology (Lincoln).

Jones, B. & D. Mattingley 1993. *An Atlas of Roman Britain*. Oxford: Blackwell.

Jones, D. 1988. Aerial reconnaissance and Prehistoric and Romano-British archaeology in Northern Lincolnshire – a sample survey. *Lincolnshire History and Archaeology* **23**: 5-30.

Jones, D. 1998a. Long barrows and Neolithic elongated enclosures in Lincolnshire: an analysis of the air photographic evidence. *Proceedings of the Prehistoric Society* **64**: 83-114.

Jones, D. 1998b. Romano-British settlement on the Lincolnshire Wolds, in R.H. Bewley (ed.) *Lincolnshire's Archaeology from the Air*: 69-80. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Jordan, D., D. Haddon-Reece & A. Bayliss 1994. *Radiocarbon Dates from Samples Funded by English Heritage and dated before 1981*. London: English Heritage.

Kain, R.J.P. & R.R. Oliver 1995. *The Tithe Maps of England and Wales*. Cambridge: Cambridge University Press.

Keen, L. 1988. Coastal salt production in Norman England. *Anglo-Norman Studies* **11**: 133-79.

Kershaw, A. 1998. The Lincolnshire National Mapping Programme Project, in R.H. Bewley (ed.) *Lincolnshire's Archaeology from the Air*: 18-22. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Kirkham, B. 1981. The excavation of a prehistoric saltern at Hogsthorpe, Lincolnshire. *Lincolnshire History and Archaeology* **16**: 5-10.

Kirkham, B. 2001. Iron Age and Roman saltmaking on the Lindsey coast and Marshland, in T. Lane & E. Morris (eds) 2001. *A Millennium of Saltmaking: prehistoric and Romano-British salt production in the Fenland*: 405-10. Sleaford: Lincolnshire Archaeology and Heritage Reports Series 4.

Knapp, A.B. & W. Ashmore 1999. Archaeological Landscapes: Constructed, Conceptualized, Ideational, in W. Ashmore & A.B. Knapp (eds) *Archaeologies of Landscape*: 1-30. London: Blackwell.

Knowles, A.K. (ed.) 2002. *Past Time, Past Place: GIS for History*. Redlands: ESRI Press.

Lamb, H.H. 1995. *Climate, History and the Modern World*. London: Routledge.

Lane, T. 1993. *The Fenland Project Number 8: Lincolnshire survey, the northern fen edge*. Sleaford: East Anglian Archaeology Report No 66.

Lane, T. & E. Morris (eds) 2001. *A Millennium of Saltmaking: prehistoric and Romano-British salt production in the Fenland*. Sleaford: Lincolnshire Archaeology and Heritage Reports Series 4.

Leahy, K. 1986. A dated stone axe-hammer from Cleethorpes, South Humberside. *Proceedings of the Prehistoric Society* **52**: 143-52.

Leahy, K. 1993. The Anglo-Saxon settlement of Lindsey, in A. Vince (ed.) *Pre-Viking Lindsey*: 29-44. Lincoln: Lincoln Archaeological Studies 1.

Leahy, K. 1999. The formation of the Anglo-Saxon kingdom of Lindsey, in T. Dickinson & D. Griffiths (eds) *Anglo-Saxon Studies in Archaeology and History 10*: 125-33. Oxford: Oxford University Committee for Archaeology.

Leahy, K. 2003. Middle Anglo-Saxon Lincolnshire: an emerging picture, in F. Pestell & K. Ulmchneider (eds) *Markets in Early Medieval Europe: Trading and 'Productive' sites, 650-850*: 138-54. Macclesfield: Windgather Press.

Leahy, K. 2004. Detecting the Vikings in Lincolnshire. *Current Archaeology* **190**: 462-68.

Leahy, K. & C. Paterson 2001. New light on the Viking presence in Lincolnshire: the artefactual evidence, in J. Graham-Campbell, R. Hall, J. Jesch & D.N. Parsons (eds) *Vikings and the Danelaw*: 181-202. Oxford: Oxbow Books.

Legge, A.J. & P.A. Rowley-Conwy 1988. *Star Carr Revisited: a Reanalysis of the Large Mammals*. London: Centre for Extramural Studies, Birkbeck College.

Letters, S. 2003. *Gazetteer of Markets and Fairs in England and Wales to 1516. Part 1*. London: List and Index Society Special Series 32.

Lewis, C. 2006. The Medieval period (850-1500), in N. Cooper (ed.) *The archaeology of the East Midlands*: 185-216. Leicester: Leicester Archaeology Monograph 13.

Lillie, M. 2005. Deconstructing reconstruction: the Bronze Age sewn plank boats from North Ferriby, River Humber, England, UK and their context. *Journal of Wetland Archaeology* **5**: 107-19.

Lillie, M. & B. Gearey 2001a. The palaeoenvironmental survey of the Lincolnshire Marsh, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 31-62. Hull: Humber Wetlands Project.

Lillie, M. & B. Gearey 2001b. Introduction to the palaeoenvironmental survey, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 21-30. Hull: Humber Wetlands Project.

Long, A.J., J.B. Innes, J.R. Kirby, J.M. Lloyd, M.M. Rutherford, I. Shennan & M.J. Tooley 1998. Holocene sea-level change and coastal evolution in the Humber estuary, eastern England: an assessment of rapid coastal change. *The Holocene* **8**: 229-47.

Luckombe, P. 1767. *The Beauties of England*. London: L. Davis & C. Reymers.

Lund, N. 1976. Thorp-names, in P. Sawyer (ed.) *Medieval Settlement: Continuity and change*: 223-25. London: Arnold.

Malim, T. 2005. *Stonea and the Roman Fens*. Stroud: Tempus.

Malone, S. 2001. Archaeological evaluation at Hall Lane, Burgh le Marsh, Lincolnshire. Unpublished Report, Archaeological Project Services Report 16/01.

Manby, T.G., A. King & B. Vyner 2003. The Neolithic and Bronze Ages: a time of early agriculture, in T.G. Manby, S. Moorhouse & P. Ottaway (eds) *The Archaeology of Yorkshire: an assessment at the beginning of the 21st*

century: 35-116. Leeds: Yorkshire Archaeological Society Occasional Paper 3.

Margary, I.D. 1973. *Roman Roads in Britain*. London: John Baker.

Marjoram, J. 1974. A Bronze Age handled Beaker from Claxby-by-Alford. *Lincolnshire History and Archaeology* **9**: 29.

May, J. 1976. *Prehistoric Lincolnshire*. Lincoln: History of Lincolnshire Volume 1.

May, J. 1984. The major settlements of the later Iron Age in Lincolnshire, in N. Field & A. White (eds) *A Prospect of Lincolnshire*: 18-22. Lincoln: Field and White.

May, J. 1993a. The beginnings of farming: the Neolithic period, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 10-11. Hull: University of Hull.

May, J. 1993b. The later Iron Age, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 12-13. Hull: University of Hull.

May, J. 1996. *Dragonby: report on excavations at an Iron Age and Romano-British settlement in North Lincolnshire*. Oxford: Oxbow.

McAvoy, F. 1994. Marine salt extraction: the excavation of salterns at Wainfleet St Mary, Lincolnshire. *Medieval Archaeology* **38**: 134-43.

McHardy, A.K. 1992. *Clerical Poll-taxes of the Diocese of Lincoln 1377-1381*. Lincoln: Lincoln Record Society.

McLure, J.T. & G.H. Griffiths 2002. Historic landscape reconstruction and visualisation, West Oxfordshire, England. *Transactions in GIS* **6(1)**: 69-78.

McNeil, R. 1983. Two 12th century wich houses in Nantwich, Cheshire. *Medieval Archaeology* **27**: 40-88.

Meaney, A. 1964. *A Gazetteer of Early Anglo-Saxon Burial Sites*. London: Allen & Unwin.

Meddens, F.M. & M. Beasley 2001. Roman Seasonal Wetland Pasture Exploitation near Nash, on the Gwent Levels, Wales. *Britannia* **32**: 143-184.

Meinig, D.W. 1979. The beholding eye: Ten versions of the same scene, in D.W. Meinig (ed.) *The Interpretation of Ordinary Landscapes: geographical essays*: 33-48. Oxford: Oxford University Press.

Mellars, P. & P. Dark 1998. *Star Carr in Context: New archaeological and palaeoecological investigations at the early Mesolithic site of Star Carr, North Yorkshire*. Cambridge: McDonald Institute for Archaeological Research.

Membery, S. 2004a. An archaeological resource assessment of the Mesolithic in Lincolnshire (*c*.9000-6000). www.le.ac.uk/archaeology/research/projects/eastmidsfw/pdfs/09linmeso.pdf cited 22/01/04.

Membery, S. 2004b. An archaeological resource assessment of the Neolithic and Early Bronze Age in Lincolnshire. www.le.ac.uk/archaeology/research/projects/eastmidsfw/pdfs/13lincneba.pdf cited 22/01/04.

Membery, S. 2004c. An archaeological resource assessment of the Later Bronze and Iron Ages (First millennium BC) in Lincolnshire. www.le.ac.uk/archaeology/research/projects/eastmidsfw/pdfs/18linc1stmill.pdf cited 22/01/04.

Mills, C.M. & G. Coles (eds) 1998. *Life on the Edge*. Oxford: Oxbow Monograph 100.

Morgan, P. & C. Thorn 1986. *Domesday Book: Lincolnshire*. Chichester: Phillimore Domesday Book 31.

Morris, E.L. 2001. Briquetage, in T. Lane & E.L. Morris (eds) *A Millennium of Saltmaking: prehistoric and Romano-British Salt Production in the Fenland*: 251-376. Sleaford: Lincolnshire Archaeology and Heritage Reports Series 4.

Morris, R. 1989. *Churches in the Landscape*. London: Dent and Sons.

Muir, R. 2000a. Conceptualising landscapes. *Landscapes* **1**: 4-21.

Muir, R. 2000b. *The New Reading the Landscape*. Exeter: Exeter University Press.

Nicholas, G.P. 2006a. Prehistoric hunter-gatherers in wetland environments: theoretical issues, economic organisation and resource management strategies, in M. Lillie and S. Ellis (eds) *Wetland Archaeology and Environments: regional issues, global perspectives*: 46-62. Oxford: Oxbow.

Nicholas, G.P. 2006b. Prehistoric hunter-gatherers in wetland environments: mobility/sedentisim and aspects of socio-political organisation, in M. Lillie and S. Ellis (eds) *Wetland Archaeology and Environments: regional issues, global perspectives*: 245-57. Oxford: Oxbow.

Olivier, A. 1996. *Frameworks for our Past*. London: English Heritage.

Oosthuizen, S. 2005. New light on the origins of open-field farming? *Medieval Archaeology* **49**: 165-93.

Owen, A.E.B. 1952. Coastal erosion in East Lincolnshire. *Lincolnshire Historian* **1**: 330-41.

Owen, A.E.B. 1954. The early history of Saltfleet Haven. *Lincolnshire Architectural and Archaeological Society Reports and Papers* **5**: 87-100.

Owen, A.E.B. 1955. Wilgrip Haven and Theddlethorpe. *Lincolnshire Historian* **2(3)**: 37-41.

Owen, A.E.B. 1963. The upkeep of the Lindsey sea defences, 1550-1650. *Lincolnshire Historian* **2(10)**: 23-20.

Owen, A.E.B. 1975. Hafdic: a Lindsey name and its implications. *Journal of the English Place-Name Society* **7**: 45-56.

Owen, A.E.B. 1984. Salt, sea banks and Medieval settlement on the Lindsey coast, in N. Field & A. White (eds) *A Prospect of Lincolnshire*: 46-49. Lincoln: Field & White.

Owen, A.E.B. 1992. Castle Carlton: the origins of a Medieval 'new town'. *Lincolnshire History and Archaeology* **27**: 17-22.

Owen, A.E.B. 1993. Beyond the sea bank: sheep on the Huttoft outmarsh in the early thirteenth century. *Lincolnshire History and Archaeology* **28**: 39-41.

Owen, A.E.B. 1996. *The Medieval Lindsey Marsh*. Lincoln: Lincoln Record Society 85.

Owen, A.E.B. 1997a. Roads and Romans in south-east Lindsey: the place-name evidence, in A.R. Rumble & A.D. Mills (eds) *Names, Places and People*: 254-68. Stamford: Paul Watkins.

Owen, A.E.B. 1997b. Louth before Domesday. *Lincolnshire History and Archaeology* **32**: 60-64.

Owen, A.E.B. 1999. Two Lincolnshire coastal names. *Journal of the English Place-Name Society* **31**: 55-62.

Owen, D. 1975. Medieval Chapels in Lincolnshire. *Lincolnshire History and Archaeology* **10**: 15-22.

Palmer, R. & G. Tann 2006. The Lincolnshire Grazing Marsh Ridge and Furrow Project: air photographic assessment. Unpublished Report. Lindsey Archaeology Services Report No. 894.

Palmer-Brown, C. 1993. Bronze Age salt production in Tetney. *Current Archaeology* **136**: 143-45.

Pattison, J. & I.T. Williamson 1986. The saltern mounds of north-east Lincolnshire. *Proceedings of the Yorkshire Geological Society* **46**: 77-83.

Pawley, S. 1984. Lincolnshire coastal villages and the sea *c.* 1300 - *c.* 1600: economy and society. Unpublished PhD Thesis, University of Leicester.

Pawley, S. 1993. Maritime trade and fishing in the Middle Ages, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 56-7. Hull: University of Hull Press.

Pethick, J.S. 1990. The Humber estuary, in S. Ellis & D. Crowther (eds) *Humber Perspectives*: 54-67. Hull: Hull University Press.

Petrie, W. 1878. Notes on ancient roads, in Proceedings at Meetings of the Royal Archaeological Institute. *Archaeological Journal* **35**: 169-75.

Peuquet, D.J. 1999. Time in GIS and geographical databases, in P.A. Longley, M.F. Goodchild, D.J. Maguire & D.W. Rhind (eds) *Geographical Information Systems Volume 1*: 91-103. New York: John Wiley.

Phillips, C.W. 1932a. The long barrows of Lincolnshire. *Archaeological Journal* **89**: 174-202.

Phillips, C.W. 1932b. The Roman ferry across the Wash. *Antiquity* **6**: 342-48.

Phillips, C.W. 1933. The present state of archaeology in Lincolnshire. Part I. *Archaeological Journal* **90**: 106-49.

Phillips, C.W. 1934. The present state of archaeology in Lincolnshire. Part II. *Archaeological Journal* **91**: 97-187.

Phillips, C.W. 1936. The excavation of Giants' Hills long barrow, Skendleby, Lincolnshire. *Archaeologia* **85**: 37-106.

Phillips, C.W. 1948. Field archaeology in Lincolnshire. *Lincolnshire Historian* **1(2)**: 42-54.

Platts, G. 1985. *Land and People in Medieval Lincolnshire*. Lincoln: History of Lincolnshire Volume 4.

Pollard, J., D. Hall & G. Lucas 2001. Excavation at a Medieval saltern at Parson Drove, Cambridgeshire, in T. Lane & E. Morris (eds) *A Millennium of Saltmaking: prehistoric and Romano-British salt production in the Fenland*: 426-55. Sleaford: Lincolnshire Archaeology and Heritage Reports Series 4.

Postan, M.M. 1972. *The Medieval Economy and Society*. Harmondsworth: Penguin.

Precious, B. 2003. An overview of the Roman pottery from Saltfleetby St Peters. Unpublished Report.

Pryor, F. 2001. *The Flag Fen Basin: archaeology and environment of a Fenland landscape*. London: English Heritage.

Rackham, O. 1986. *The History of the Countryside*. London: Dent.

Rayner, T. 2002. Archaeological watching brief on land at Church Road, Huttoft, Lincolnshire. Unpublished Report, Archaeological Project Services 102/02.

Reeves, A. 1995. Romney Marsh: the fieldwalking evidence, in J. Eddison (ed.) *Romney Marsh: the debatable ground*: 78-91. Oxford: Oxford University Committee for Archaeology Monograph 41.

Reeves, A. & T. Williamson 2000. Marshes, in J. Thirsk (ed.) *Rural England: an illustrated history of the landscape*: 150-66. Oxford: Oxford University Press.

Richards, J.D. 2000. Anglo-Saxon settlements and archaeological visibility in the Yorkshire Wolds, in H. Geake & K. Kenny (eds) *Early Deira*: 27-39. Oxford: Oxbow.

Richmond, I.A. 1946. The Roman City of Lincoln. *Archaeological Journal* **103**: 26-56.

Rippon, S. 1991. Planned landscapes in south-east Essex. *Essex Archaeology and History* **22**: 46-60.

Rippon, S. 1993. Landscape evolution and wetland reclamation around the Severn Estuary. Unpublished PhD Thesis, University of Reading.

Rippon, S. 1996. *Gwent Levels: The evolution of a wetland landscape*. York: Council for British Archaeology Research Report 105.

Rippon, S. 1997. *The Severn Estuary: landscape evolution and wetland reclamation*. London: Leicester University Press.

Rippon, S. 1999. Romano-British reclamation of coastal wetlands, in H. Cook & T. Williamson (eds) *Water Management in the English Landscape*: 101-21. Edinburgh: Edinburgh University Press.

Rippon, S. 2000. *The Transformation of Coastal Wetlands*. London: British Academy.

Rippon, S. 2001. Reclamation and regional economies of medieval marshland in Britain, in B. Raftery & J. Hickey (eds) *Recent Developments in Wetland Research*: 139-58. Dublin: Seandalaiocht Monograph 2 & Warp Occasional Paper 14.

Rippon, S. 2002. Infield and Outfield: the early stages of marshland colonisation and the evolution of Medieval field systems, in T. Lane & J. Coles (eds) *Through Wet and Dry: essays in honour of David Hall*: 54-70. Sleaford: Lincolnshire Archaeology and History Heritage Reports Series No 5.

Rippon, S. 2004a. *Historic Landscape Analysis*. York: Council for British Archaeology Practical Handbook 16.

Rippon, S. 2004b. A push into the margins? The development of a coastal landscape in north-west Somerset during the late 1st Millennium A.D., in J. Hines, A. Lane & M. Redknapp (eds) *Land, Sea and Home*: 359-77. Leeds: Society for Medieval Archaeology Monograph 20.

Rippon, S. 2004c. Making the most of a bad situation? Glastonbury Abbey, Meare, and the Medieval exploitation of wetland resources. *Medieval Archaeology* **48**: 91-130.

Roberts, B.K. 1982. The anatomy of the village: observation and extrapolation. *Landscape History* **4**: 11-20.

Roberts, B.K. 1985. Village patterns and forms: some models for discussion, in D. Hooke (ed.) *Medieval Villages*: 7-25. Oxford: Oxford University Committee for Archaeology Monograph 5.

Roberts, B.K. 1987. *The Making of the English Village*. London: Longmans.

Roberts, B.K. & S. Wrathmell 2000. *An Atlas of Rural Settlement in England*. London: English Heritage.

Roberts, B.K. & S. Wrathmell 2002. *Region and Place: a study of English rural settlement*. London: English Heritage.

Robinson, D. 1970. Coastal evolution in north-east Lincolnshire. *East Midlands Geographer* **5**: 62-70.

Robinson, D. 1993. Natural regions, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 8-9. Hull: University of Hull.

Rodwell, W. 1978. Relict landscapes in Essex, in H.C. Bowen & P.J. Fowler (eds) *Early Land Allotment in the British Isles: a survey of recent work*: 89-98. Oxford: BAR British Series 48.

Rodwell, W. 1979. Iron Age and Roman salt-winning on the Essex Coast, in B.C. Burnham & H.B. Johnson (eds) *Invasion and Response the case of Roman Britain*: 89-98. Oxford: BAR British Series 73.

Roe, D.A. 1968. *A Gazetteer of British Lower and Middle Palaeolithic Sites*. London: Council for British Archaeology Research Report 8.

Roffe, D. 1981. The Lincolnshire Hundred. *Landscape History* **3**: 27-36.

Roffe, D. 1984. Pre-Conquest estates and parish boundaries. A discussion with examples from Lincolnshire, in M.L. Faull (ed.) *Studies in Late Anglo-Saxon Settlement*: 115-22. Oxford: Oxford University Department for External Studies.

Rudkin, E.H. & D.M. Owen 1960. The medieval salt industry in the Lindsey Marshland. *Lincolnshire Architectural and Archaeological Society Reports and Papers* **8**: 76-84.

Russell, E. & R. Russell 1983. *Making New Landscapes in Lincolnshire*. Lincoln: Lincoln History Series 5.

Russell, E. & R. Russell 1987. *Parliamentary Enclosure and New Lincolnshire Landscapes*. Lincoln: Lincoln History 10.

Russell, R. 1995. *The Logic of Open Field Systems*. Lincoln: Society for Lincolnshire Archaeology.

Rylatt, R. 2000a. Archaeological evaluation report: land at the Green, Orby, Lincolnshire. Unpublished Report, Pre-construct Archaeology (Lincoln).

Rylatt, R. 2000b. Archaeological desk-based assessment. Land south of High Farm, Halton Holegate, Lincolnshire. Unpublished Report, Pre-construct Archaeology (Lincoln).

Rylatt, R. 2001. Archaeological evaluation report. Land to the south of High Farm, Halton Holegate, Lincolnshire. Unpublished Report, Pre-construct Archaeology (Lincoln).

Sawyer, P. 1998. *Anglo-Saxon Lincolnshire*. Lincoln: History of Lincolnshire Volume 3.

Schofield, J.E. 2001. Vegetation succession in the Humber wetlands. Unpublished PhD Thesis, University of Hull.

Sheail, J. 1998a. *The Regional Distribution of Wealth in England as Indicated in the 1524/5 Lay Subsidy. Volume 1*. London: List and Index Society Special Series 28.

Sheail, J. 1998b. *The Regional Distribution of Wealth in England as Indicated in the 1524/5 Lay Subsidy. Volume 2*. London: List and Index Society Special Series 29.

Shennan, I., K. Lambeck, R. Flather, B.P. Horton, J. Mcarthur, J. Innes, J. Lloyd, M. Rutherford & R. Kingfield 2000. Modelling western North Sea palaeogeograhies and tidal changes during the Holocene, in I. Shennan & J. Andrews (eds) *Holocene Land-Ocean Interaction and Environmental Change around the North Sea*: 299-319. London: Geological Society Special Publication 166.

Sheppard, J. 1956. The drainage of the marshland of East Yorkshire. Unpublished PhD Thesis, University of Hull.

Sills, J. 1982. St Peter's Church, Holton-le-Clay, Lincolnshire. *Lincolnshire History and Archaeology* **17**: 29-42.

Silvester, R. 1988. The Norfolk Fens. *Antiquity* **62**: 326-30.

Silvester, R. 1999. Medieval reclamation of marsh and fen, in H. Cook & T. Williamson (eds) *Water Management in the English Landscape*: 122-40. Edinburgh: Edinburgh University Press.

Simpson, S. 1746. *The Agreeable Hiftorian, of the compleat Engliſh Traveller*. London.

Smith, A.G. 1958. Post-glacial deposits in South Yorkshire and North Lincolnshire. *New Phytologist* **57**: 19-49.

Smith, L.T. 1964. *The Itinerary of John Leland Volume 4*. London: Centaur Press.

Snee, J. 2000. Archaeological watching brief of development at Hall Lane, Burgh le Marsh, Lincolnshire. Unpublished Report, Archaeological Project Services 106/00.

Spoerry, P. 2005. Town and country in the Medieval Fenland, in K. Giles & C. Dyer (eds) *Town and Country in the Middle Ages: Contrasts, Contacts and Interconnections*: 85-110. Leeds: Society for Medieval Archaeology Monograph 22.

Stafford, P. 1985. *The East Midlands in the Early Middle Ages*. Leicester: Leicester University Press.

Stenton, F.M. 1922. *Transcriptions of Charters Relating to Gilbertine Houses*. Lincoln: Lincoln Record Society 18.

Stocker, D. 1993. The early church in Lincolnshire: a study of the sites and their significance, in A. Vince (ed.) *Pre-Viking Lindsey*: 101-22. Lincoln: Lincoln Archaeological Studies 1.

Stocker, D. 2000. Monuments and merchants: irregularities in the distribution of stone sculpture in Lincolnshire and Yorkshire in the tenth century, in D.M. Hadley & J.D. Richards (eds) *Cultures in Contact: Scandinavian settlement in England in the ninth and tenth centuries*: 179-212. Turnholt: Studies in the Early Middle Ages 2.

Stocker, D. & P. Everson 2001. Five towns funerals: decoding diversity in Danelaw stone sculpture, in J. Graham-Campbell, R. Hall, J. Jesch & D.N. Parsons (eds) *Vikings and the Danelaw*: 223-243. Oxford: Oxbow Books.

Strahl, E. 2000. Archaeology on the North Sea coast of Lower Saxony: recent research, in A. Aberg & C. Lewis (eds) *The Rising Tide: archaeology and coastal landscapes*: 17-21. Oxbow: Oxbow Books.

Strang, A. 1997. Explaining Ptolemy's Roman Britain. *Britannia* **28**: 1-30.

Straw, A. 1969. Pleistocene events in Lincolnshire: a survey and revised nomenclature. *Transactions of the Lincolnshire Naturalists' Union* **17**: 85-98.

Stukeley, W. 1724. *Itinerarium Curiosum*. London.

Sturman, C. 1984. Salt making in the Lindsey Marshland in the 16th and early 17th centuries, in N. Field & A. White (eds) *A Prospect of Lincolnshire*: 50-56. Lincoln: Field & White.

Suggate, R.P. & R.G. West 1959. On the extent of the Last Glaciation in eastern England. *Proceedings of the Royal Society of London Series B* **150**: 263-82.

Swinnerton, H.H. 1931. The post-glacial deposits of the Lincolnshire Coast. *Quarterly Journal of the Geological Society* **87**: 360-75.

Swinnerton, H.H. 1932. The prehistoric pottery sites of the Lincolnshire coast. *Antiquaries Journal* **12**: 239-53.

Swinnerton, H.H. 1936. The physical history of east Lincolnshire. *Transactions of the Lincolnshire Naturalists Union* **9**: 91-100.

Tann, G. 1995. Burgh le Marsh-Ingoldmells Rising Main: archaeological watching brief. Unpublished Report, Lindsey Archaeology Services.

Tann, G. 2004. Lincolnshire Coastal Grazing Marsh Archaeological and Historical Data Collection. Unpublished Report, Lindsey Archaeology Services 770.

Tann, G., C. Angus, W. Booth & J. Mordue 2000. Ingoldmells Sewage Treatment Works Extension. Unpublished Report, Lindsey Archaeological Services Report 508.

Tatham, E. 1911. "Chesterland" in the court rolls of Ingoldmells. *Lincolnshire Notes and Queries* **11**: 226-29.

Tatham, E. 1919. Roman remains at Dexthorpe and other places in East Lincolnshire. *Lincolnshire Notes and Queries* **15**: 33-47.

Taxatio Database 2006. *The Taxatio database Project*. www.hrionline.ac.uk/taxatio. Accessed 03/01/2006.

Taylor, K.C., P.A. Mayewski, R.B. Alley, E.J. Brook, A.J. Gow, P.M. Grootes, D.A. Meese, E.S. Saltzman, J.P. Severinghaus, M.S. Twickler, J.W.C. White, S. Whitlow & G.A. Zielinski 1997. The Holocene-Younger Dryas Transition Recorded at Summit, Greenland. *Science* **278**: 825-27.

Thirsk, J. 1964. The common fields. *Past and Present* **29**: 3-29.

Thomas, G. & W. Fletcher 2001. Prehistoric and Roman salt-working in the Lincolnshire Marsh, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh: an archaeological survey*: 215-30. Hull: Humber Wetlands Project.

Thomson, S. & J. Snee 2001. Archaeological watching brief during development at Huttoft Primary School, Church Lane, Huttoft, Lincolnshire. Unpublished Report, Archaeological Project Services 194/00.

Tooley, M. 1995. Romney Marsh: the debatable ground, in J. Eddison (ed.) *Romney Marsh: the debatable ground*: 1-7. Oxford: Oxford University Committee for Archaeology Monograph No. 41.

Tooley, M. & V.R. Switsur 1988. Water level changes and sedimentation during the Flandrain Age in the Romney Marsh area, in J. Eddison & C. Green (eds) *Romney Marsh: evolution, occupation and reclamation*: 53-71. Oxford: Oxford University Committee for Archaeology Monograph 24.

Ulmschneider, K. 2000a. Settlement, economy, and the 'productive' site: middle Anglo-Saxon Lincolnshire A.D. 650-780. *Medieval Archaeology* **44**: 53-79.

Ulmschneider, K. 2000b. *Markets, Minsters, and Metal Detectors*. Oxford: BAR British Series 307.

Van de Noort, R. 2001. Bronze Age perceptions of wetlands: recent archaeological work on the humber estaury, in B. Raftery & J. Hickey (eds) *Recent Developments in Wetland Research*: 271-79. Dublin: Seandalaiocht Monograph 2 &WARP Occasional Paper 14.

Van de Noort, R. 2004. *The Humber Wetlands: The archaeology of a dynmaic landscape*. Macclesfield: Windgather Press.

Van de Noort, R. & P. Davies 1993. *Wetland Heritage: an archaeological assessment of the Humber wetlands*. Hull: Humber Wetlands Project, University of Hull.

Van de Noort, R. & J. Etté 2001. Introducing the survey of the Lincolnshire Marsh, in S. Ellis, H. Fenwick, M. Lillie & R. Van de Noort (eds) *Wetland Heritage of the Lincolnshire Marsh*: 1-5. Hull: Humber Wetlands Project, University of Hull.

Vermeulen, F., M. Antrop, B. Hageman & T. Wiedemann 2001. Ancient roads and fields in Northwestern Gaul- A GIS-based analysis, in Z. Stancic & T. Veljanovski (eds) *Computing Archaeology for Understanding the Past. CAA 2000*: 187-96. BAR International Series 931.

Vince, A. 1993. Lincolnshire in the Anglo-Saxon period, *c.* 450-1066, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 22-23. Hull: University of Hull.

Vince, A. 2006. The Anglo-Saxon period (*c.* 400-850), in N. Cooper (ed.) *The Archaeology of the East Midlands*: 161-84. Leicester: Leicester Archaeology Monograph 13.

Vollans, E. 1995. Medieval salt-making and the Inning of the tidal marshes at Belgar, Lydd, in J. Eddison (ed.) *Romney Marsh: the debatable ground*: 118-26. Oxford: Oxford University Committee for Archaeology Monograph 41.

Waller, M. 1994. *The Fenland Project, Number 9: Flandrian environmental change in Fenland*. Cambridge: East Anglian Archaeology 70.

Walshaw, G.R. 1935. An ancient Lincolnshire map. *The Lincolnshire Magazine* **2(7)**: 196-206.

Ward, I., P. Larcombe & M. Lillie 2006. The dating of Doggerland – post-glacial geochronology of the southern North Sea. *Environmental Archaeology* **11**: 207-18.

Webster, D., H. Webster & D.F. Petch 1967. A possible vineyard of the Romano-British period at North Thoresby, Lincolnshire. *Lincolnshire History and Archaeology* **2**: 55-61.

Webster, G. 1949. The Legionary Fortress at Lincoln. *Journal of Roman Studies* **39**: 57-78.

Webster, G. 1951. An Anglo-Saxon urnfield at South Elkington, Louth, Lincolnshire. *Archaeological Journal* **108**: 25-64.

Wheatley, D. & M. Gillings 2002. *Spatial technology and Archaeology*. London: Taylor and Francis.

White, A.J. 1977. Cock Hill, Burgh-le-Marsh. *Lincolnshire History and Archaeology* **12**: 73.

White, A.J. 1979. A beaker from Grainthorpe. *Lincolnshire History and Archaeology* **14**: 77.

Whittle, A. 1999. The Neolithic Period, *c.* 4000-2500/2200 BC: changing the world, in J. Hunter & I. Ralston (eds) *The Archaeology of Britain*: 58-76. London: Routledge.

Whitwell, J.B. 1966. Archaeological notes. *Lincolnshire History and Archaeology* **1**: 33-53.

Whitwell, J.B. 1970. *Roman Lincolnshire*. Lincoln: History of Lincolnshire Volume 2.

Whitwell, J.B. 1992. *Roman Lincolnshire*. Lincoln: History of Lincolnshire Volume 2 (second edition).

Whitwell. J.B. 1993. Roman Lincolnshire, in S. Bennett & N. Bennett (eds) *An Historical Atlas of Lincolnshire*: 14-15. Hull: Hull University Press.

Wicher, R.E. 1999. GIS and Landscapes of Perception, in M. Gillings, D. Mattingly & J.Van Dalen (eds) *Geographical Information Systems and Landscape Archaeology*: 13-22. Oxford: Oxbow Books.

Wilkinson, D.M., A.J. Clapham & T. Clare 1997. The ground flora of the British Woodland. *Quaternary Newsletter* **83**: 15-20.

Williams, A. & G.H. Martins (eds) 1992. *Domesday Book: a complete translation*. London: Alecto Historical Editions.

Williamson, D.M. 1948. Some notes on the Medieval manors of Fulstow. *Lincolnshire Architectural and Archaeological Society Reports and Papers* **4**: 1-56.

Williamson, T. 1987. Early co-axial field systems on the East Anglian Boulder Clays. *Proceedings of the Prehistoric Society* **53**: 419-31.

Williamson, T. 1988. Explaining regional landscapes: woodland and champion in southern and eastern England. *Landscape History* **10**: 5-13.

Williamson, T. 1998. The "Scole-Dickleburgh field system" revisited. *Landscape History* **20**: 19-28.

Williamson, T. 2003. *Shaping Medieval Landscapes: settlement society, environment*. Macclesfield: Windgather Press.

Wilson, C.M. 1970. Archaeological notes 1969. *Lincolnshire History and Archaeology* **5**: 3-19.

Winton, H. 1998. The cropmark evidence for prehistoric and Roman settlement in West Lincolnshire, in R.H. Bewley (ed.) *Lincolnshire's Archaeology from the Air*: 47-68. Lincoln: Occasional Papers in Lincolnshire History and Archaeology 11.

Wise, P.J. 1990. The archaeology of the Grimsby-Cleethorpes area, in S. Ellis & D.R. Crowther (eds) *Humber Perspectives: a region through the ages*: 213-26. Hull: Hull University Press.

Wright, E.V. 1990. *The Ferriby Boats: seacraft of the Bronze Age*. London: Routledge.

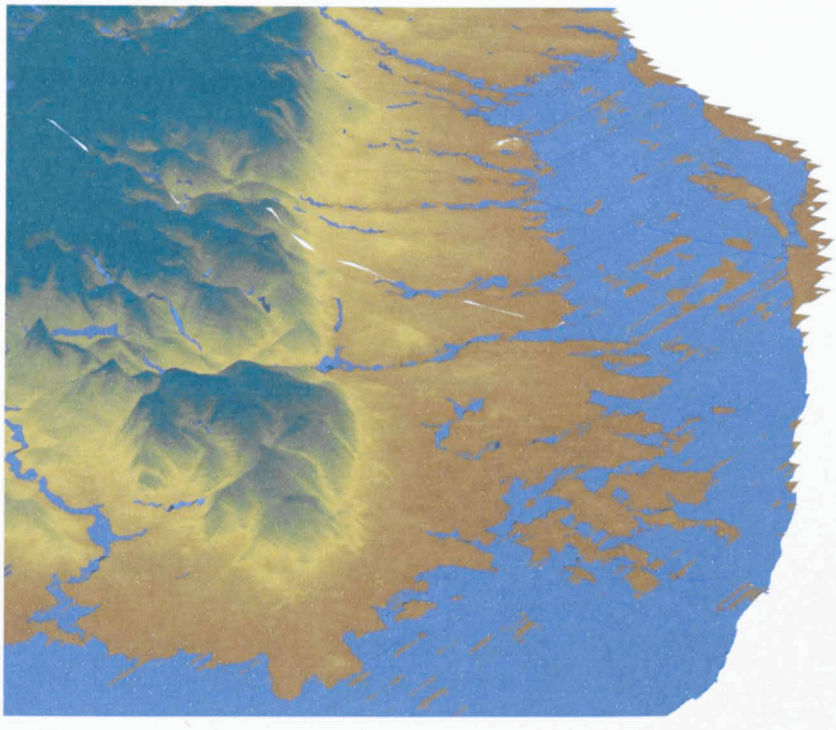
Wright, E.V. & D.M. Churchill 1965. The boats from North Ferriby, Yorkshire, England, with a review of the origins of the sewn boats of the Bronze Age. *Proceedings of the Prehistoric Society* **31**: 1-24.

www.getmapping.com *Getmapping Website*. www.getmapping.com cited 2002

Wymer, J.J. & C.J. Bonsall (eds) 1977. *Gazetteer of Mesolithic Sites in England and Wales*. London: Council for British Archaeology Research Report 20.

The Lincolnshire Marsh – landscape evolution, settlement development and the salt industry

Volume Two



3D model of the Lincolnshire marsh showing areas of alluvium

Helen Fenwick

University of Hull, 2007

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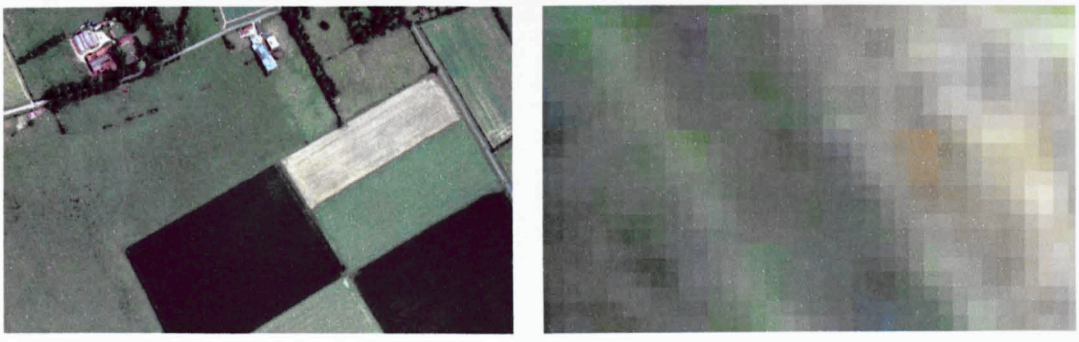
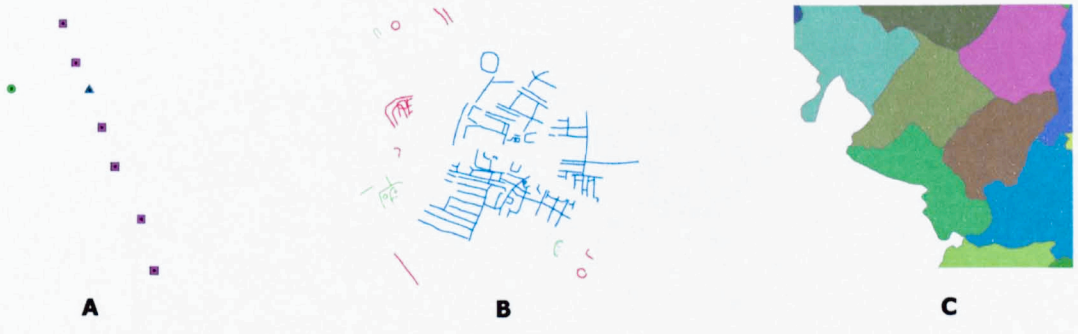


Figure 4.1: Examples of raster data. An aerial photograph and a close-up showing the detail of the grid on which the photograph is based, with each grid cell having an individual value – in this case represented by different colours. Aerial photograph © Getmapping



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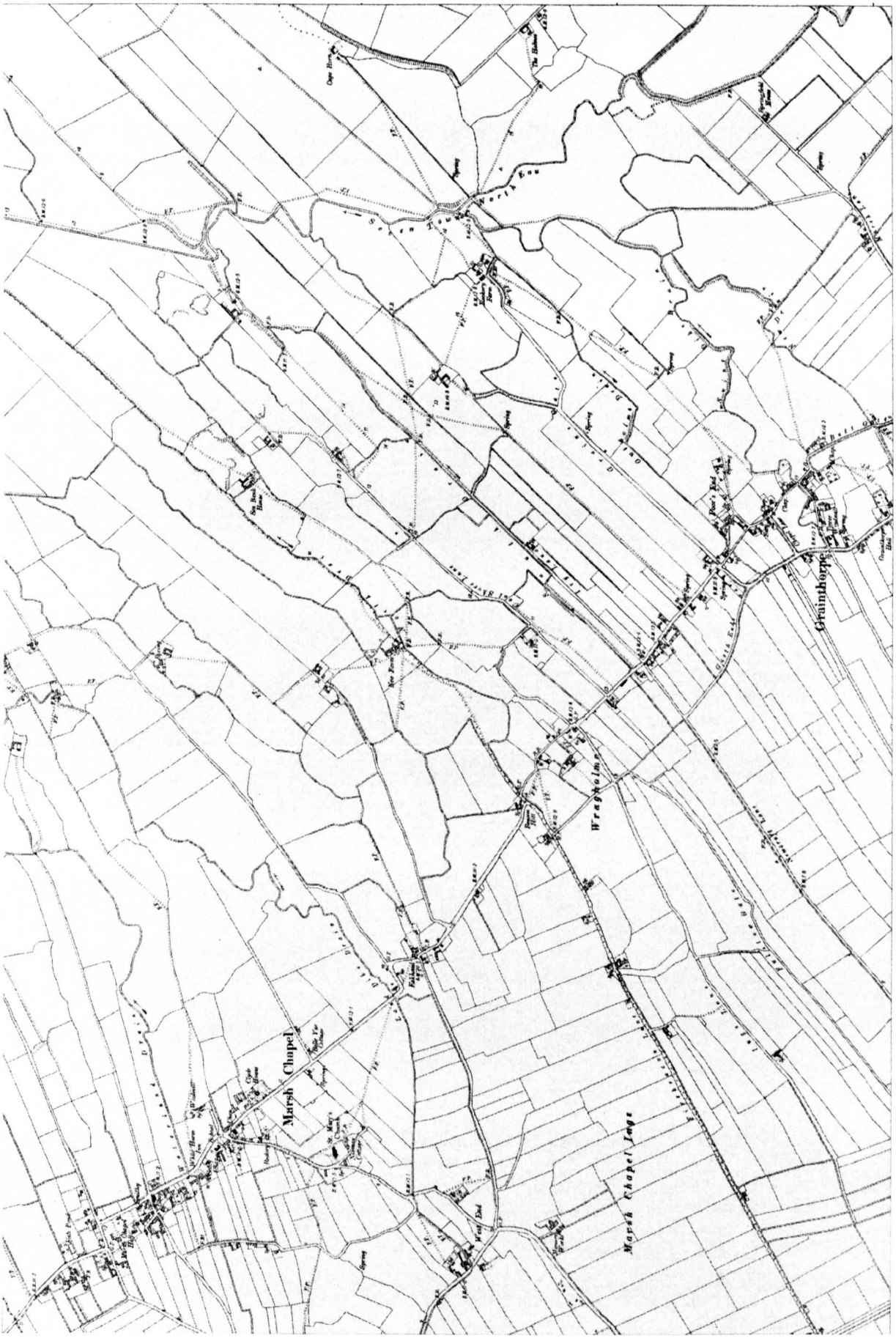


Figure 4.3: Scanned quarter sheet 40ne of the second edition OS map

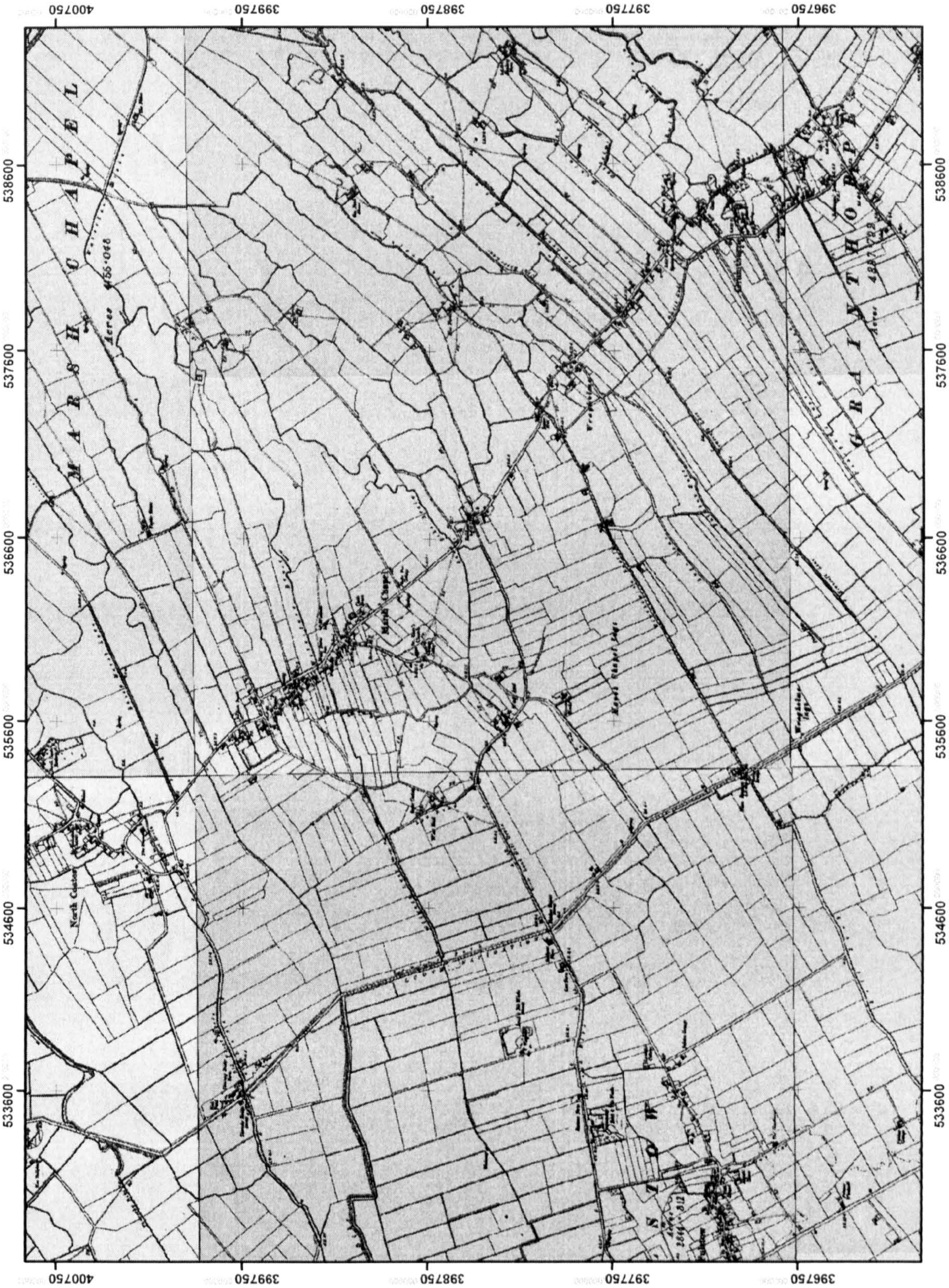


Figure 4.4: Sample area of Marshchapel and Fulstow second edition OS map geo-referenced

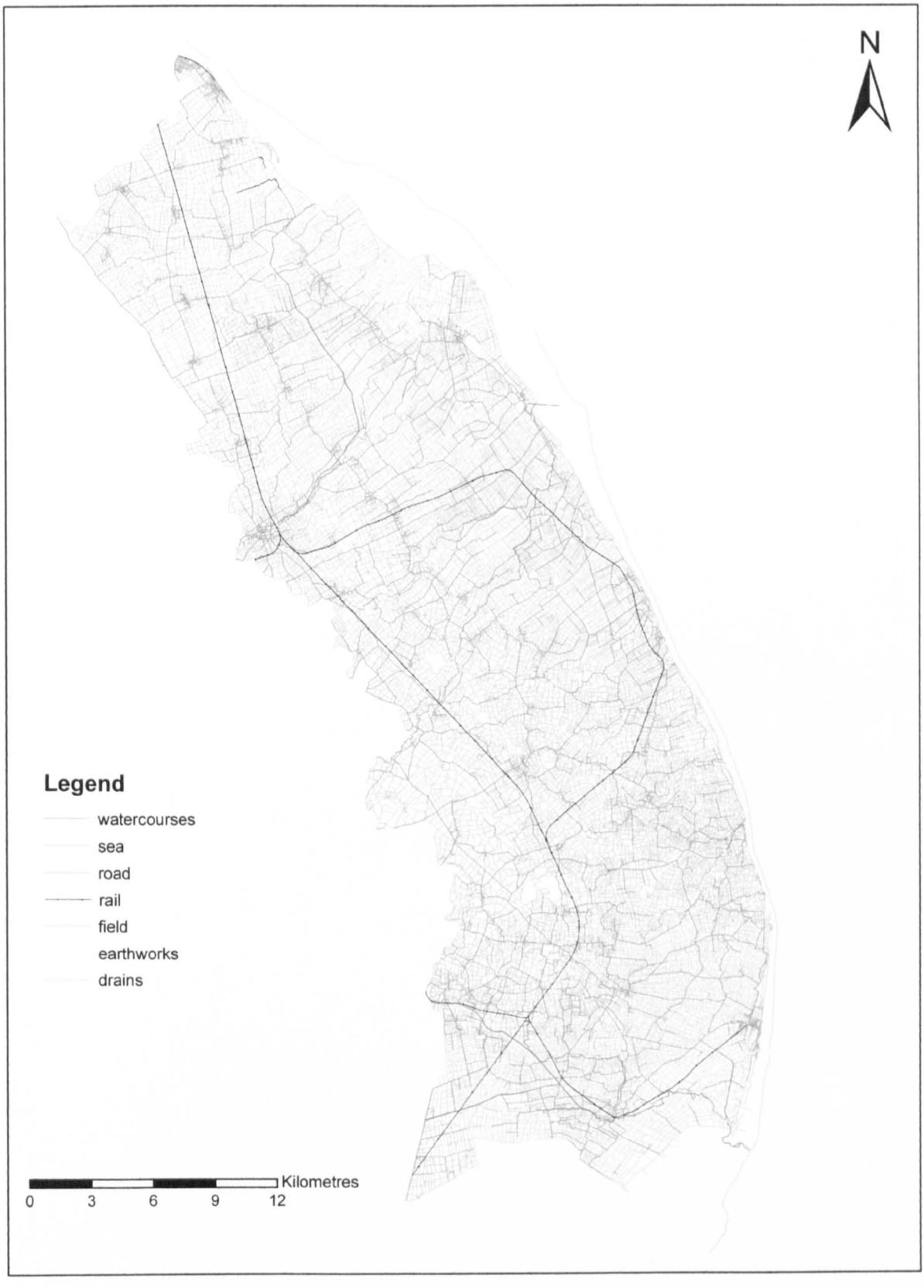


Figure 4.5: Digital base map of the field and communication system for the whole region

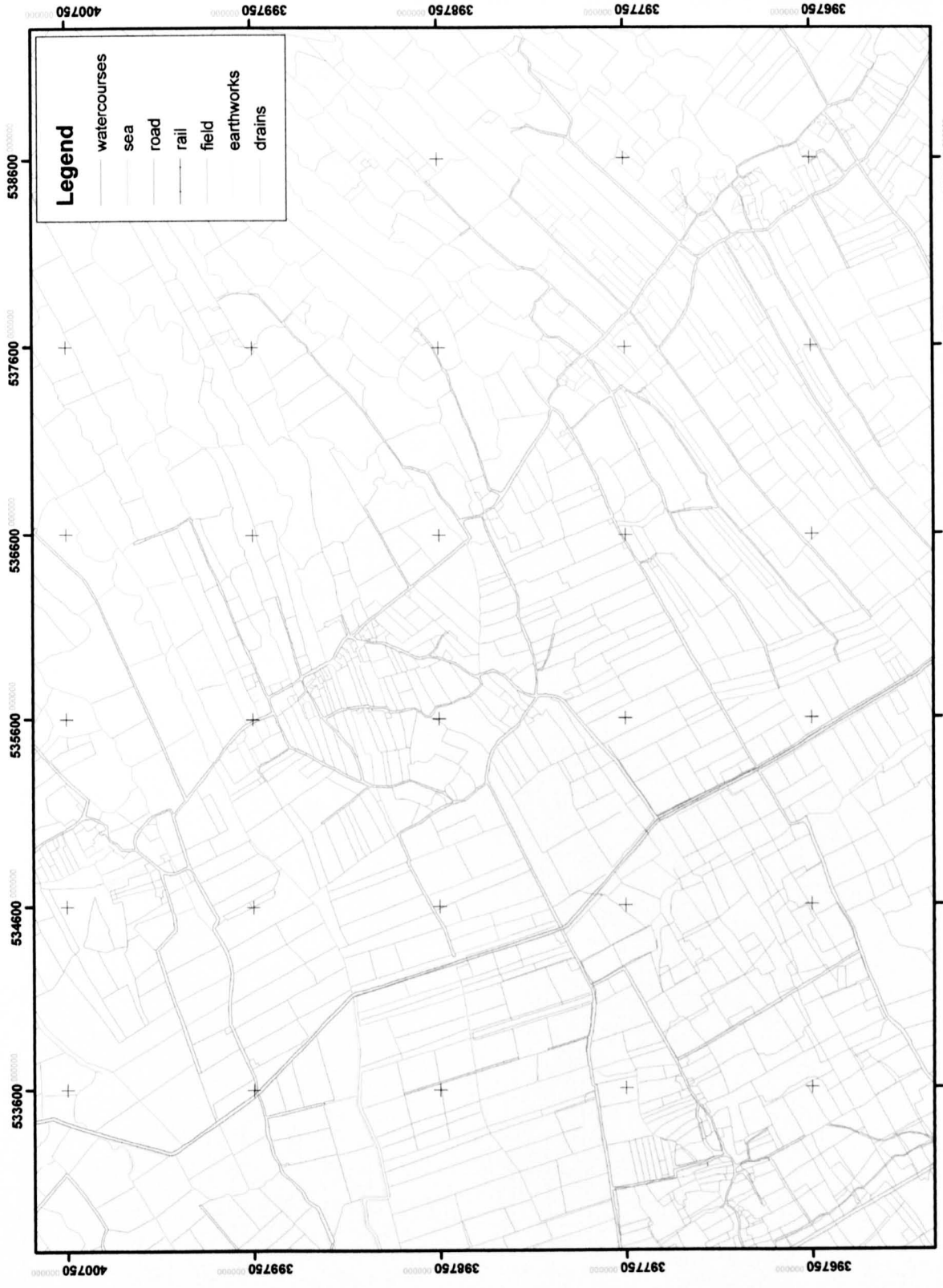


Figure 4.6: Digital base map of the sample area of Marshchapel and Fulstow

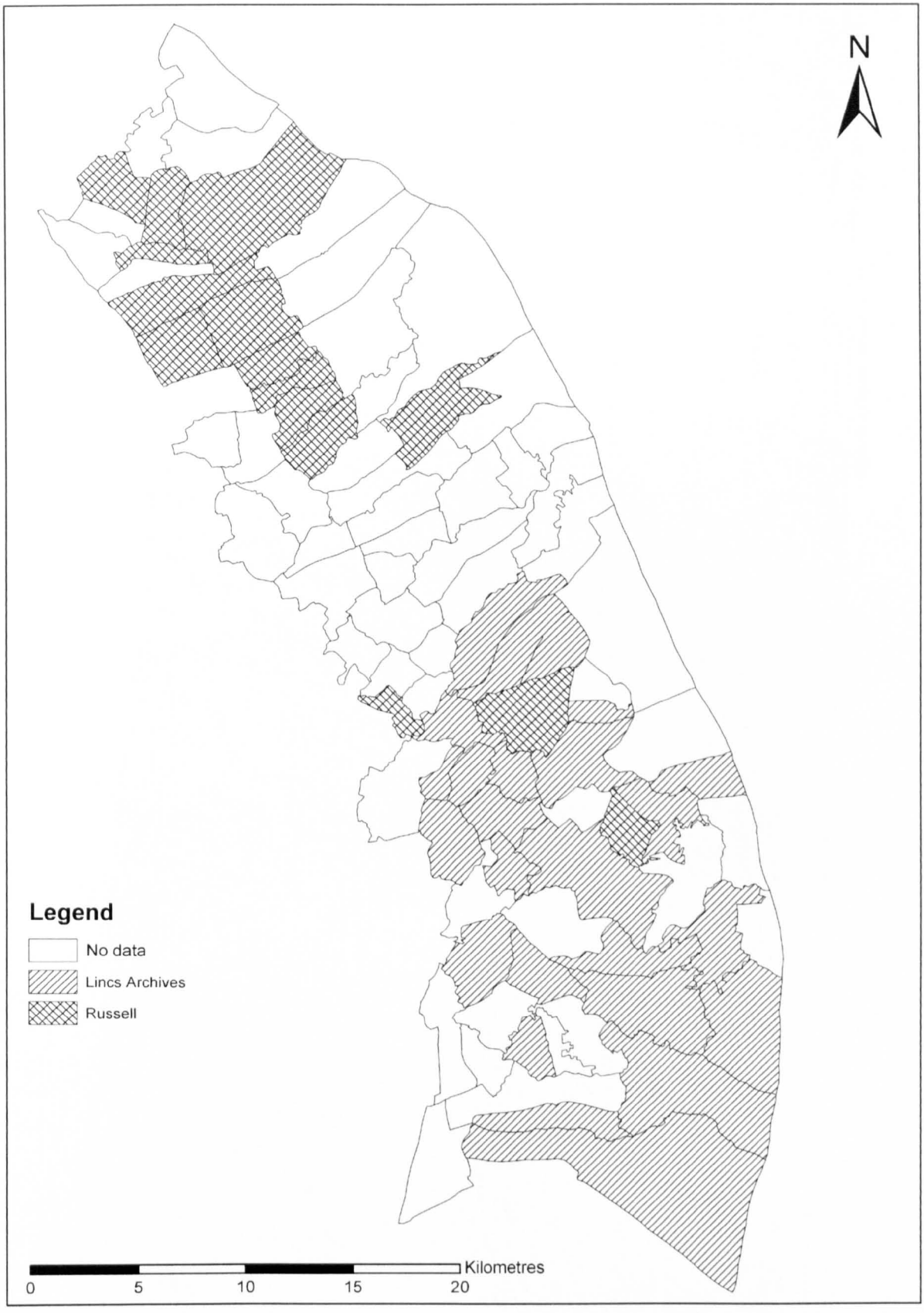


Figure 4.7: Parishes with map data viewed at Lincolnshire Archives and the areas covered by the work of the Russells

Figure 4.8: Haiwarde's map of 1595

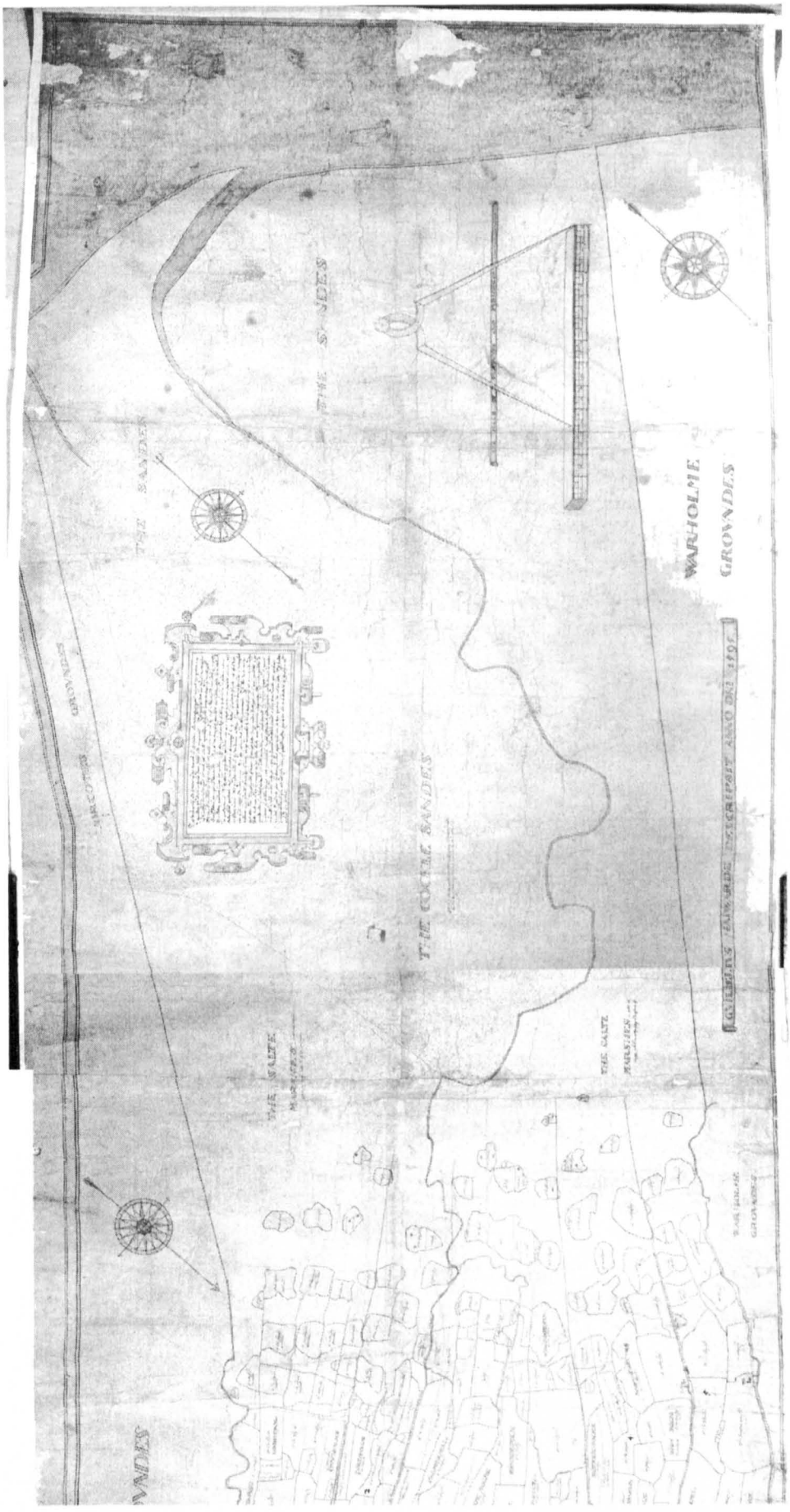


Figure 4.8 cont: Haiwarde's map of 1595

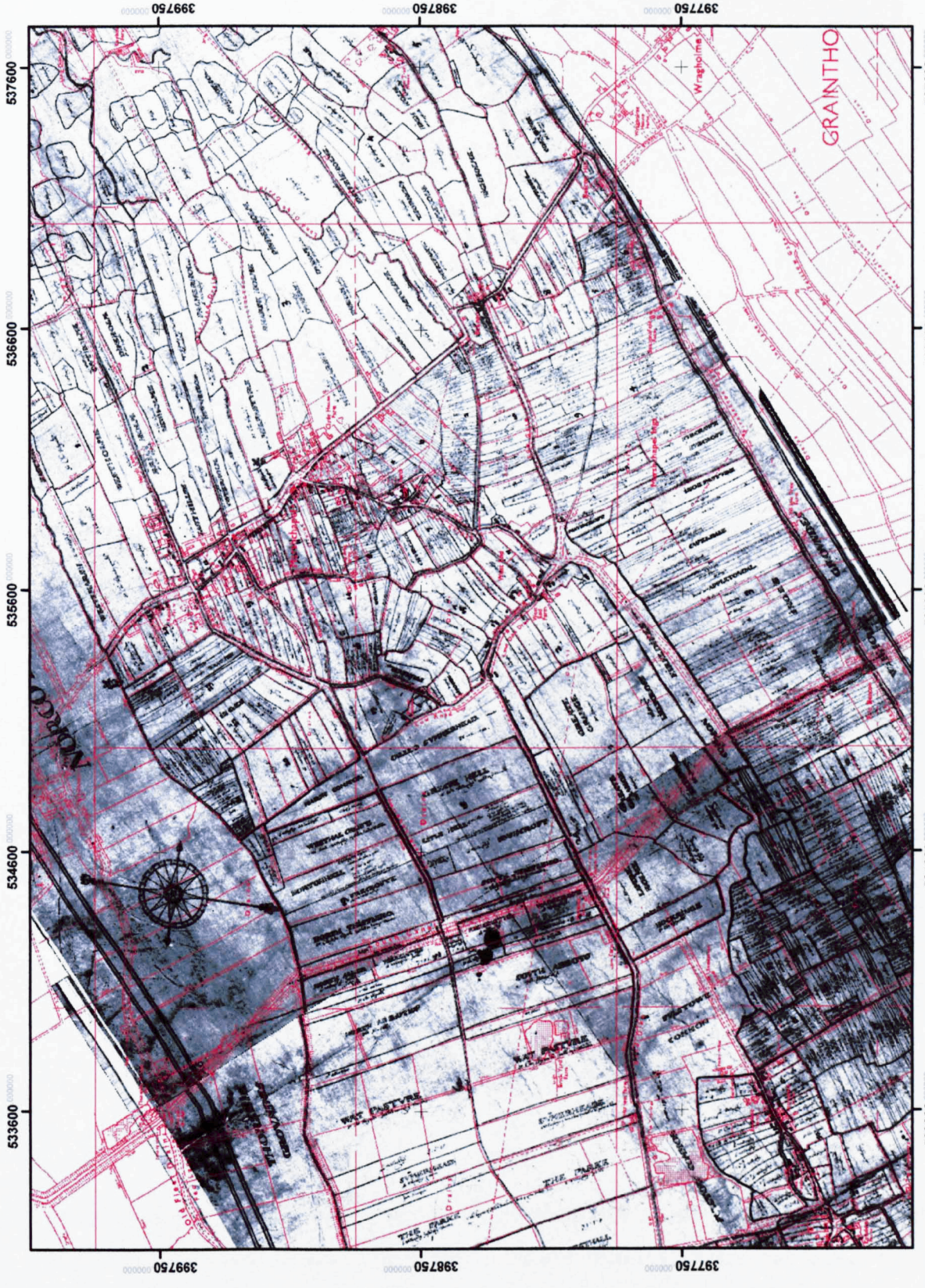
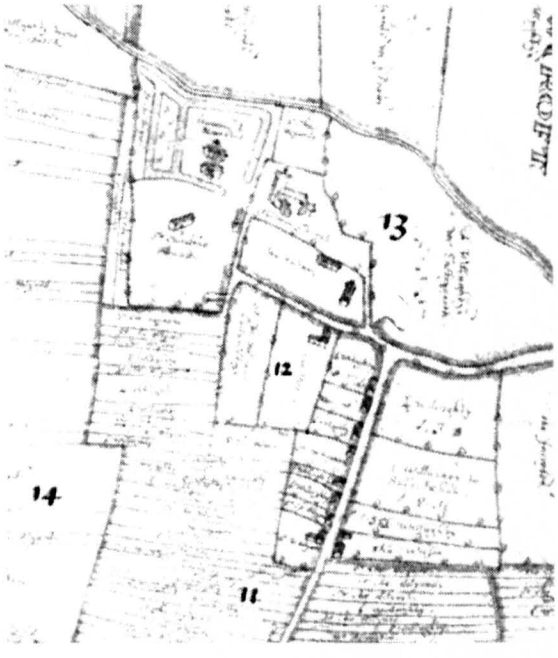


Figure 4.9: Sample area of the geo-referenced version of Haiwarde's map overlain by the modern OS map. Ordnance Survey map © Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service

A



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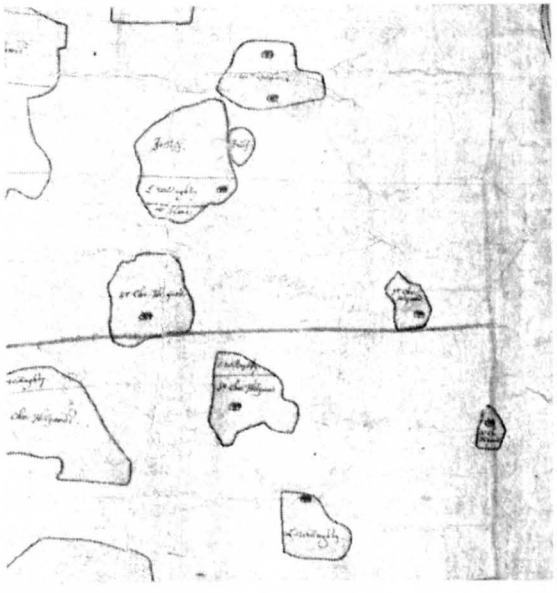


C

Figure 4.10: Detail on Haiwarde's map. A: Fulstow common showing detail of field-names and field boundaries; B: The north manor house at Fulstow; C: Active salterns on the easternmost edge of the map

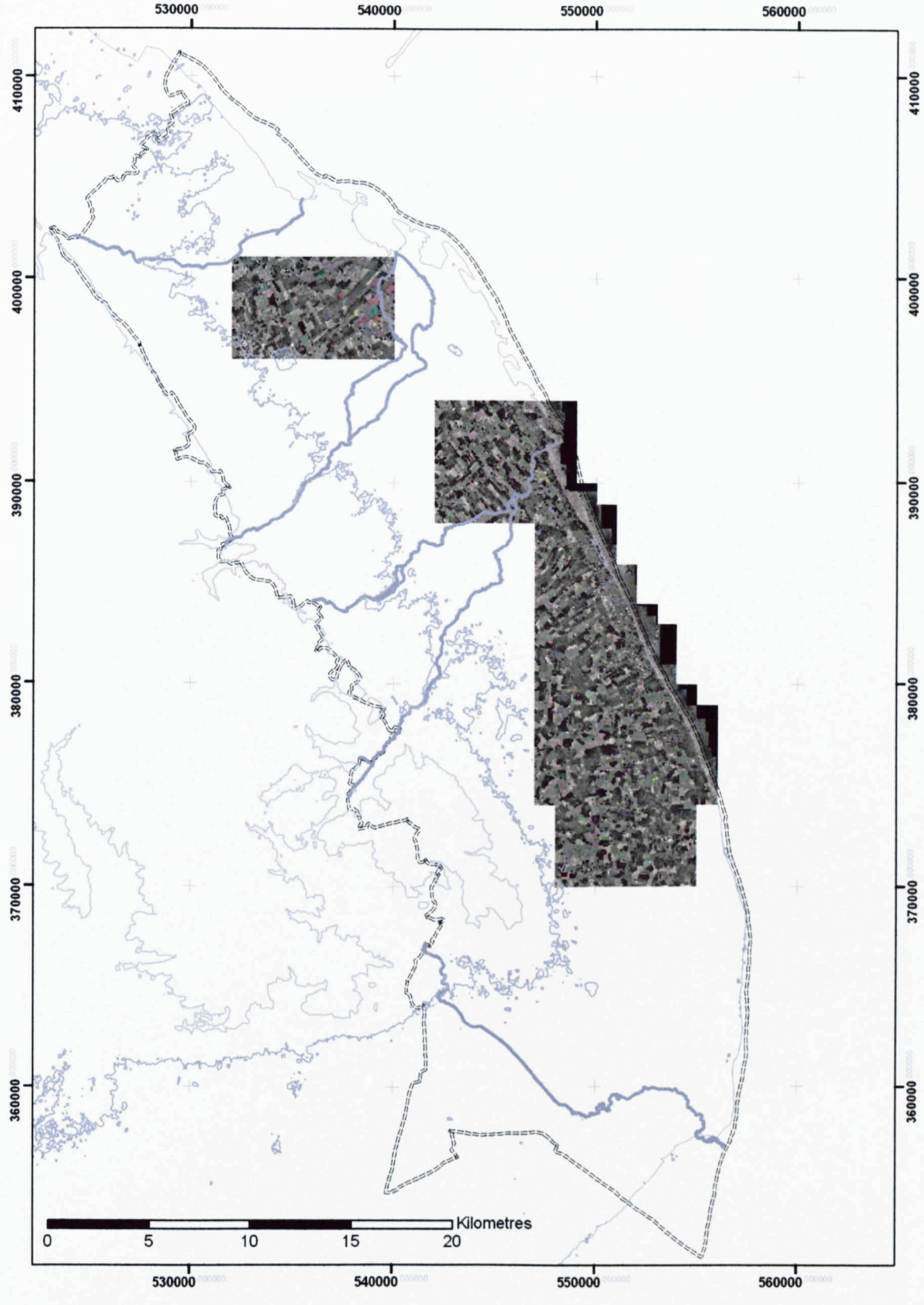


Figure 4.11: Map showing the sample areas of millennium mapping. © Getmapping

Figure 4.12: Sample area showing the detail of the millennium mapping. © Getmapping

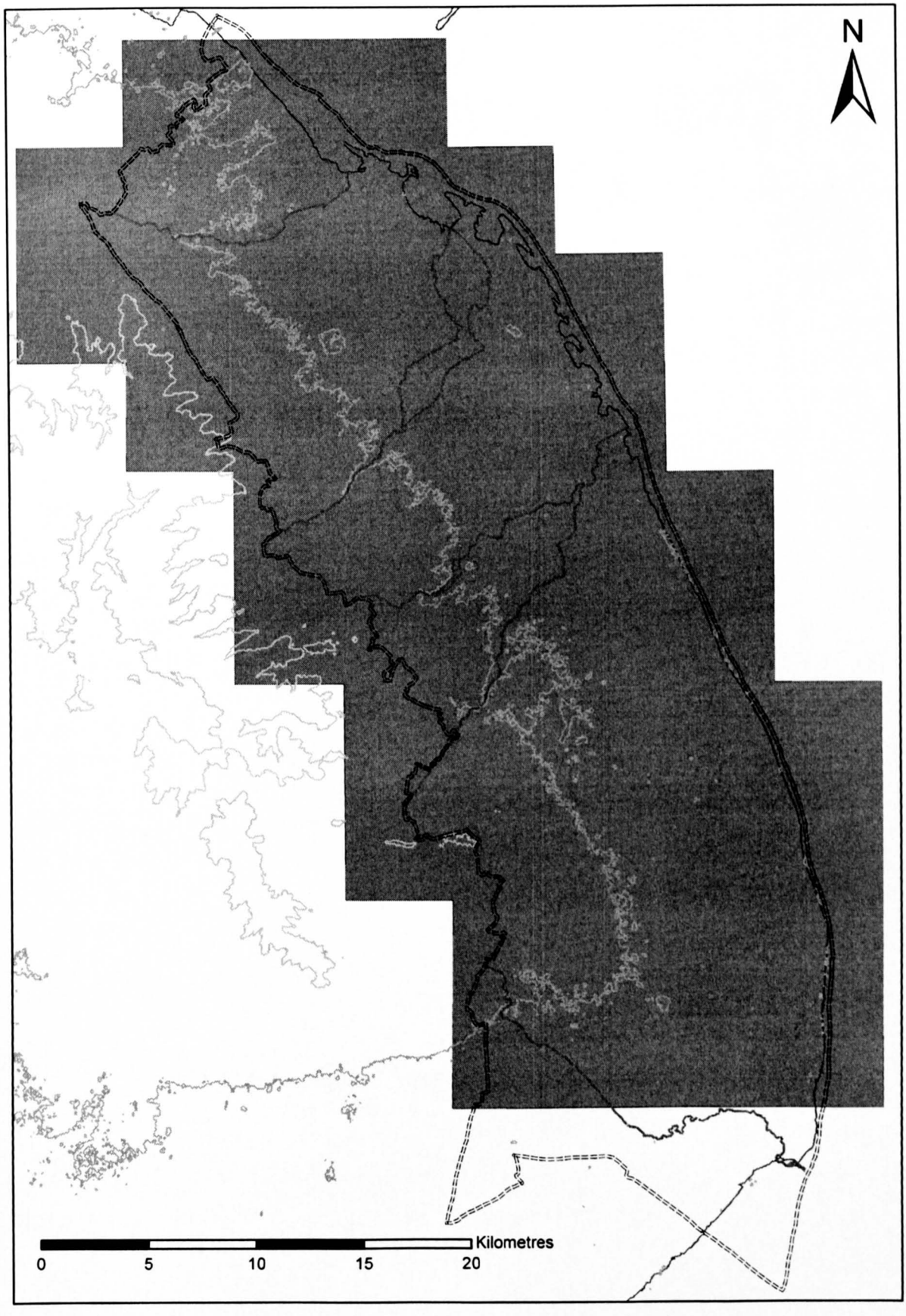


Figure 4.13: Extent of the National Mapping Programme coverage for the study region

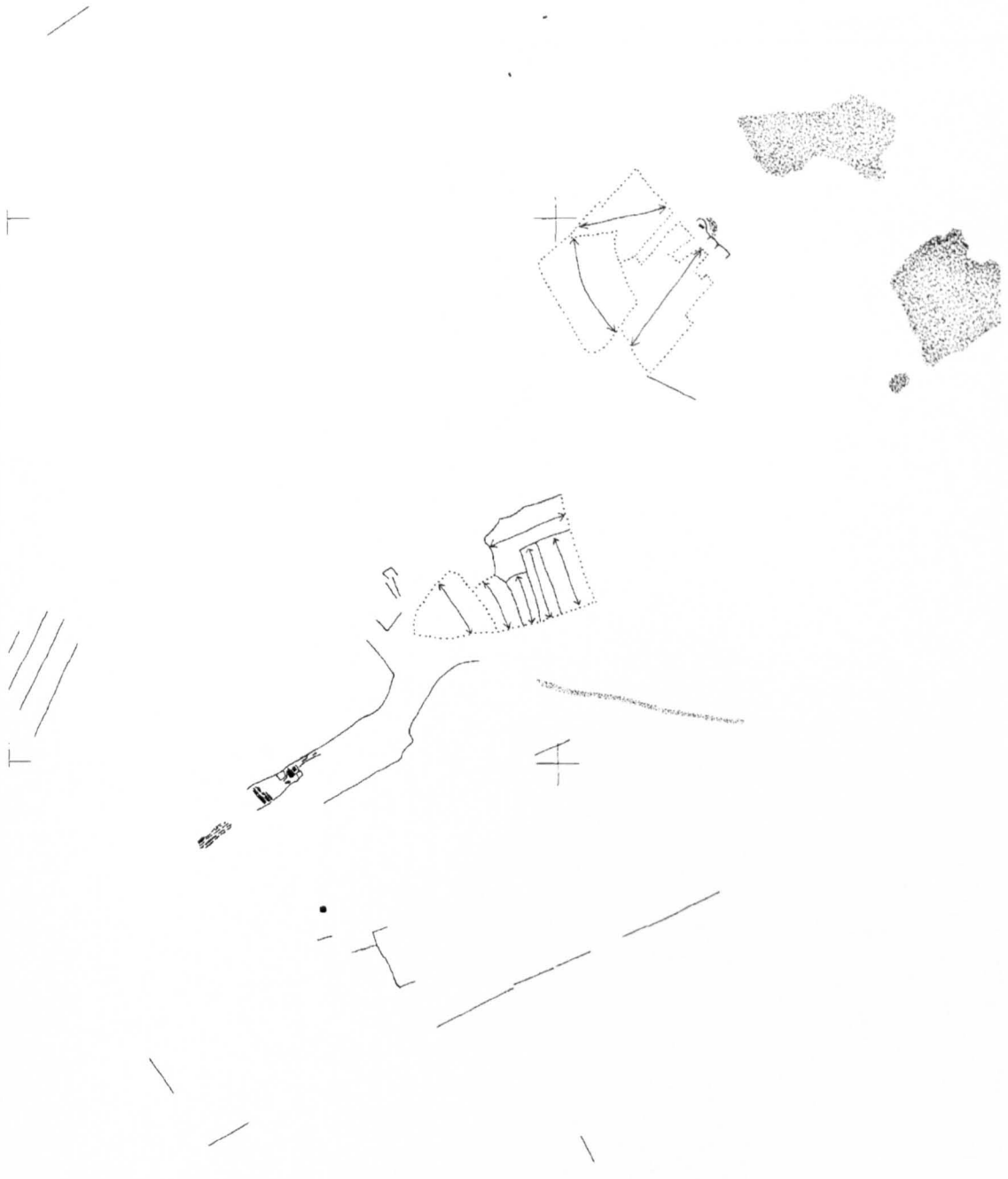


Figure 4.14: Example of NMP transcription. © English Heritage

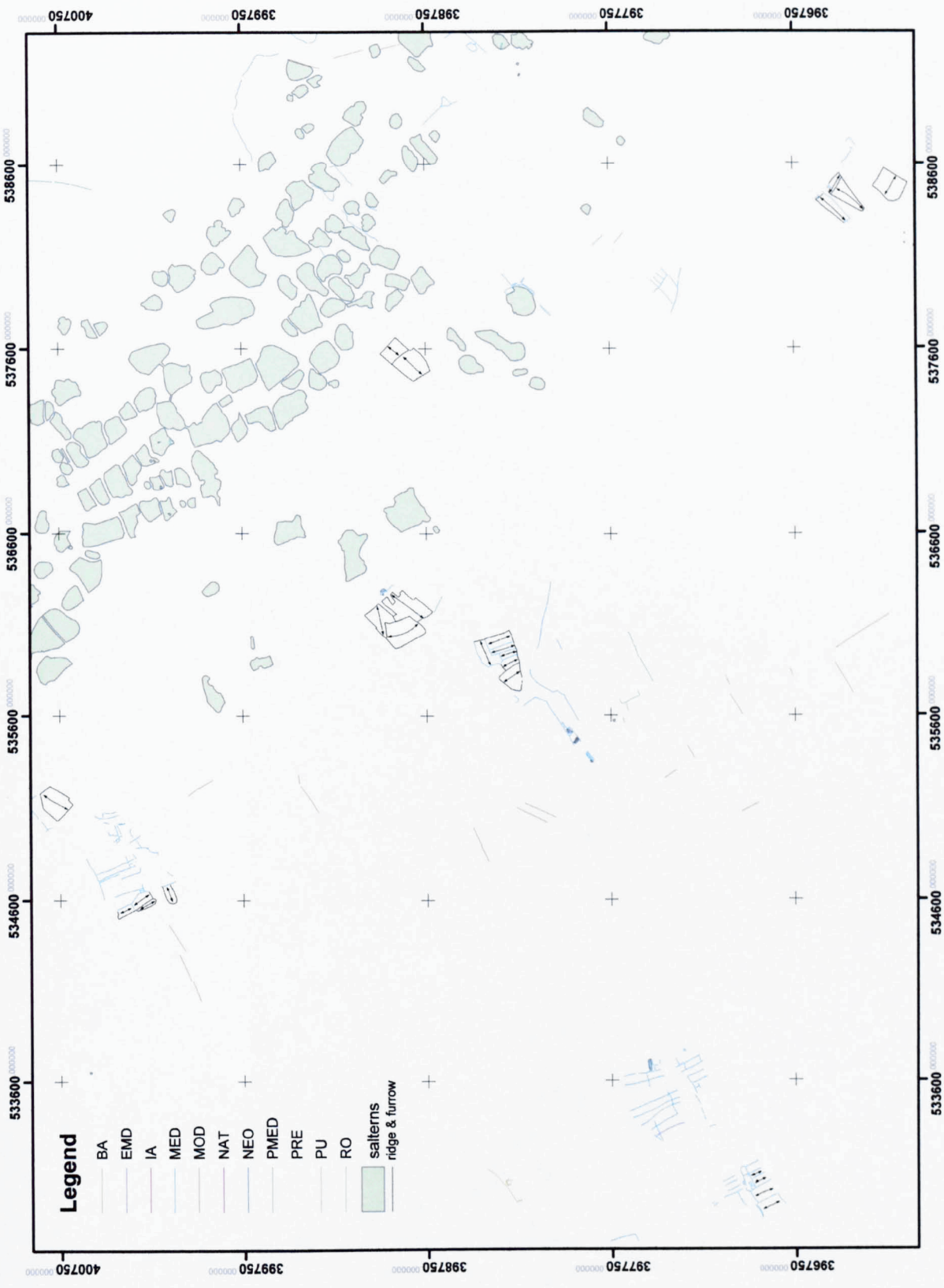


Figure 4.15: Example of vectorised transcription showing the period assigned to each plotted feature

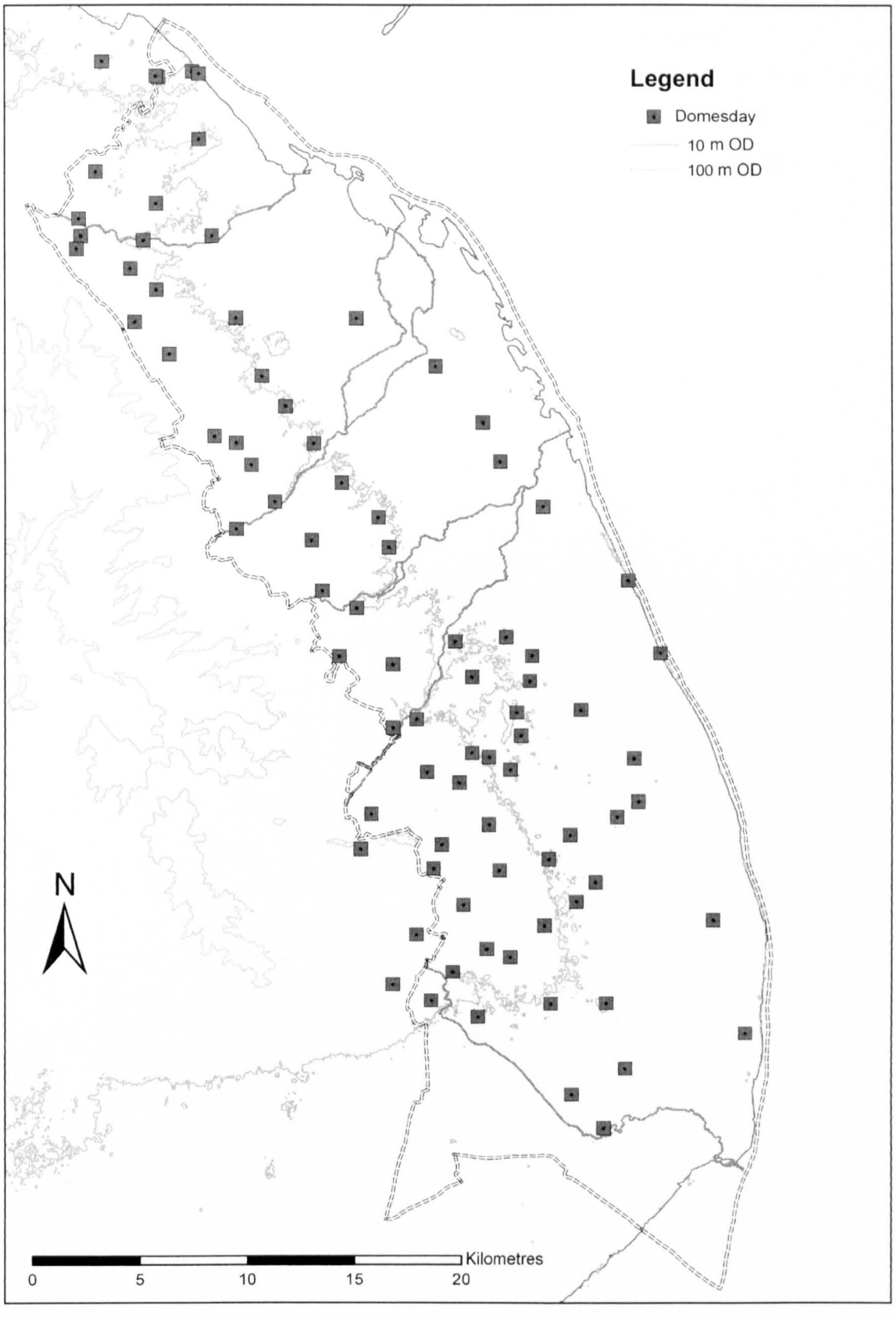


Figure 4.16: Distribution of places mentioned in Domesday (compiled from Morgan and Thorn 1986)

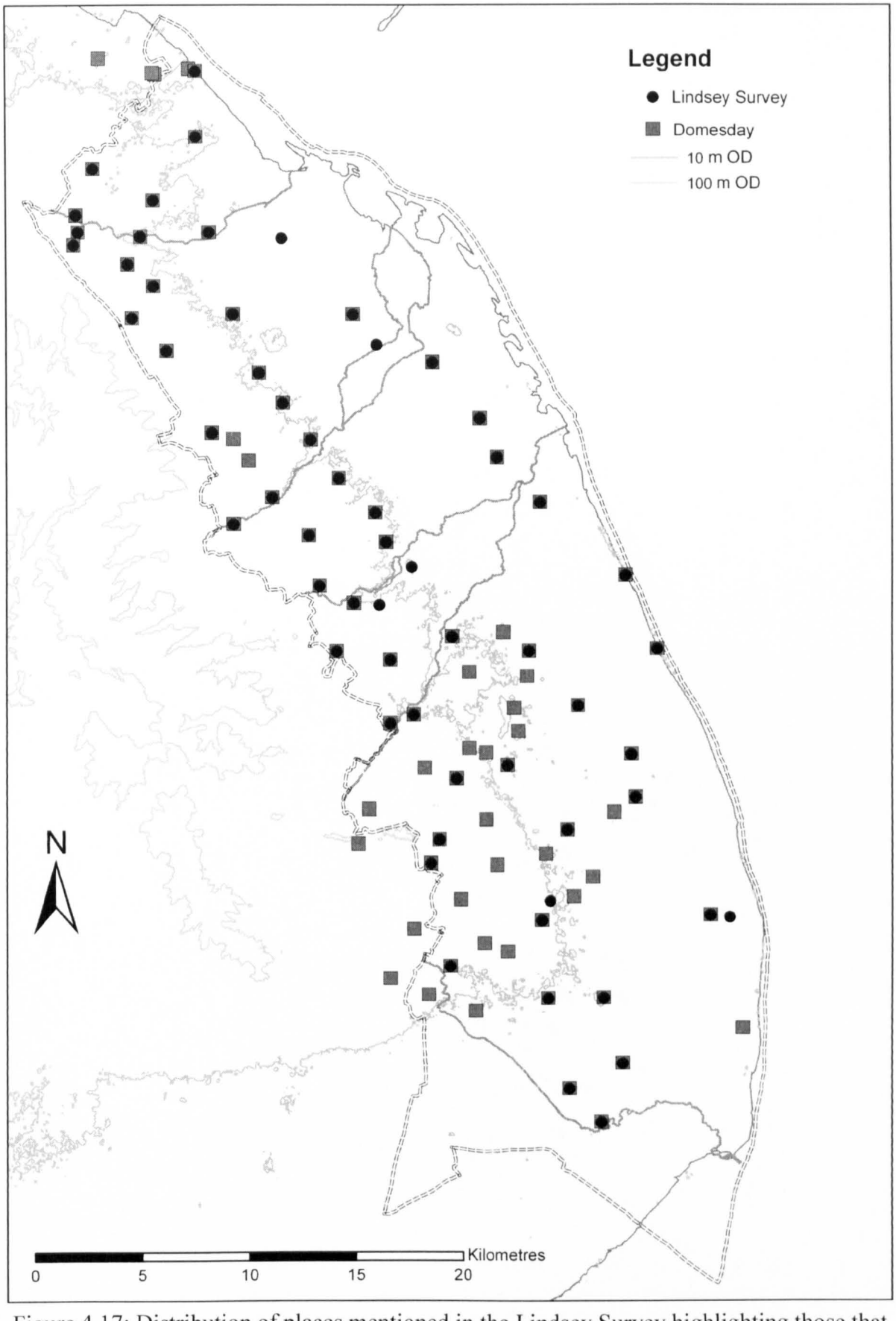


Figure 4.17: Distribution of places mentioned in the Lindsey Survey highlighting those that are additions to the Domesday record (compiled from Foster and Longley 1924)

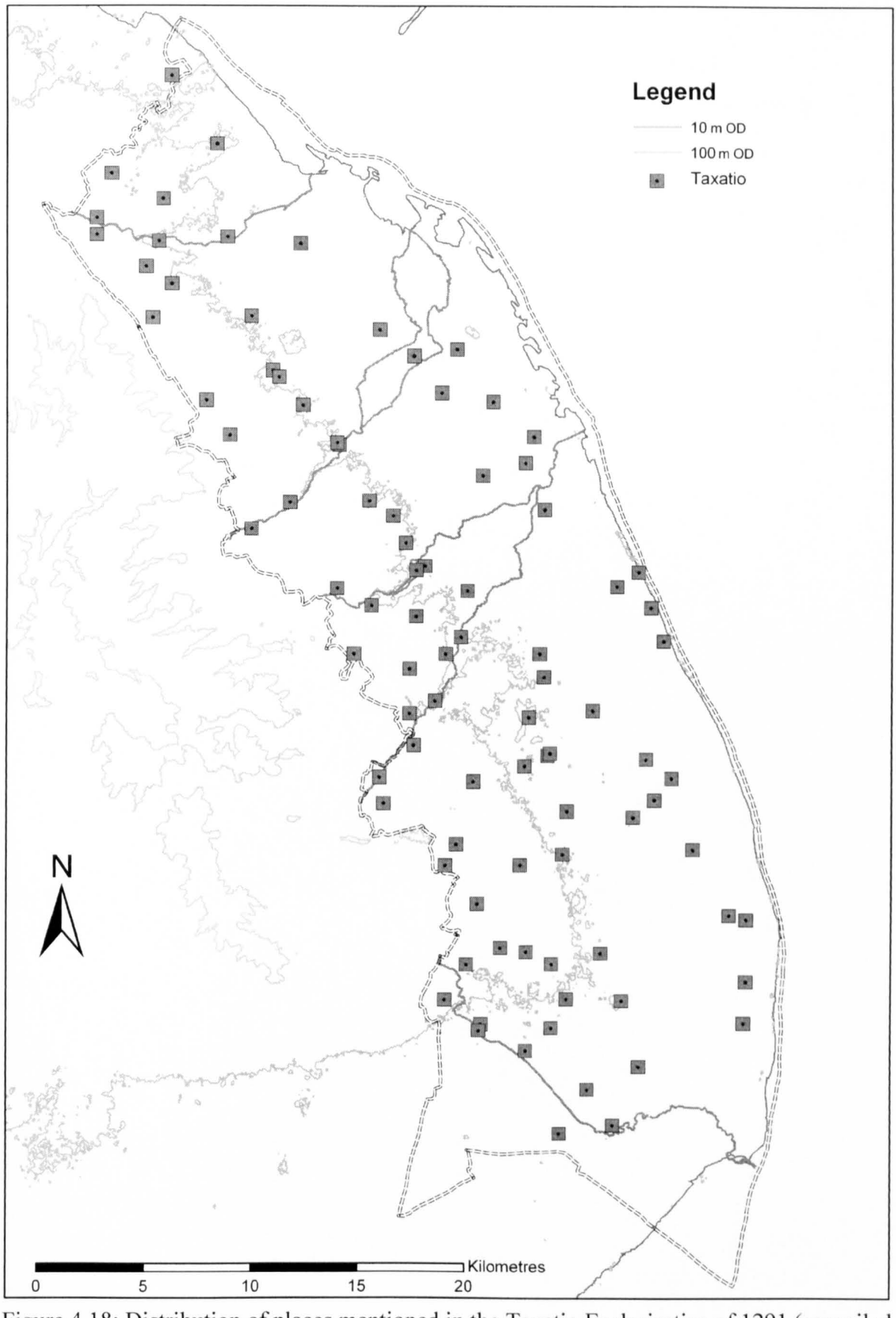


Figure 4.18: Distribution of places mentioned in the Taxatio Ecclesiastica of 1291 (compiled from the Taxatio database www.hrionline.ac.uk/taxatio)

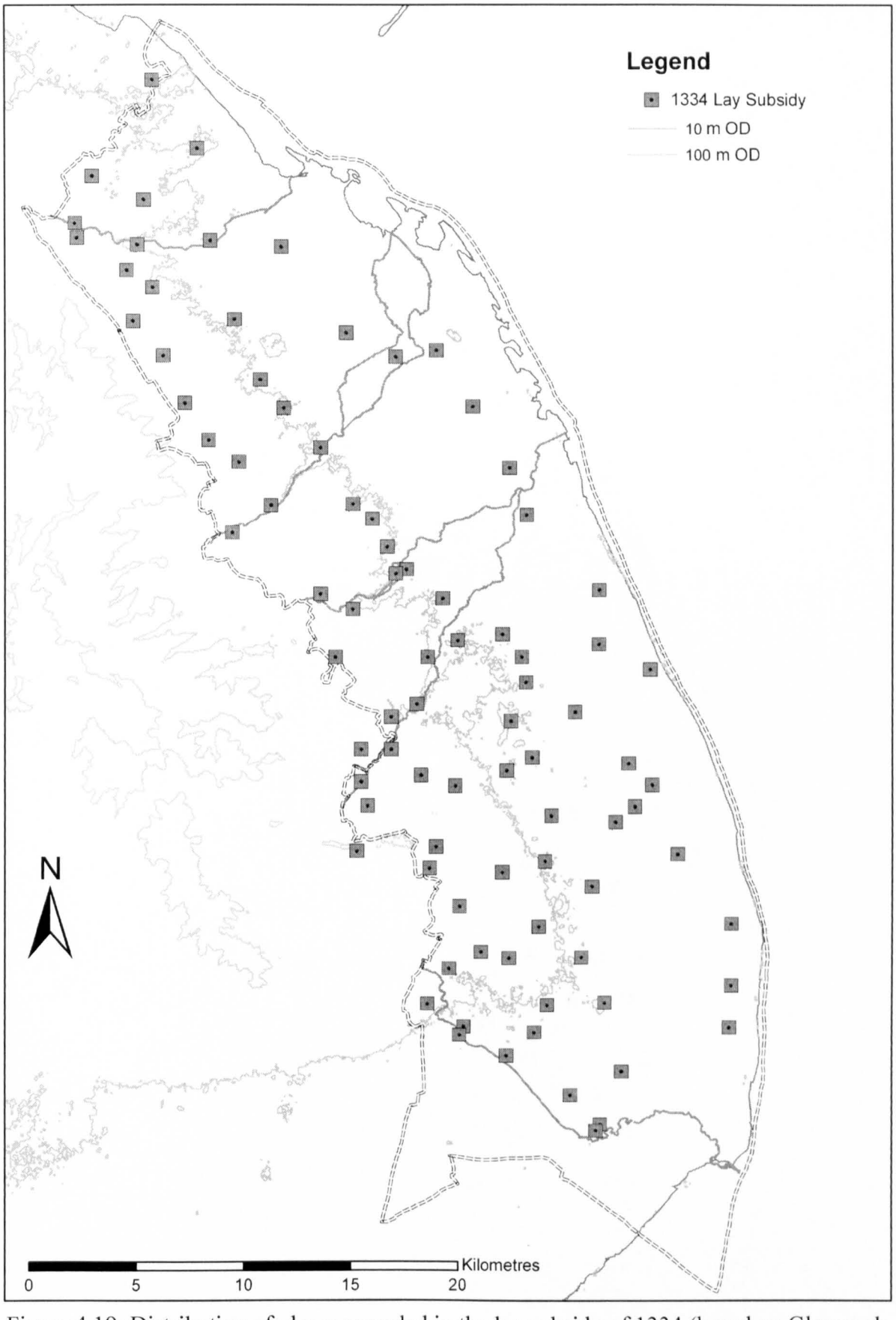


Figure 4.19: Distribution of places recorded in the lay subsidy of 1334 (based on Glasscock 1975)

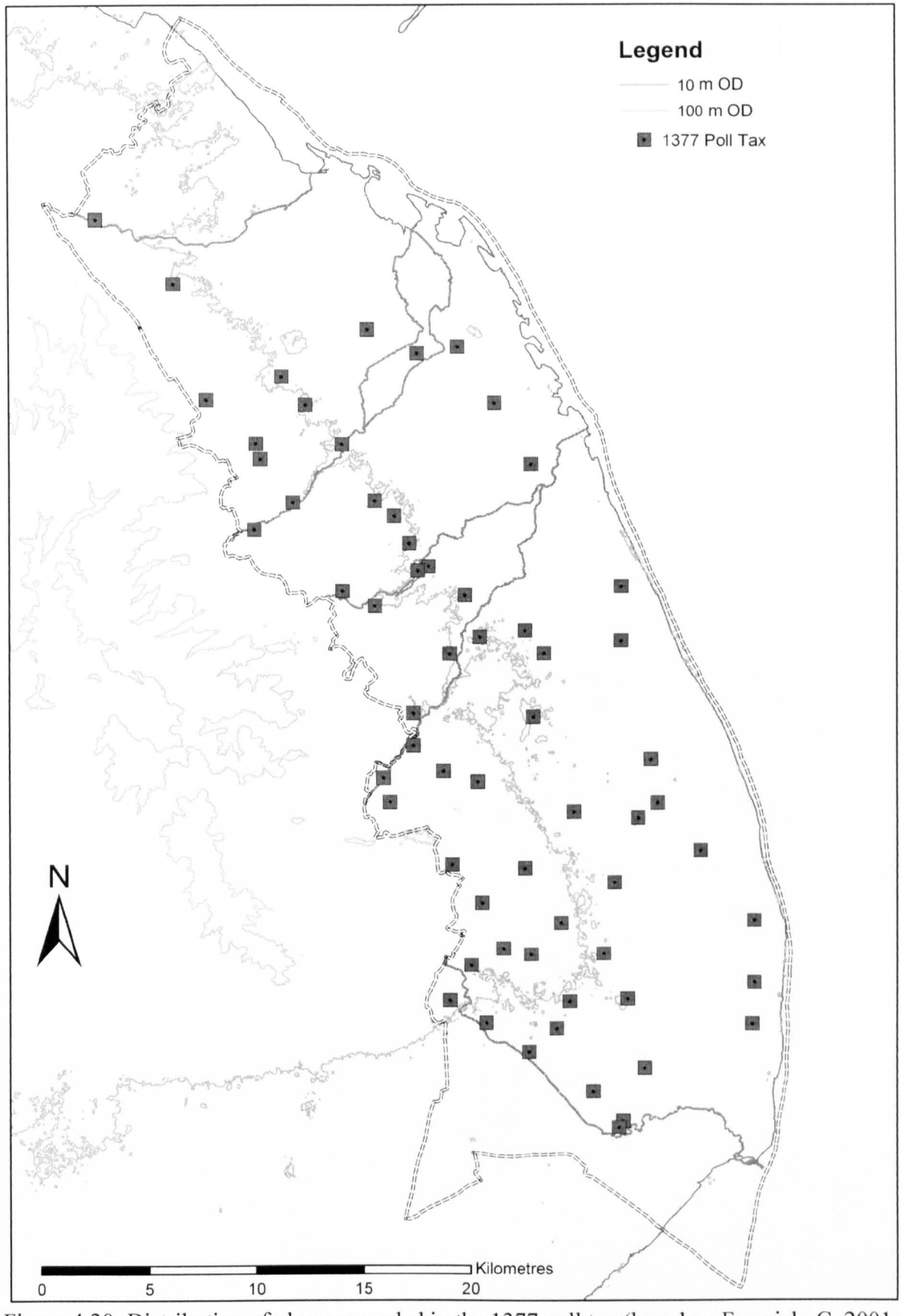


Figure 4.20: Distribution of places recorded in the 1377 poll tax (based on Fenwick, C. 2001, 2005)

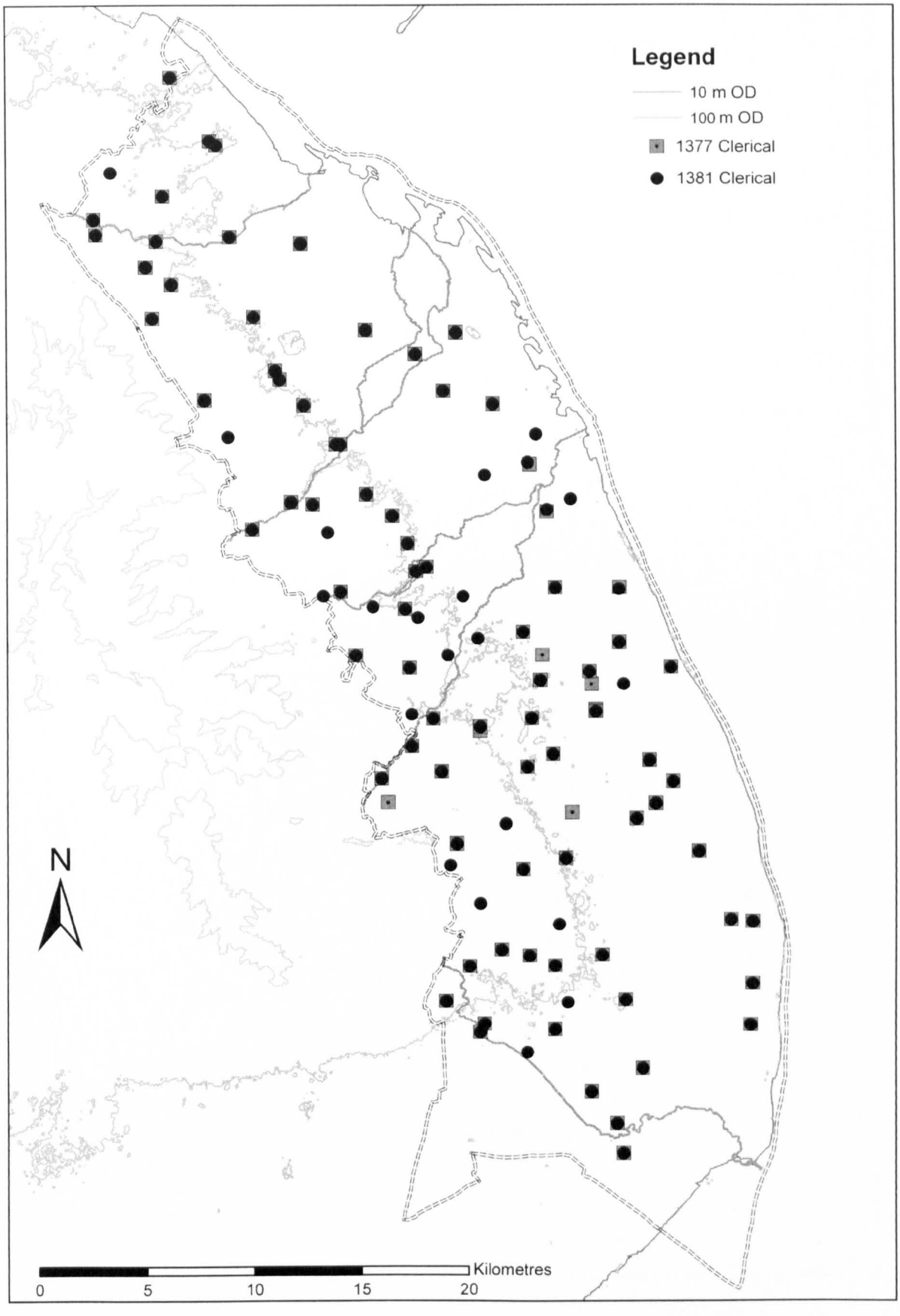


Figure 4.21: Distribution of places recorded in the 1377 and 1381 clerical poll taxes (based on McHardy 1992)

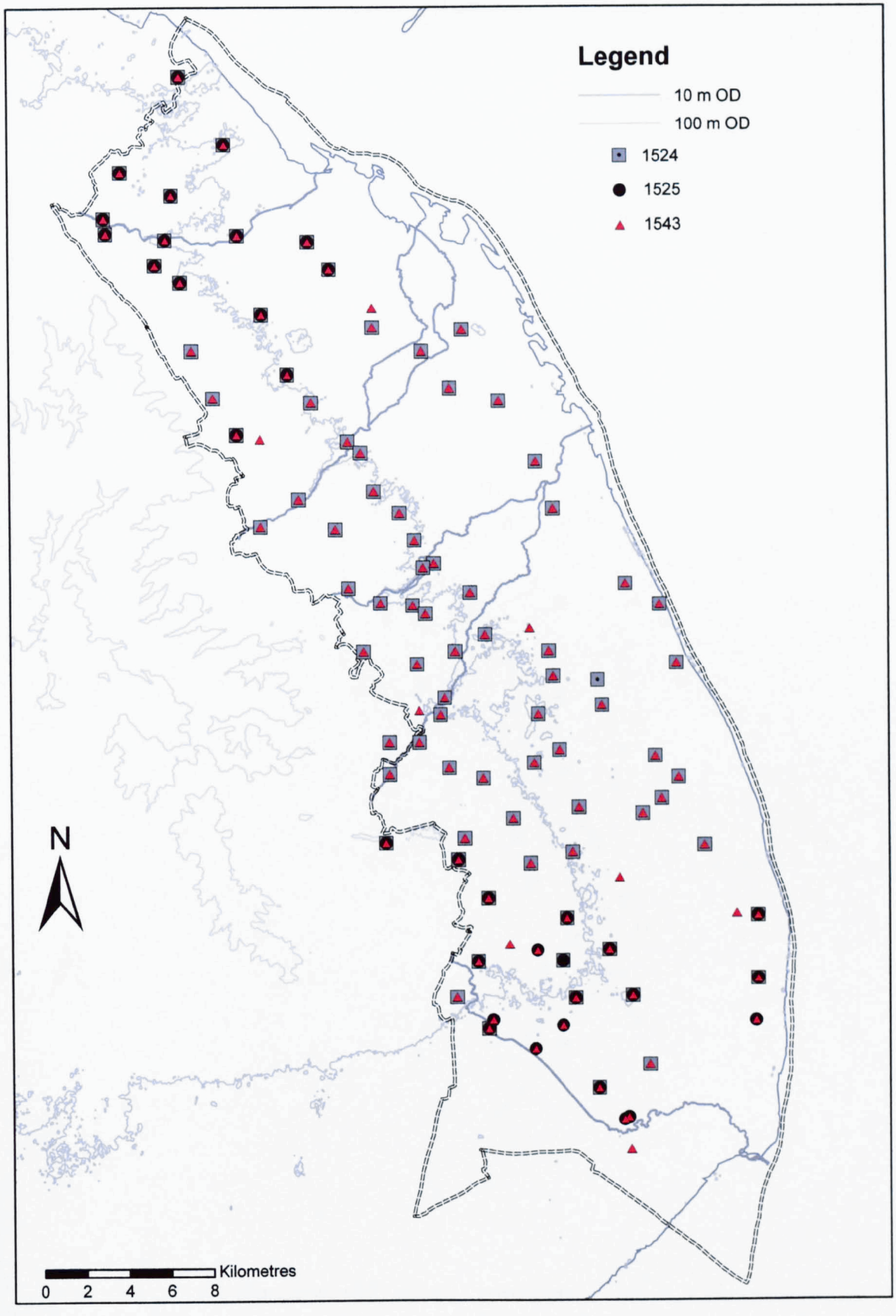


Figure 4.22: Distribution of places recorded in the 1524, 1525 and 1543 lay subsidies (based on Sheail 1998b)

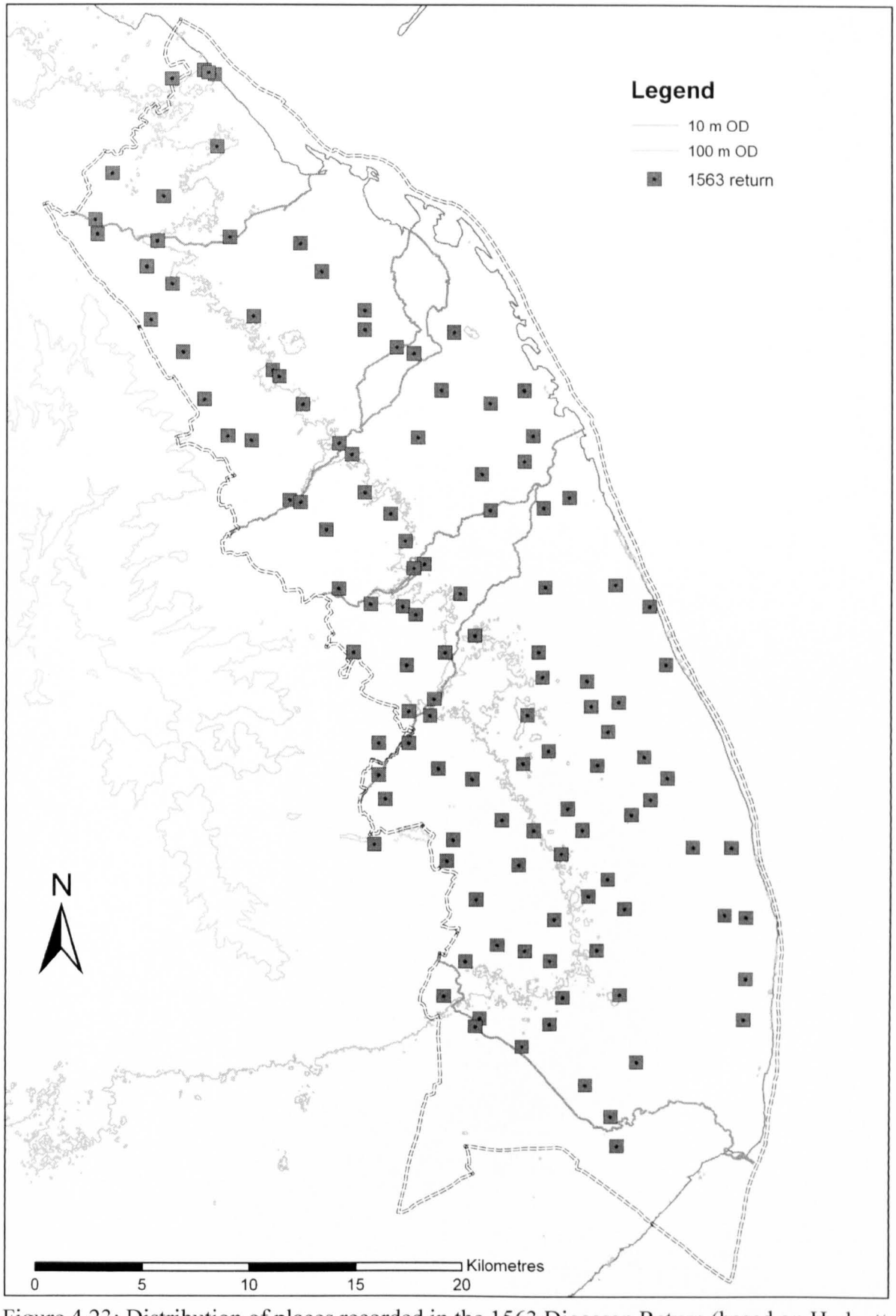


Figure 4.23: Distribution of places recorded in the 1563 Diocesan Return (based on Hodgett 1975)

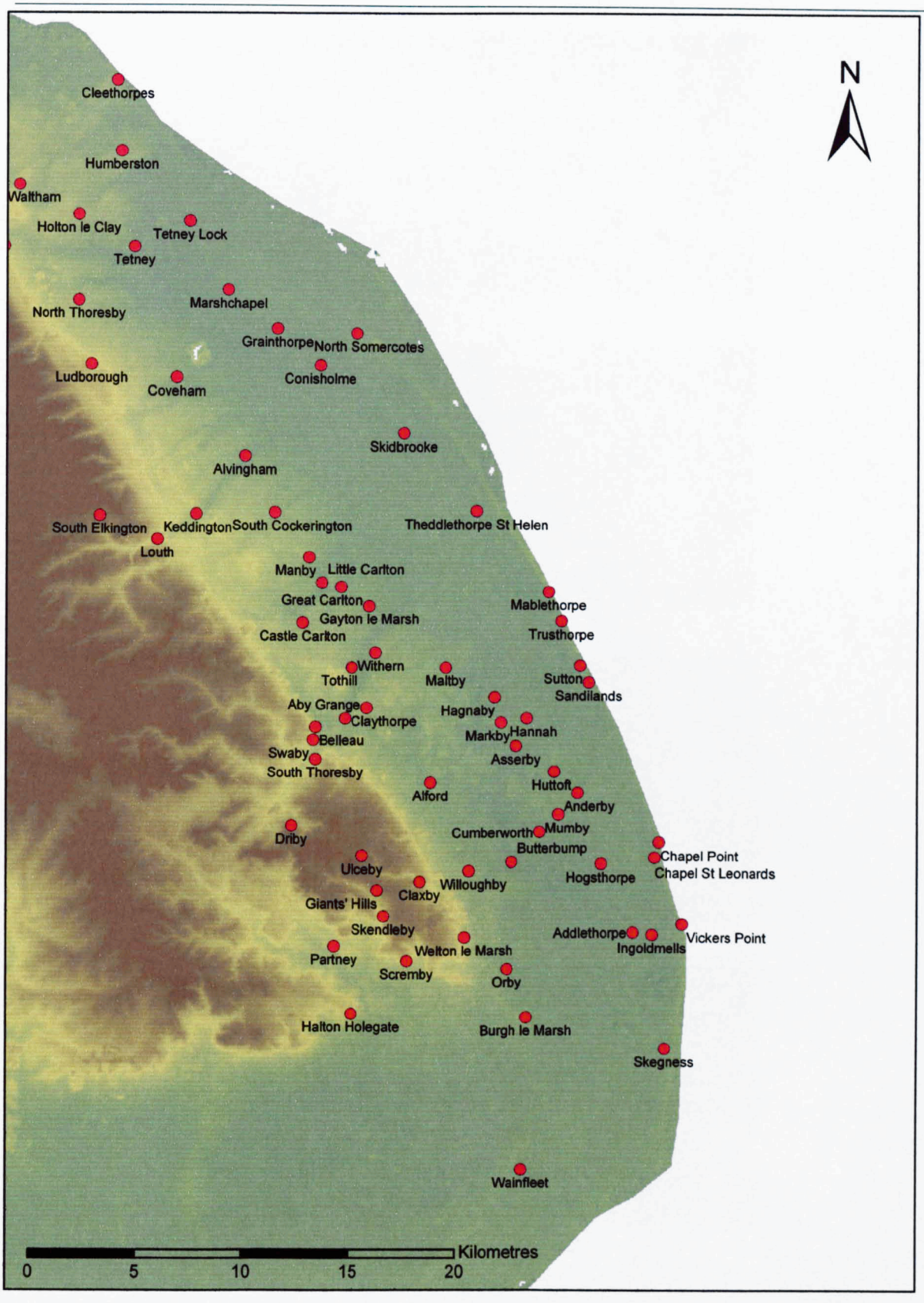


Figure 5.1: Main sites and locations mentioned within Chapter 5

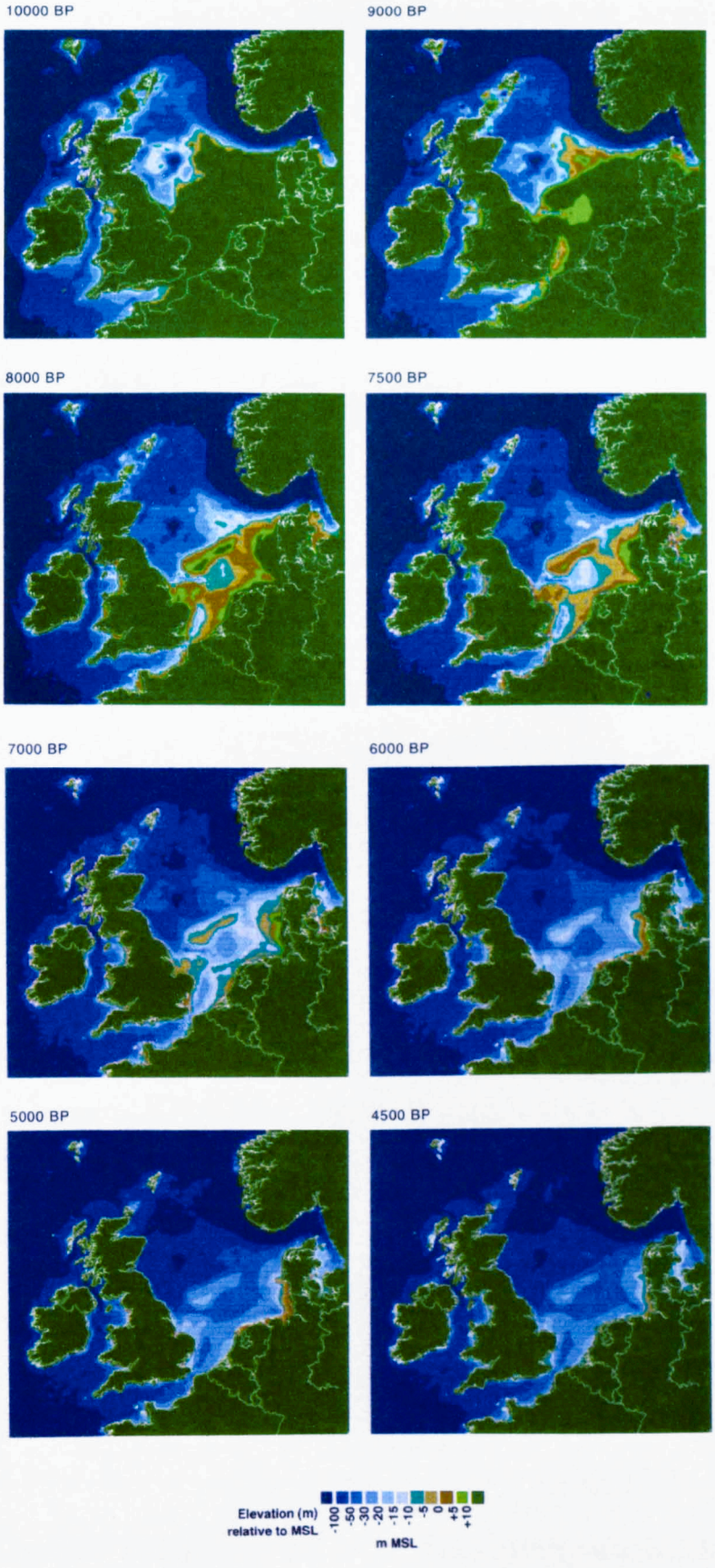


Figure 5.2: Palaeogeographic reconstruction of north-west Europe from 10,000-4500 BP (Shennan *et al.* 2000: 310-311, Figure 5)

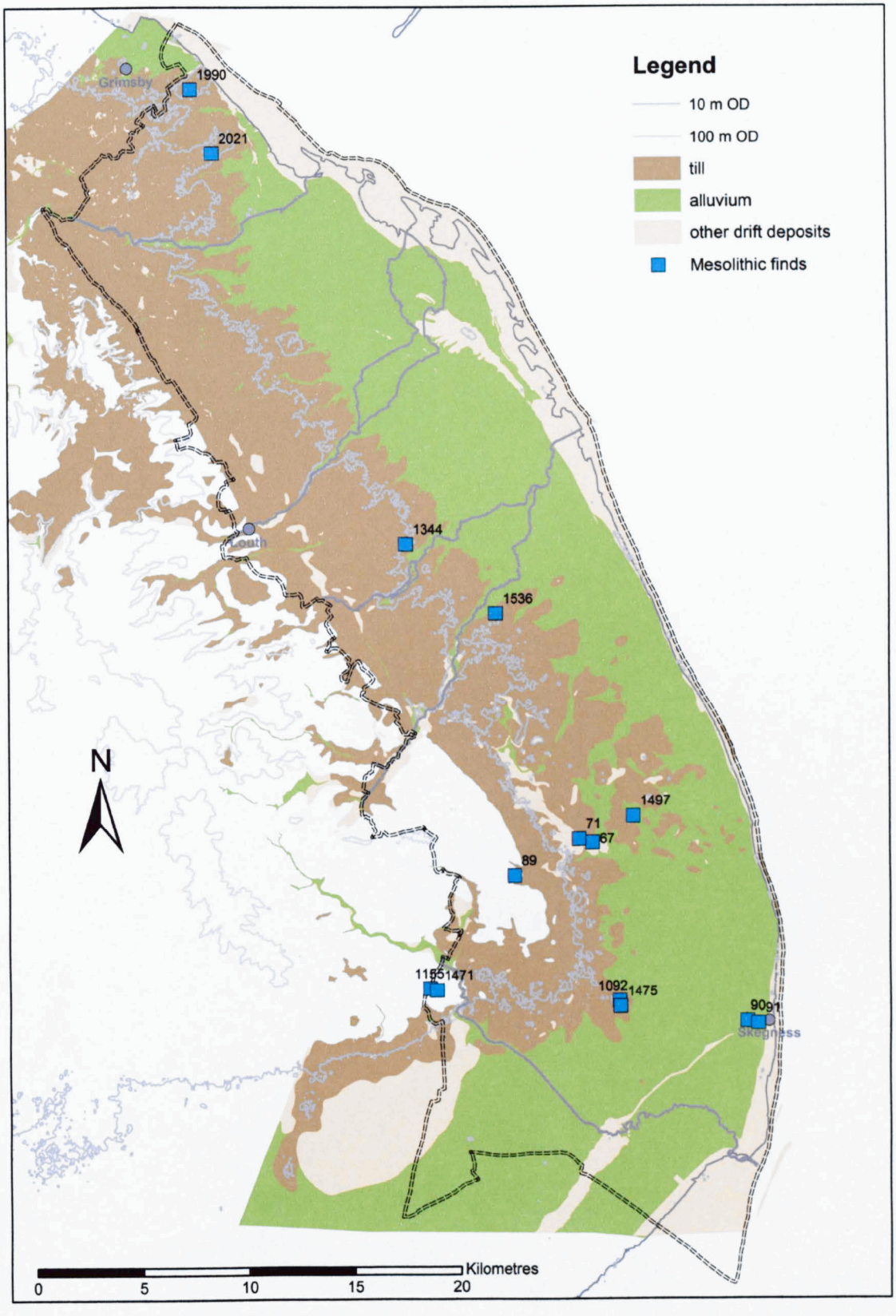


Figure 5.3: Distribution of Mesolithic finds with the drift geology and location of rivers. At the time the coastline would have been several kilometres further east. Numbers relate to unique identifiers and further information is presented in Appendix 9

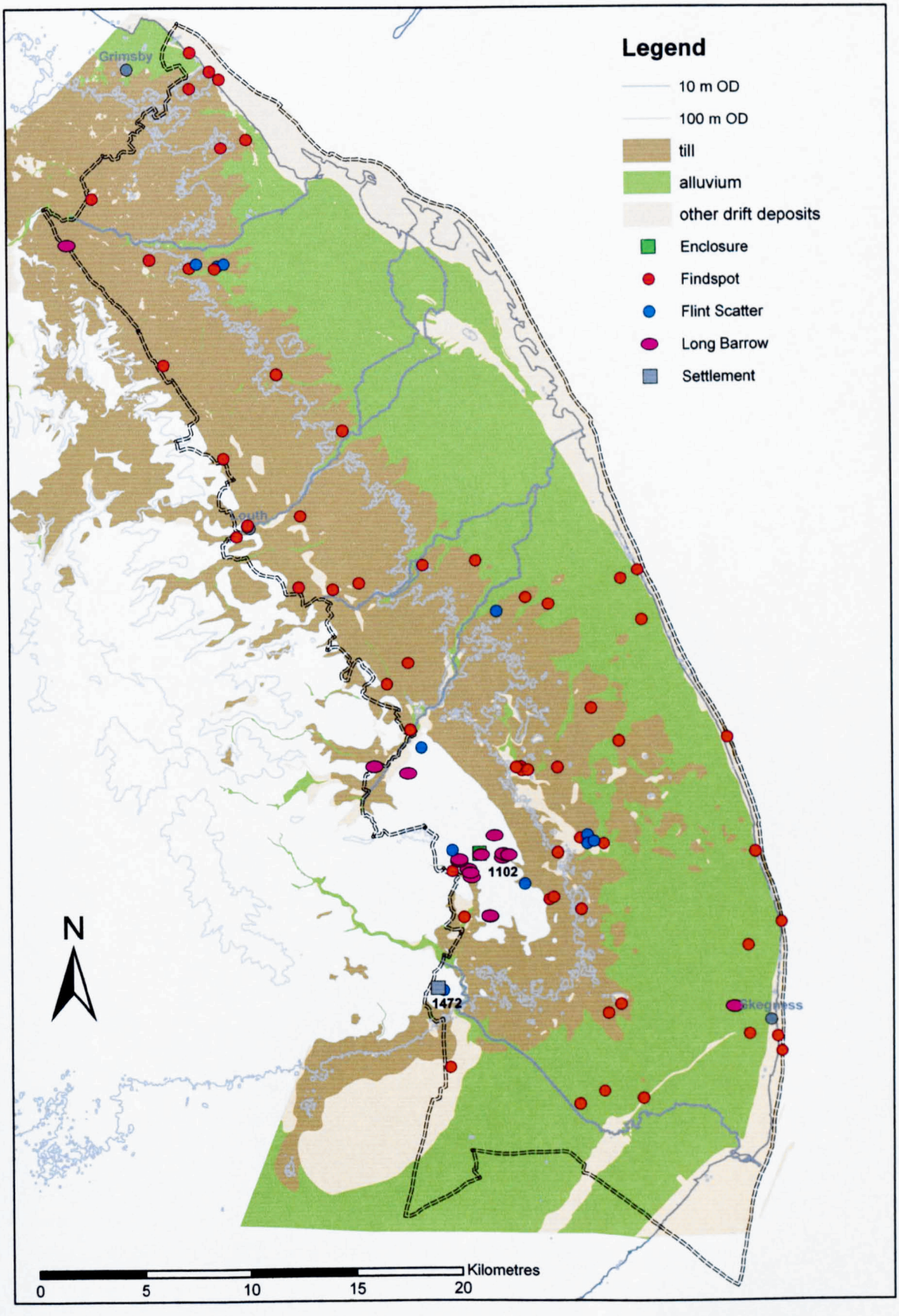


Figure 5.4: Distribution of Neolithic finds and sites with the drift geology and location of rivers

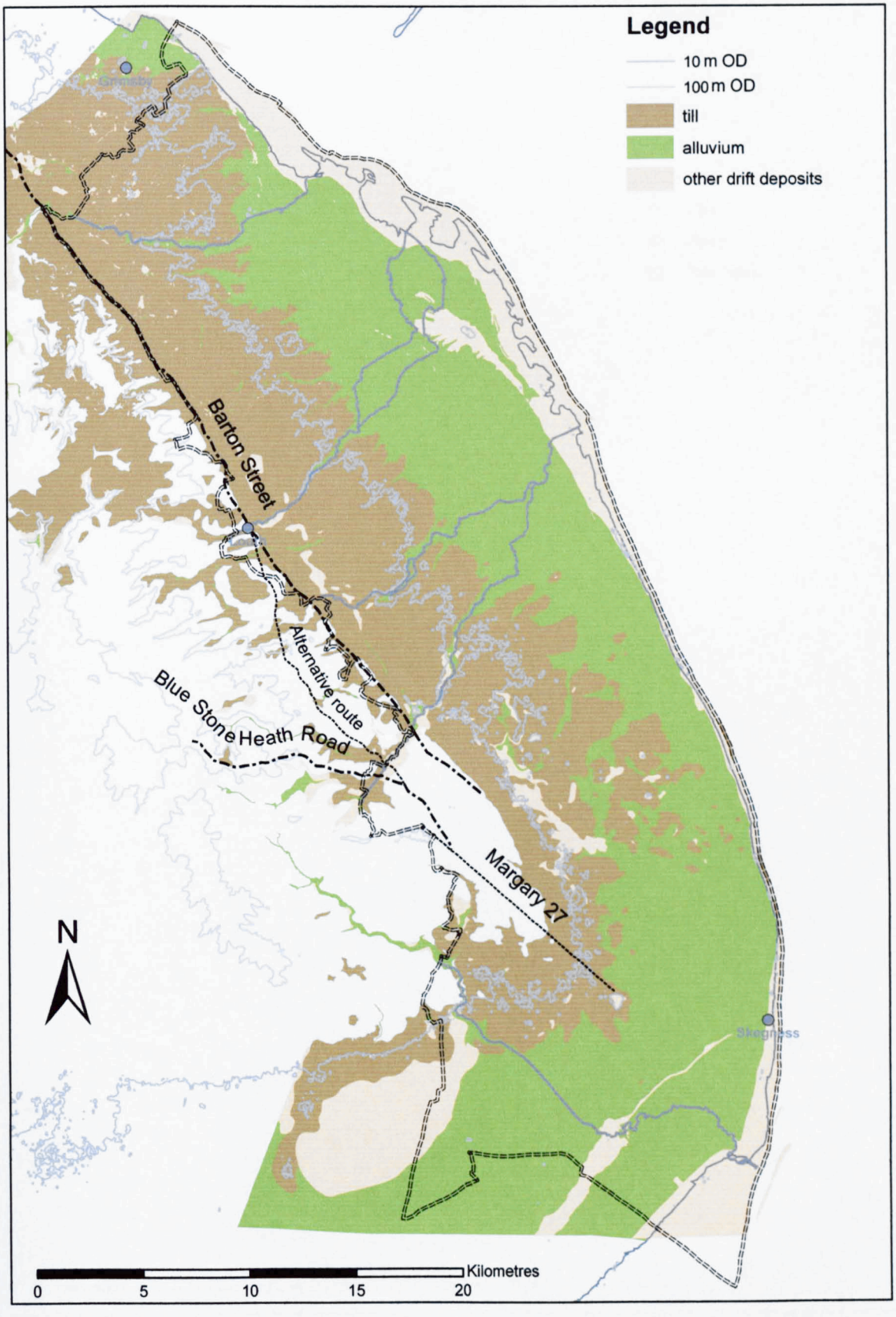


Figure 5.5: Projected lines of Barton Street and the Blue Stone Heath Road. The southern section of the Roman road Margary 27 is also shown

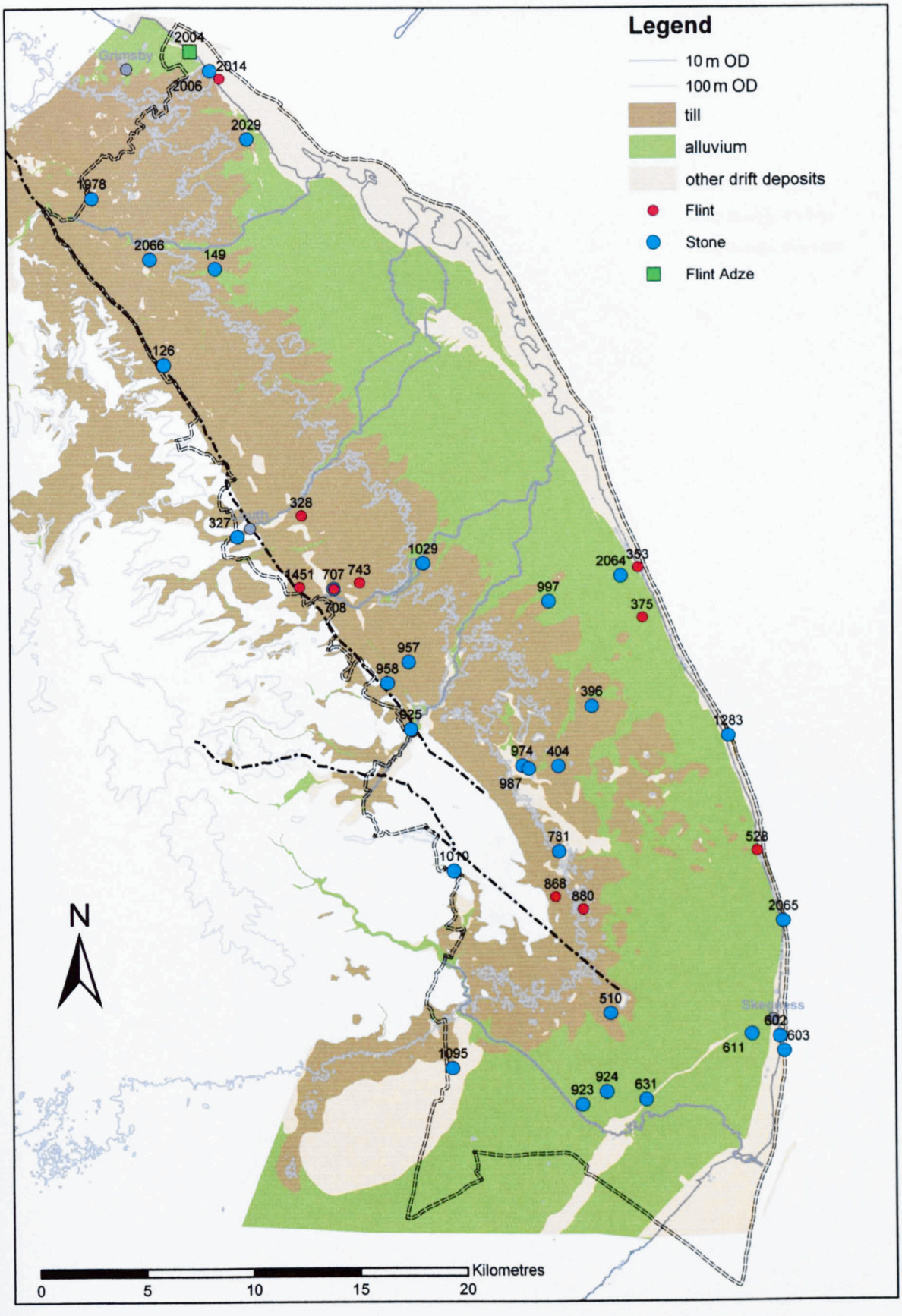


Figure 5.6: Distribution of Neolithic axes (flint and stone) with the possible prehistoric trackways, drift geology and rivers

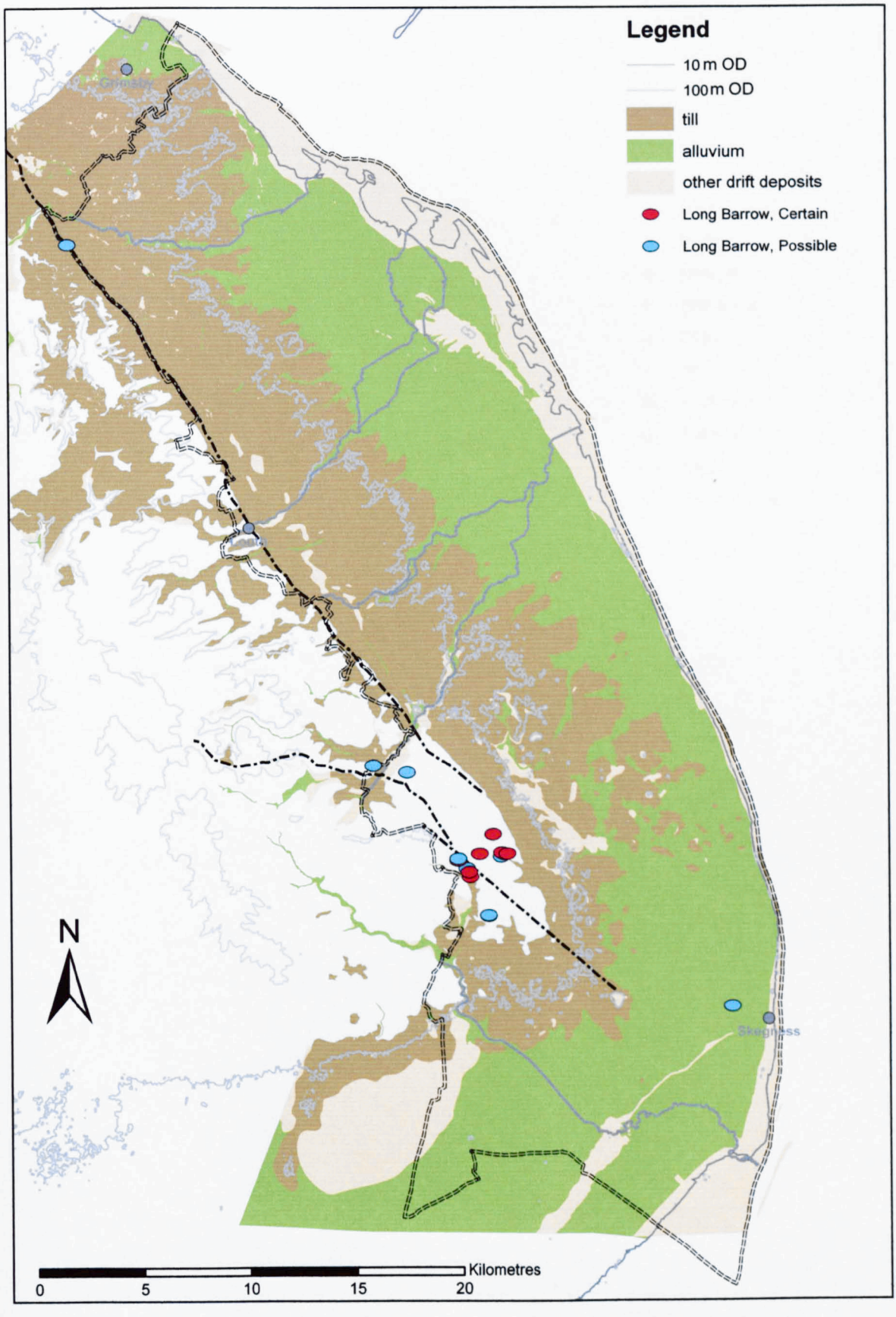


Figure 5.7: Distribution of long barrows and the possible lines of Barton Street and Blue Stone Heath Road with the drift geology and rivers

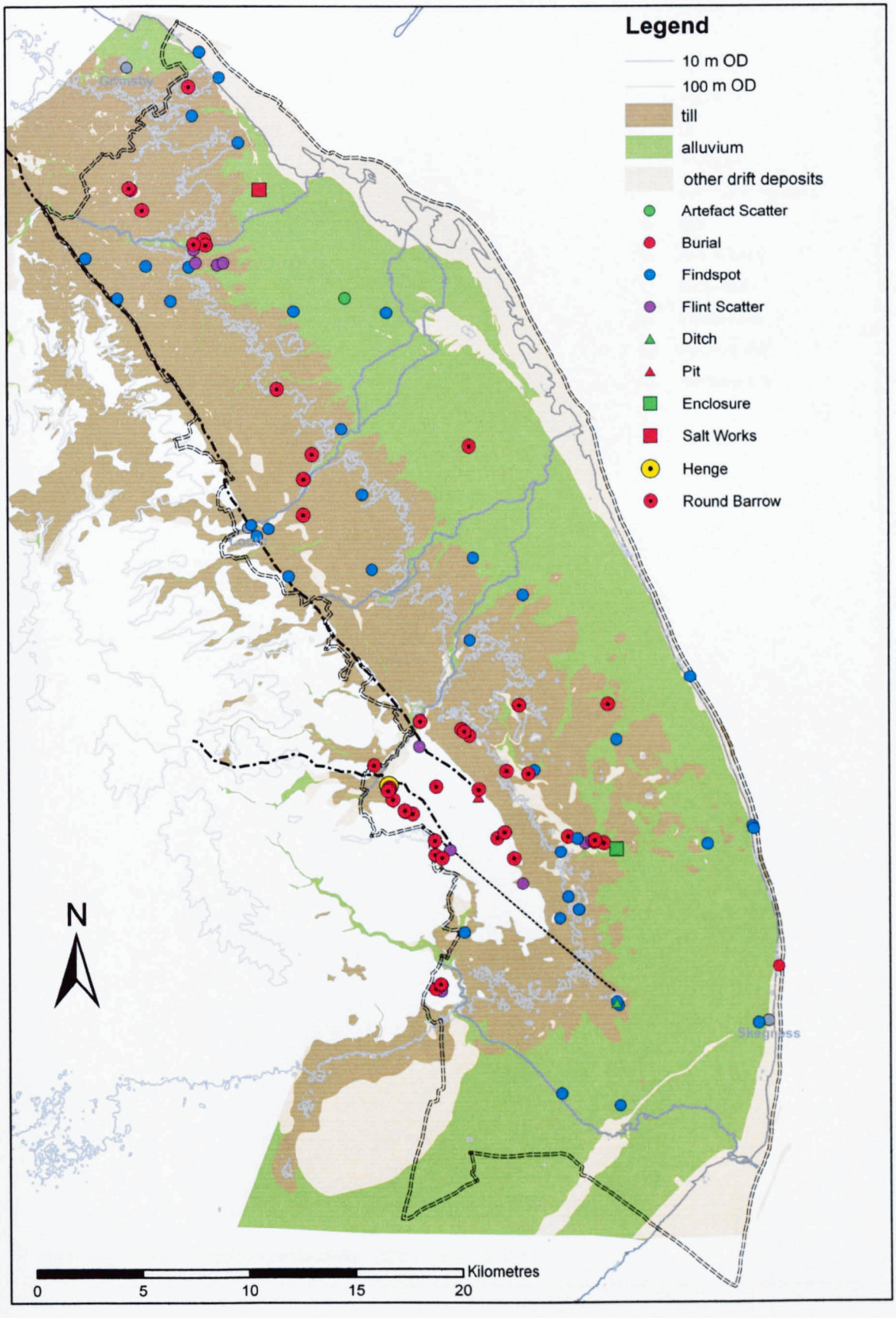


Figure 5.8: Distribution of Bronze Age finds and sites with the possible prehistoric trackways, drift geology and rivers

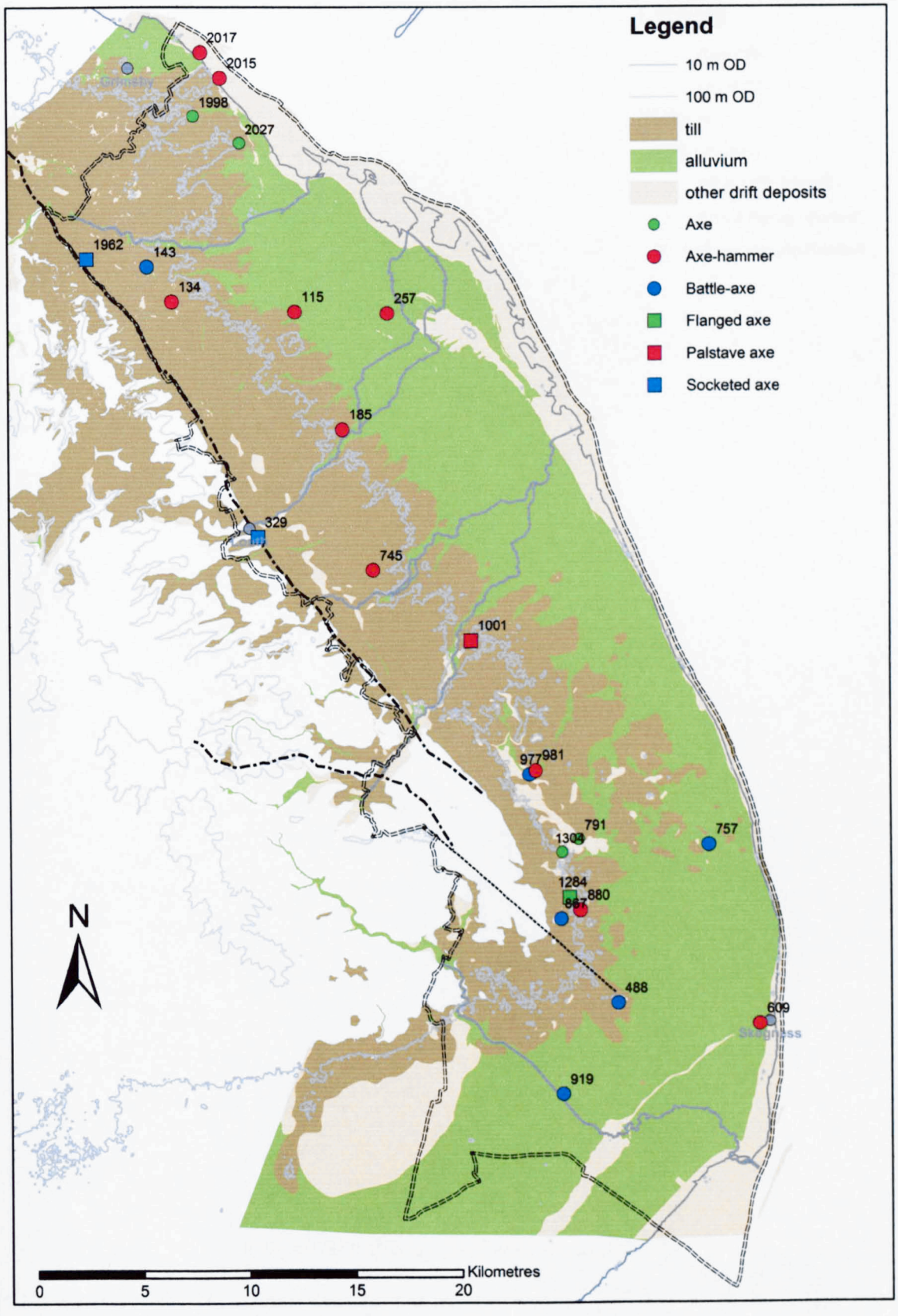


Figure 5.9: Distribution of Bronze Age axes, stone axe-hammers, battle-axes and bronze axe finds with prehistoric trackways, drift geology and rivers

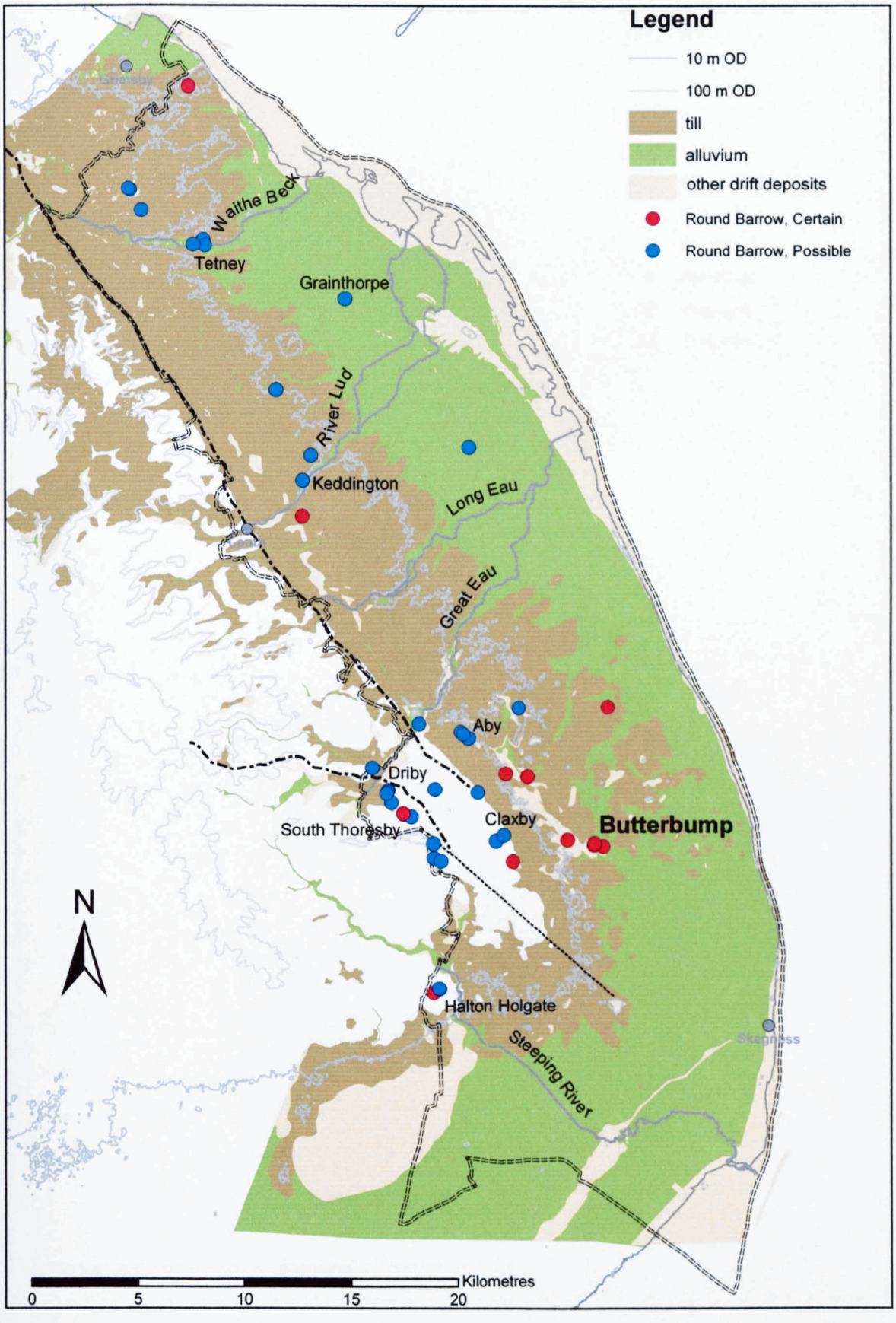


Figure 5.10: Distribution of Bronze Age round barrows and the possible prehistoric trackways with drift geology and rivers

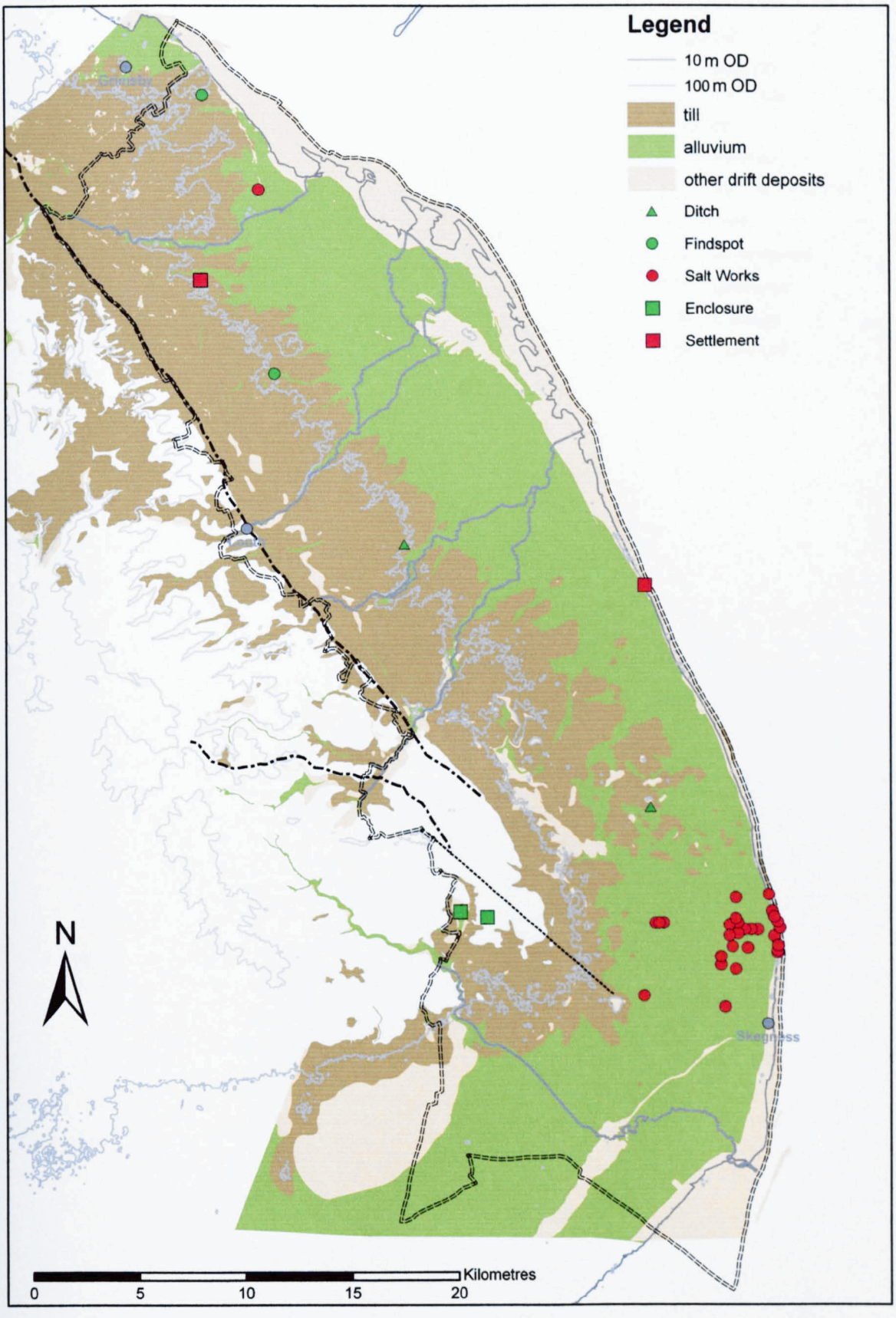


Figure 5.11: Distribution of Iron Age finds with the prehistoric trackways, drift geology and rivers

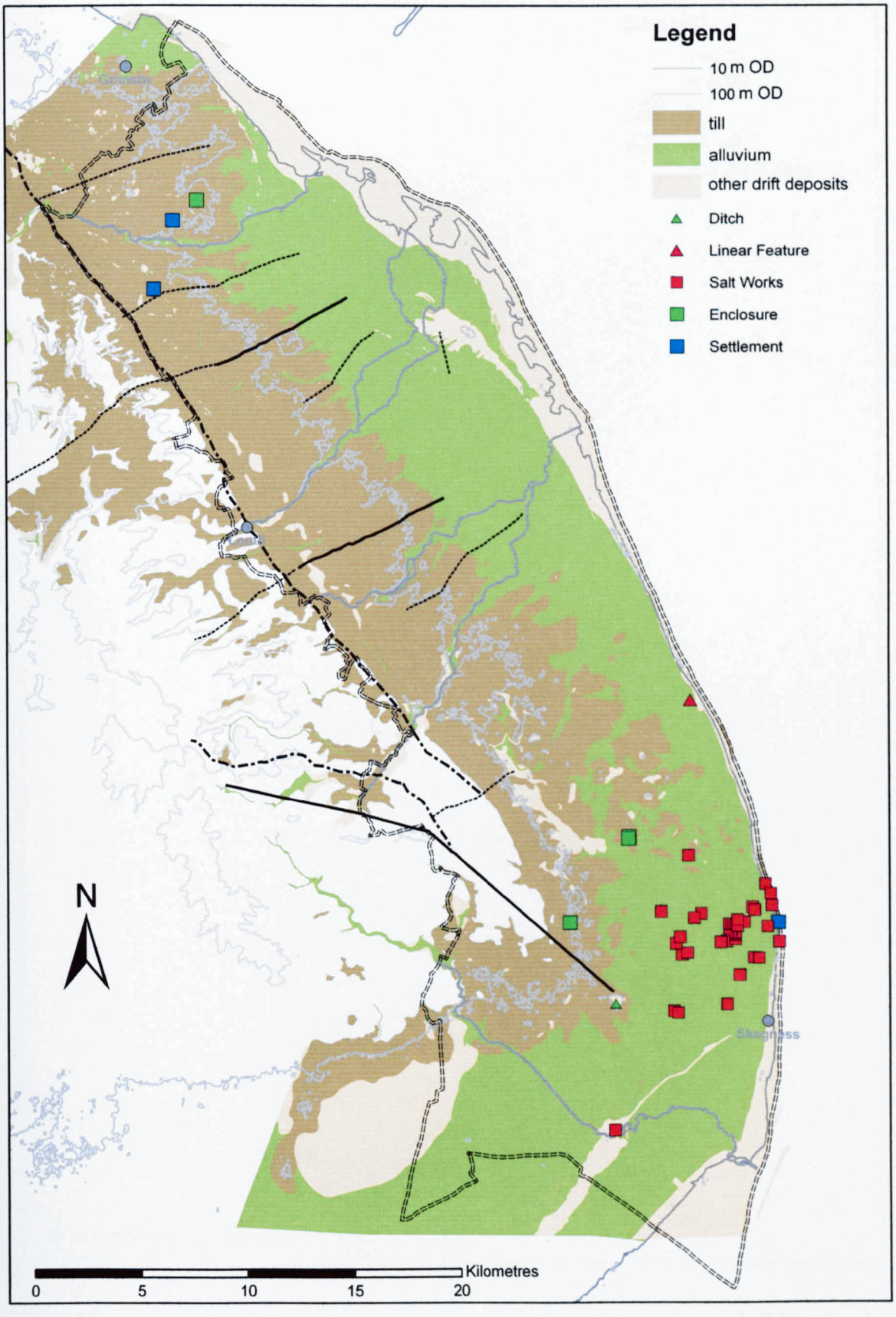


Figure 5.12: Distribution of material placed in Late Iron Age/Roman period with Roman roads, drift geology and rivers

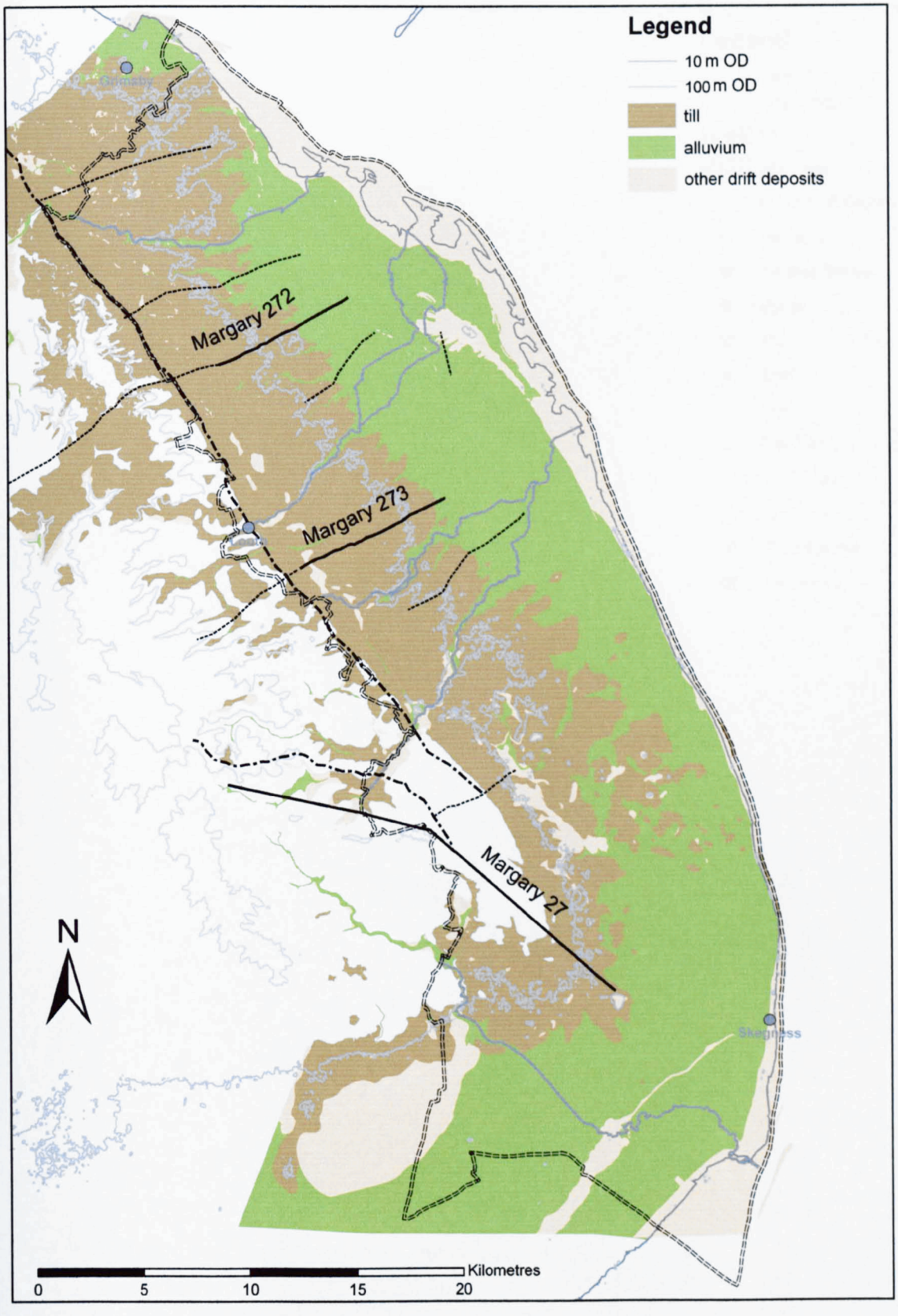


Figure 5.13: The Roman roads of the region including a number of postulated routes. Main roads are represented by solid lines, the prehistoric trackways are shown as a dashed and dotted line, while the postulated routes are given by dashed lines

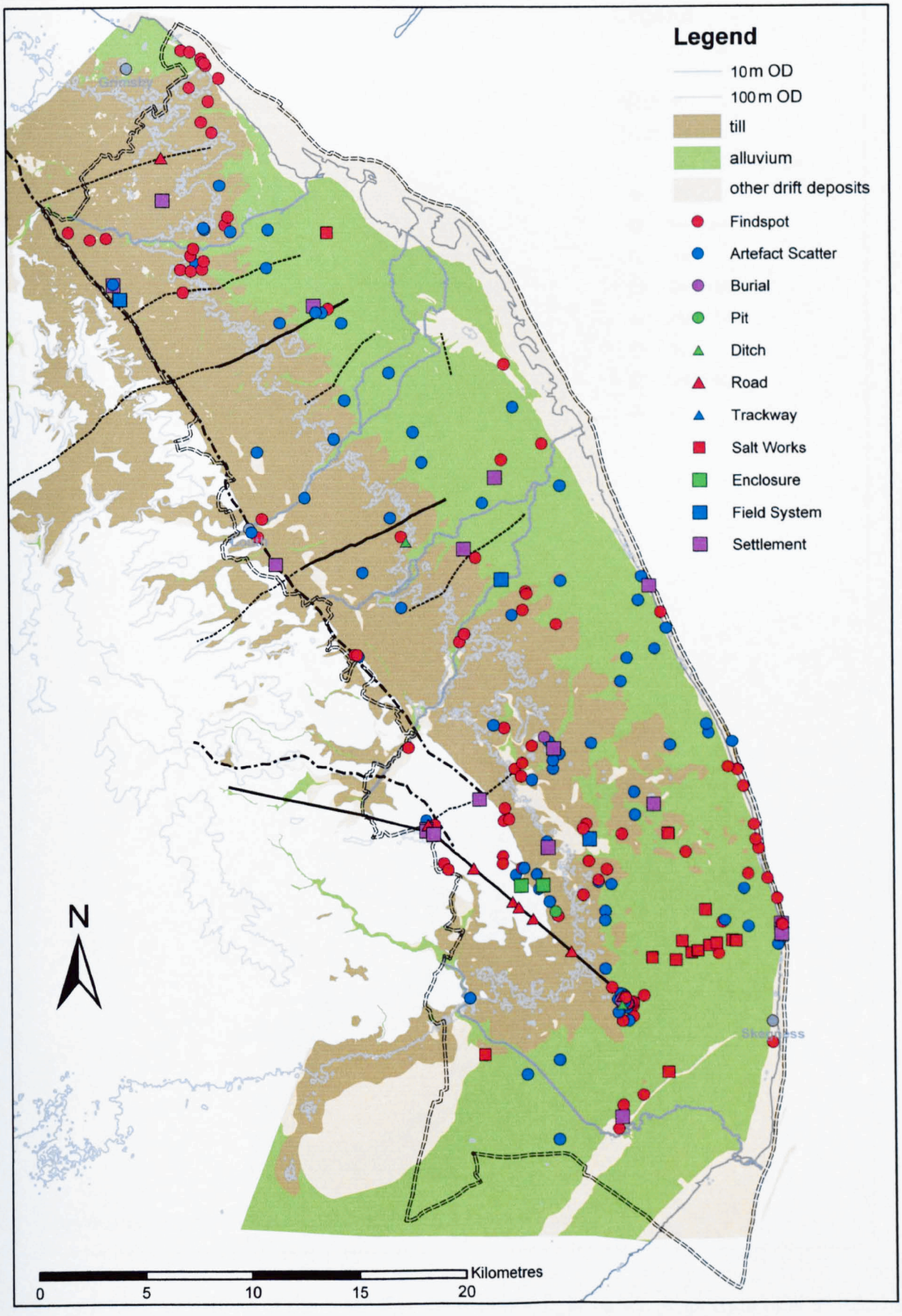


Figure 5.14: Distribution of Roman sites with Roman roads, drift geology and rivers

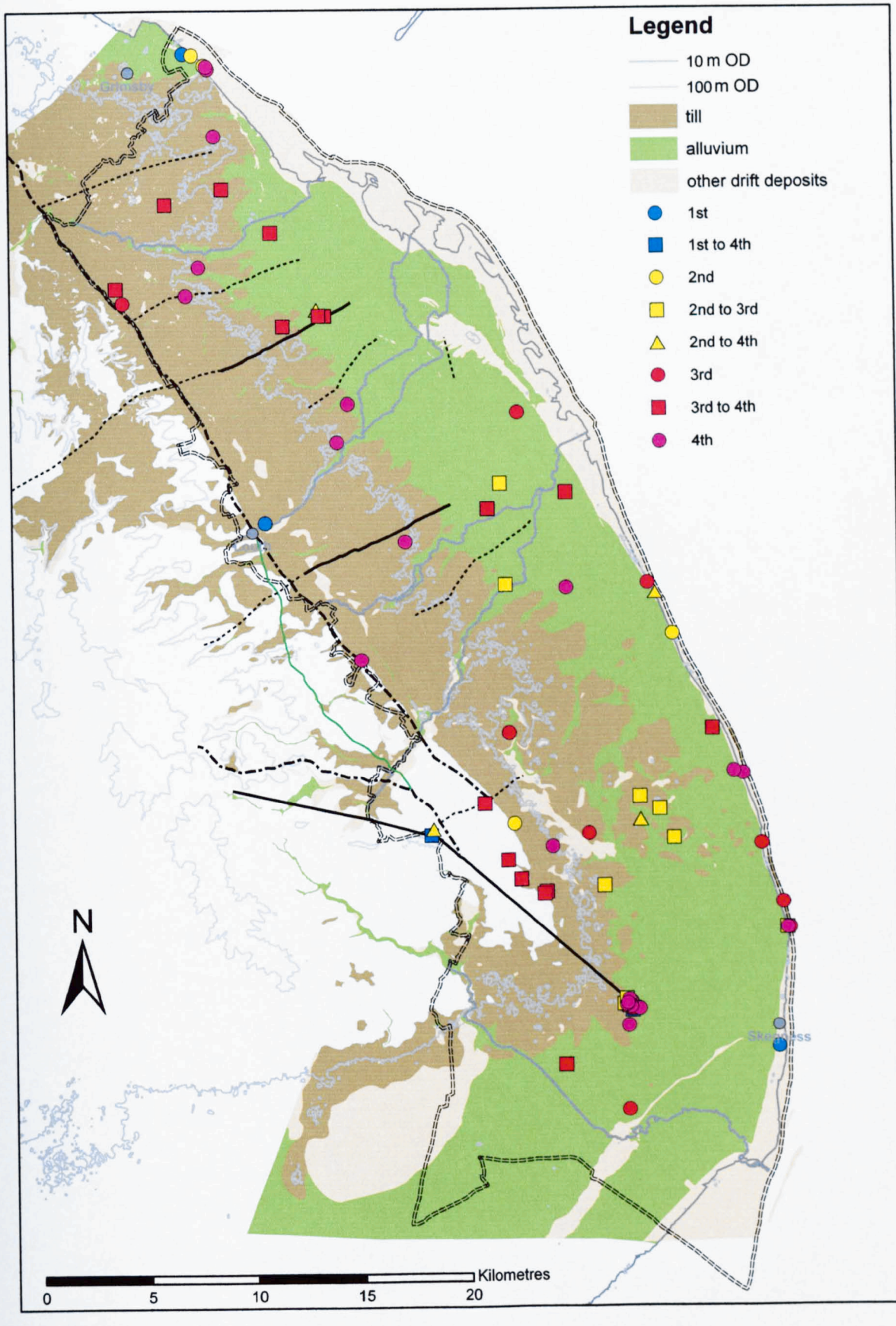


Figure 5.15: Distribution of the dated Roman sites highlighting the proportion of sites dated to the third and fourth centuries

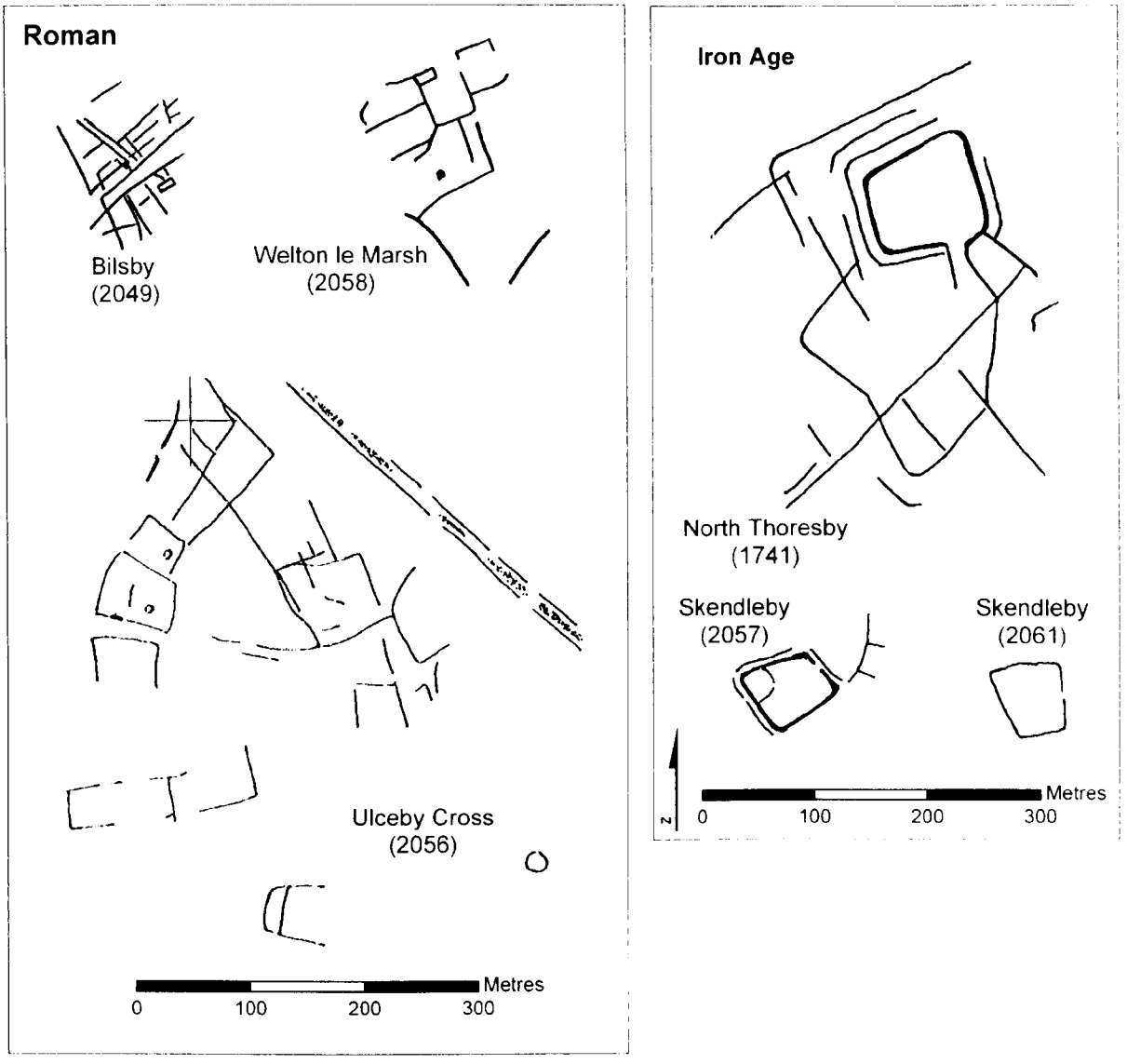


Figure 5.16: Enclosures with associated dating evidence

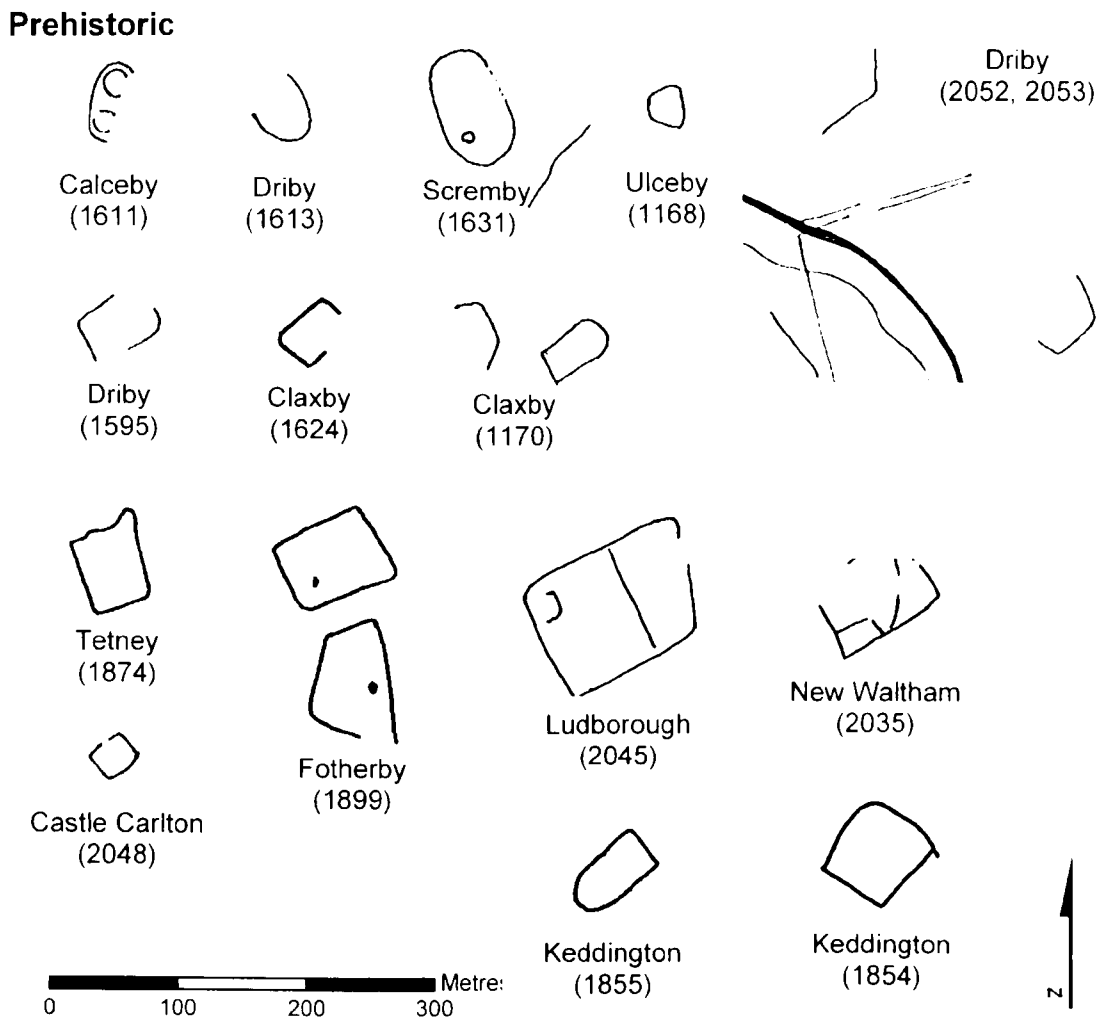


Figure 5.17: Single enclosures with no secure dating evidence

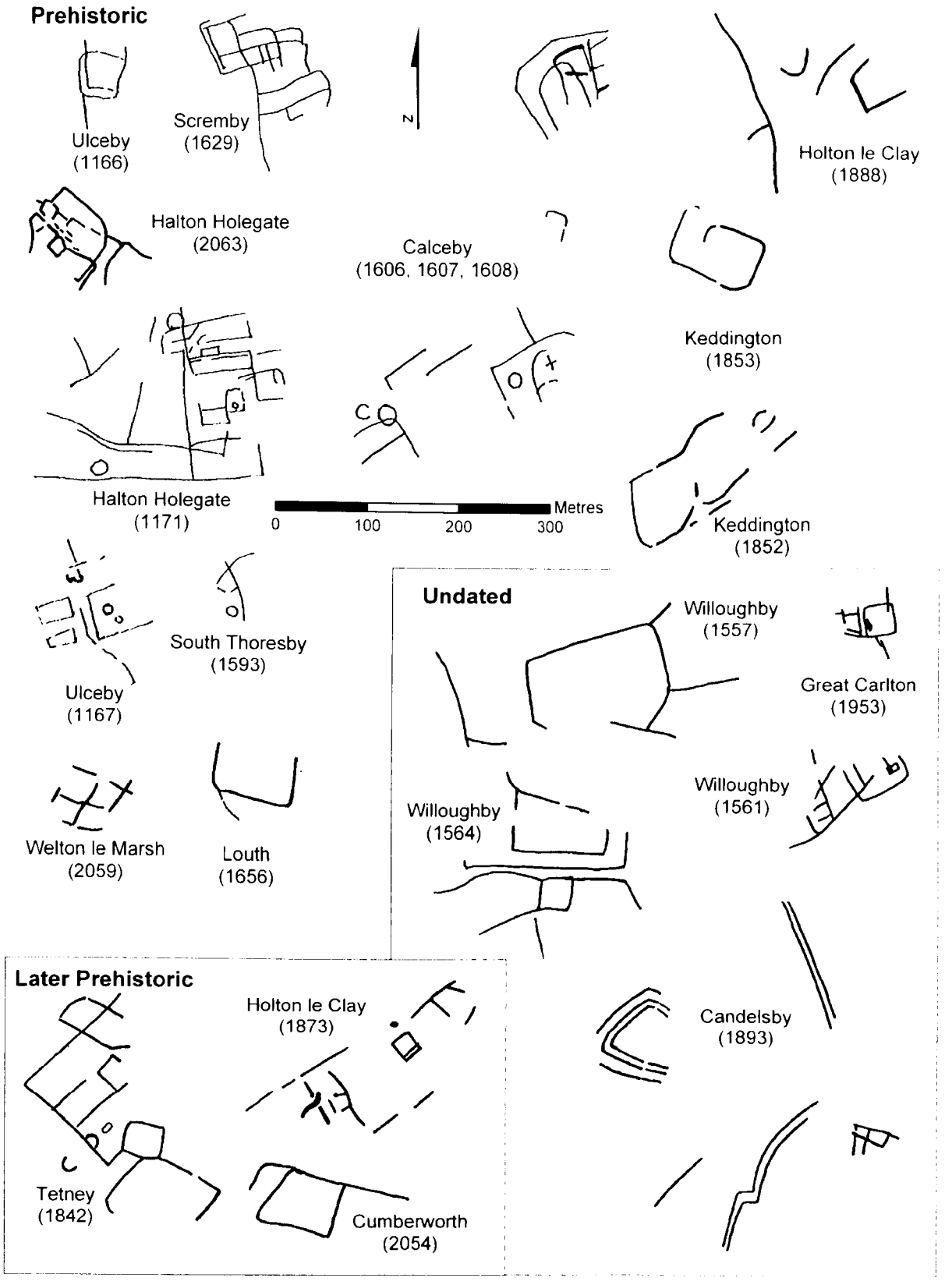


Figure 5.18: More complex forms of enclosure with no secure dating evidence

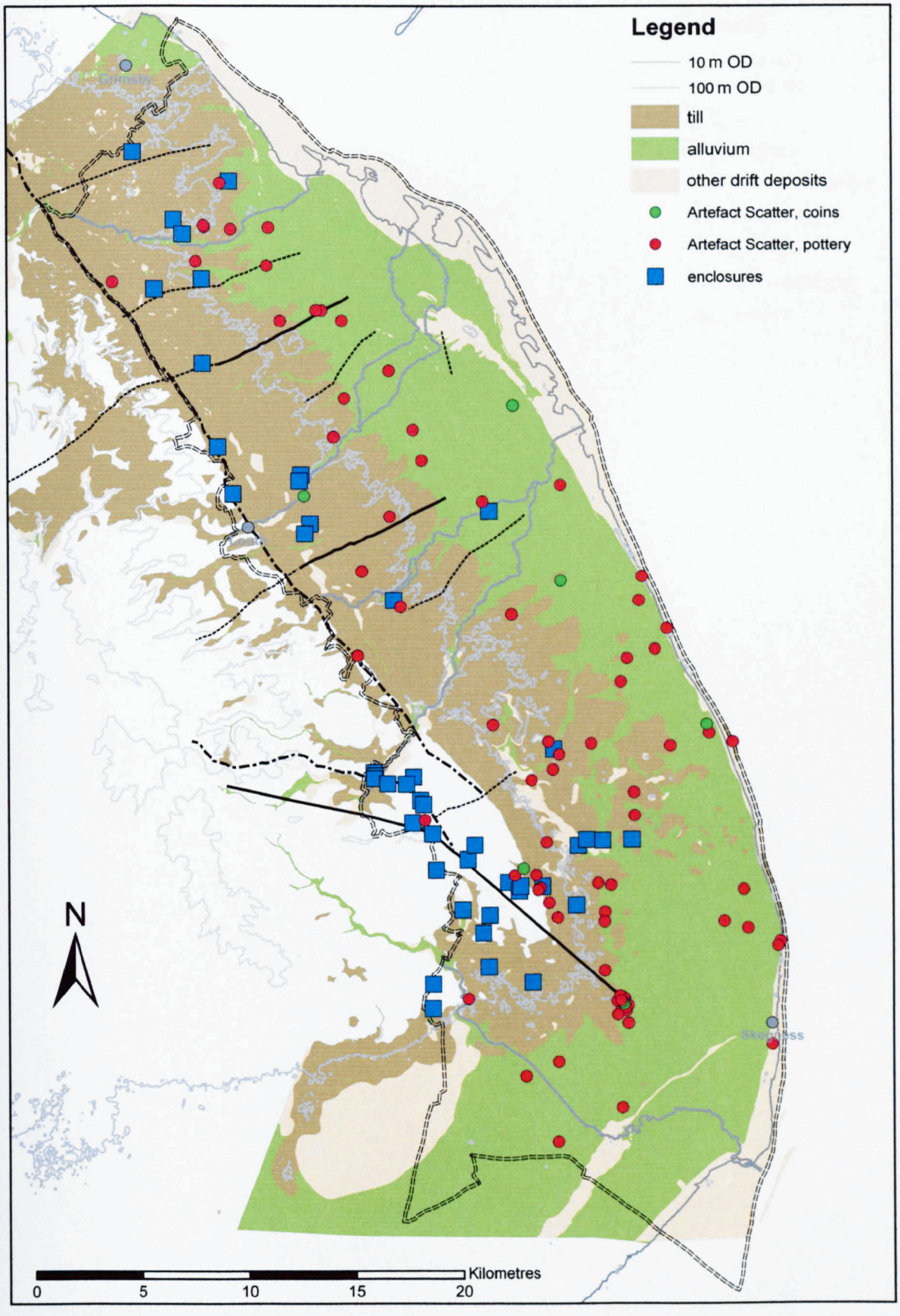


Figure 5.19: Locations of enclosures in Figures 5.16, 5.17 and 5.18 with the location of possible Roman roads, and artefact scatters of Roman pottery and coins

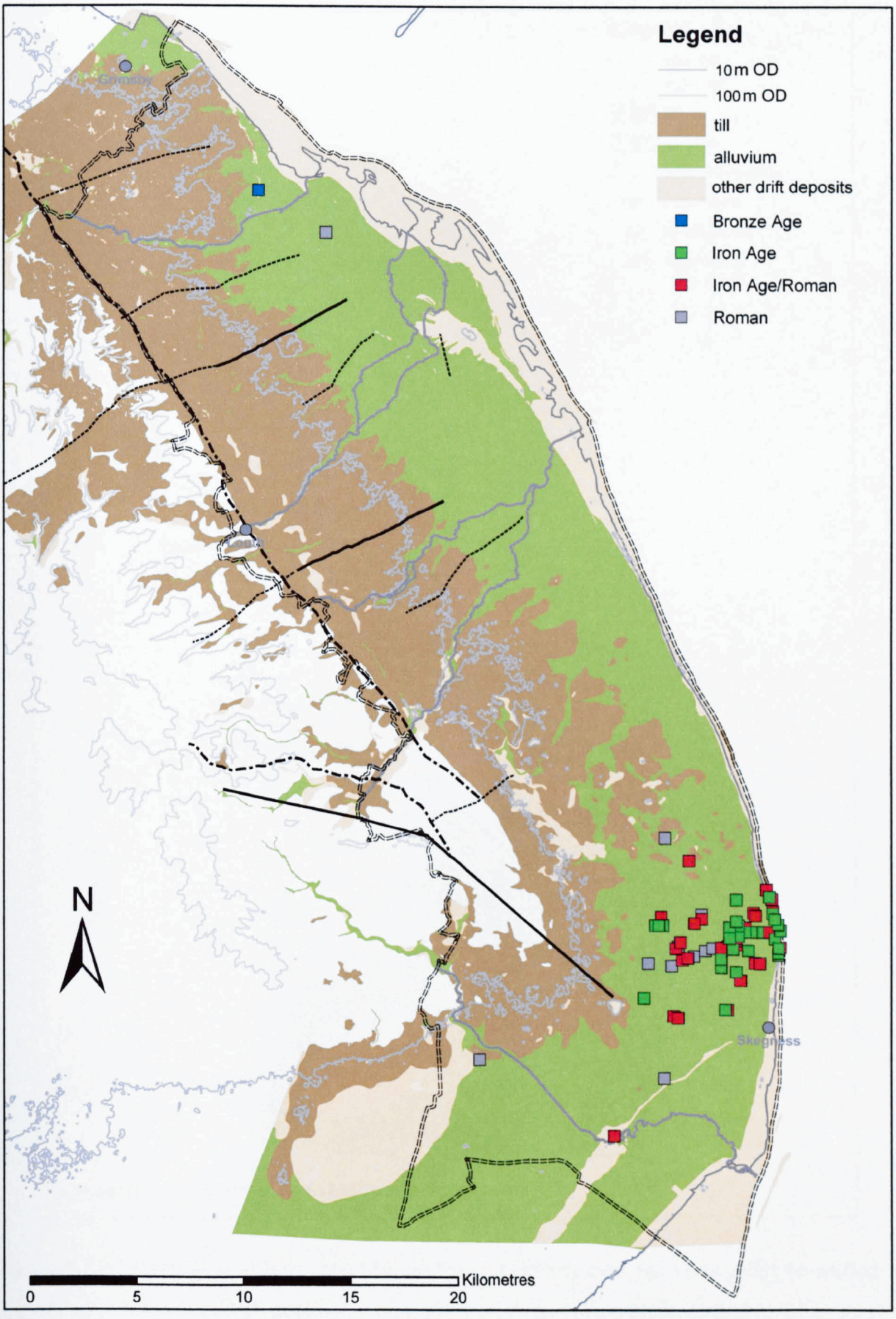


Figure 5.20: Distribution of prehistoric and Roman salterns

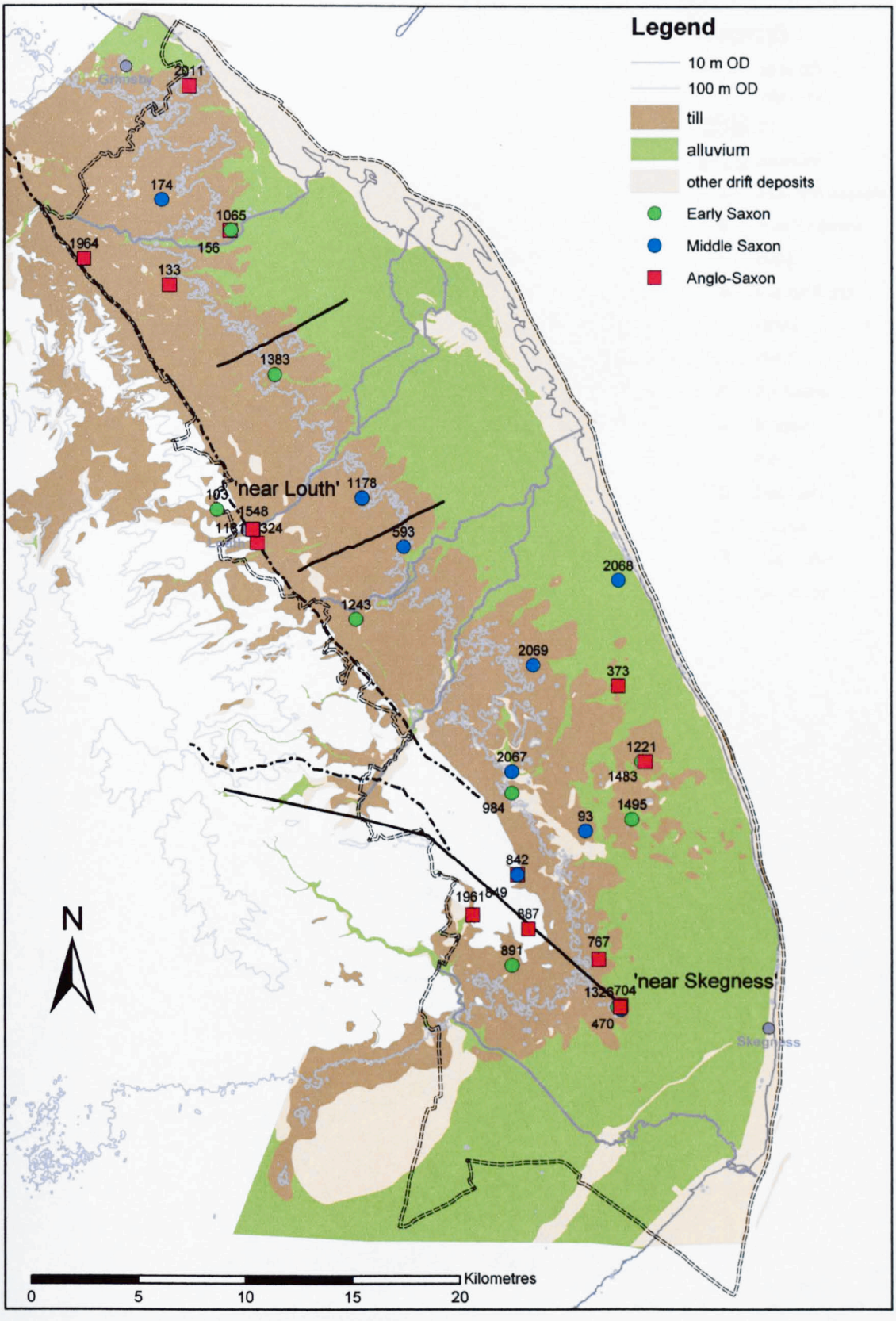


Figure 5.21: Distribution of Early and Middle Saxon evidence alongside that solely identified as Anglo-Saxon. The drift geology, rivers, main sections of Roman roads and prehistoric trackways are also shown

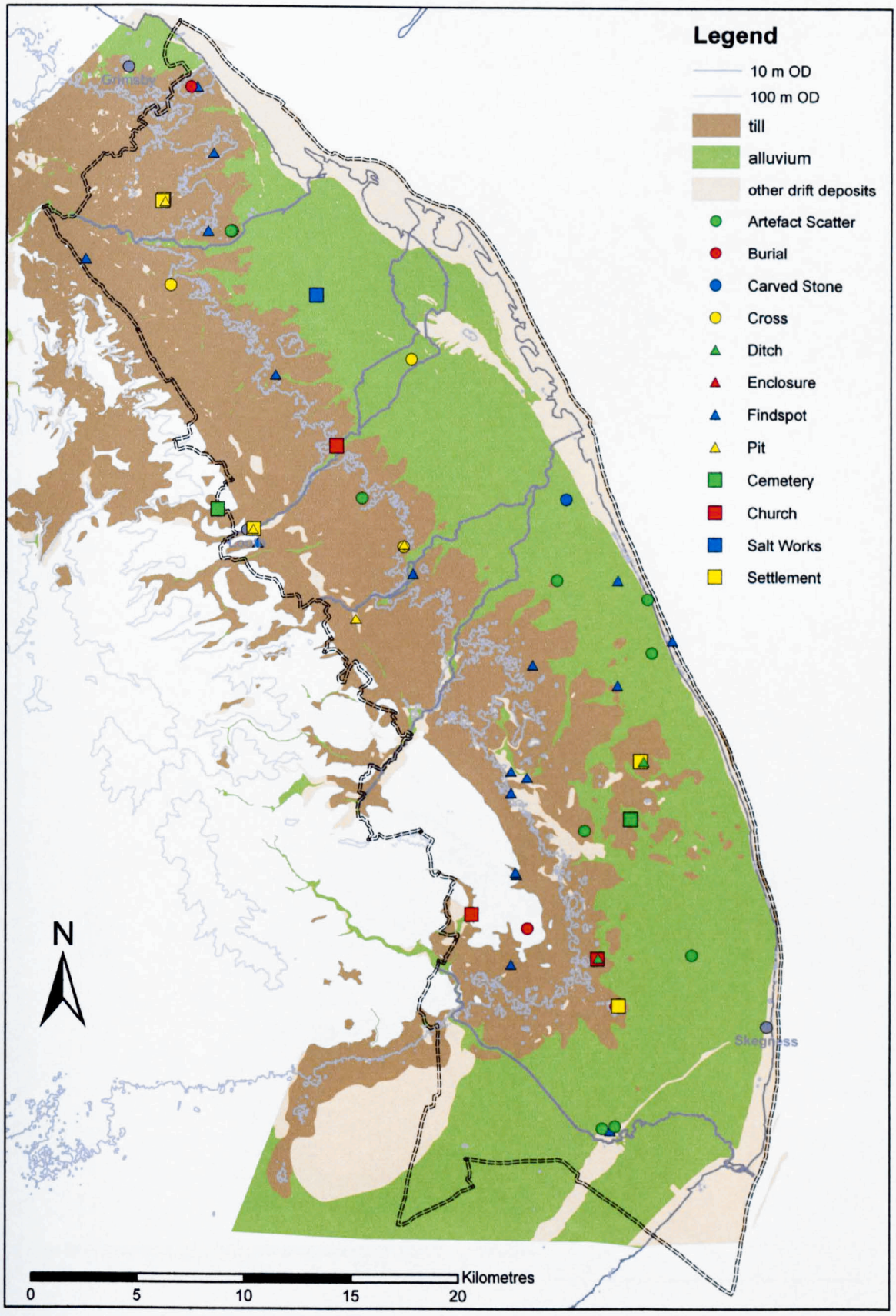


Figure 5.22: Types of Anglo-Saxon finds (there is no subdivision to distinguish between periods)

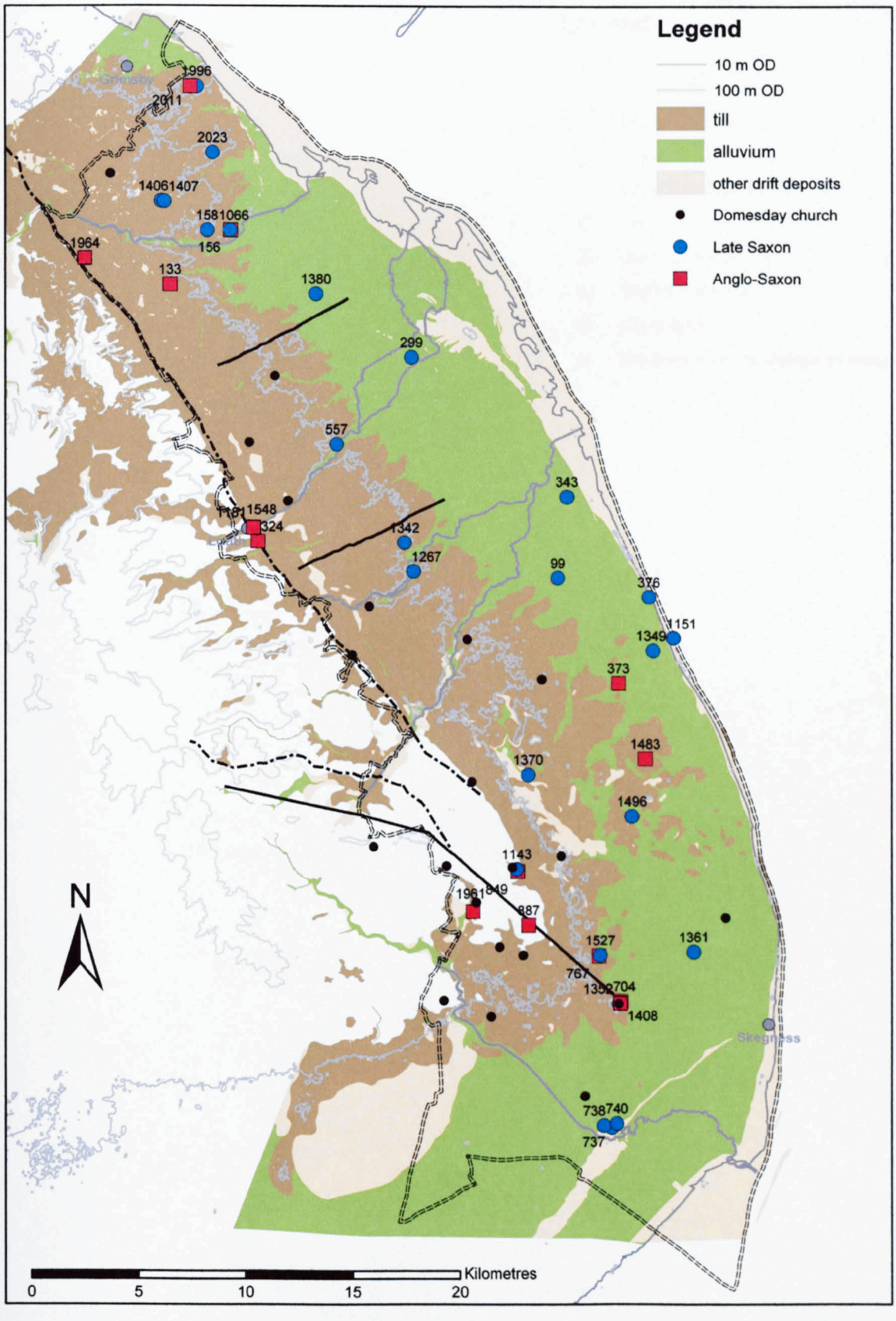


Figure 5.23: Distribution of Late Saxon evidence alongside that solely identified as Anglo-Saxon. The drift geology, rivers, main sections of Roman roads and prehistoric trackways are also shown. The vills that have churches recorded at Domesday are also shown

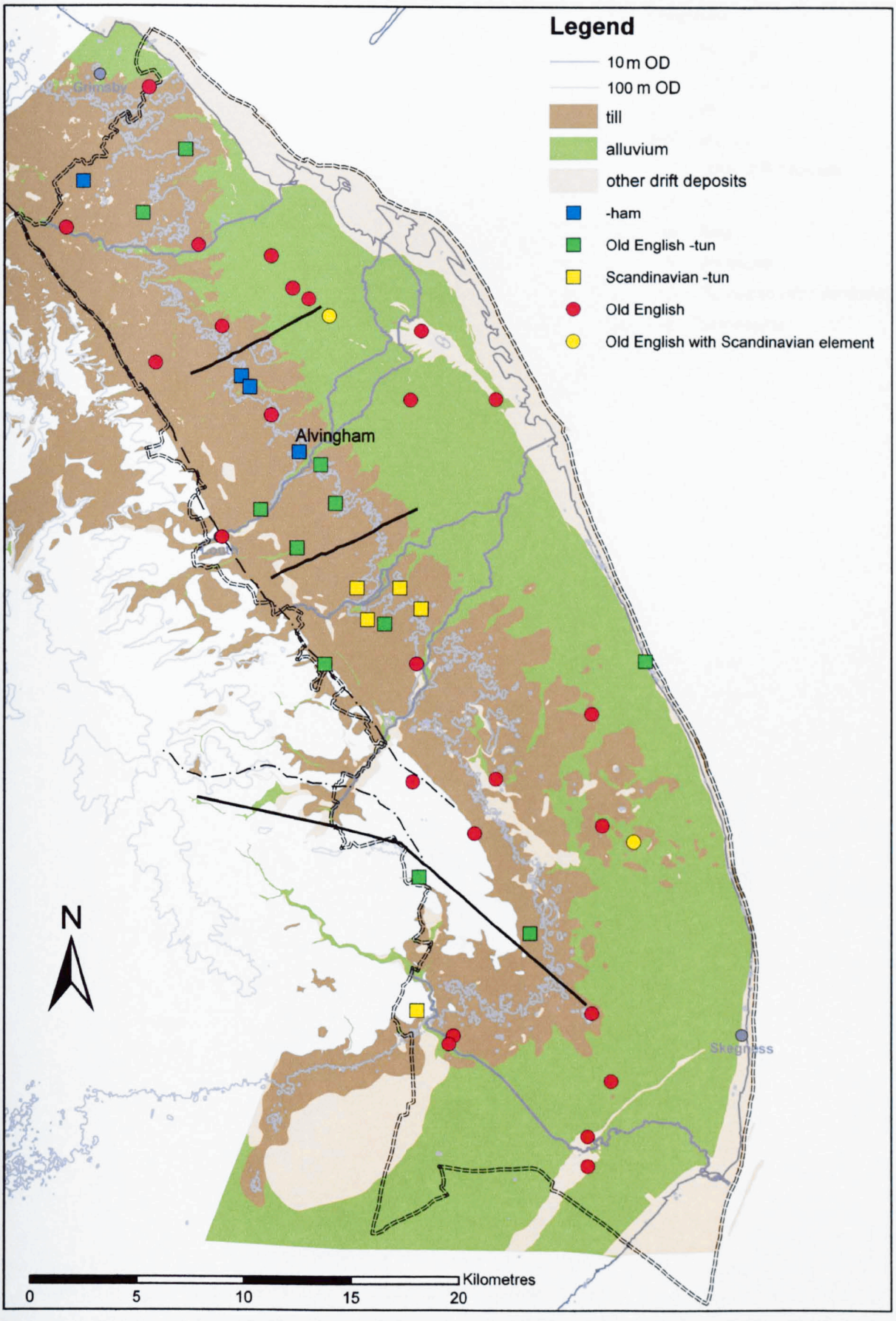


Figure 5.24: Distribution of Old English place-names

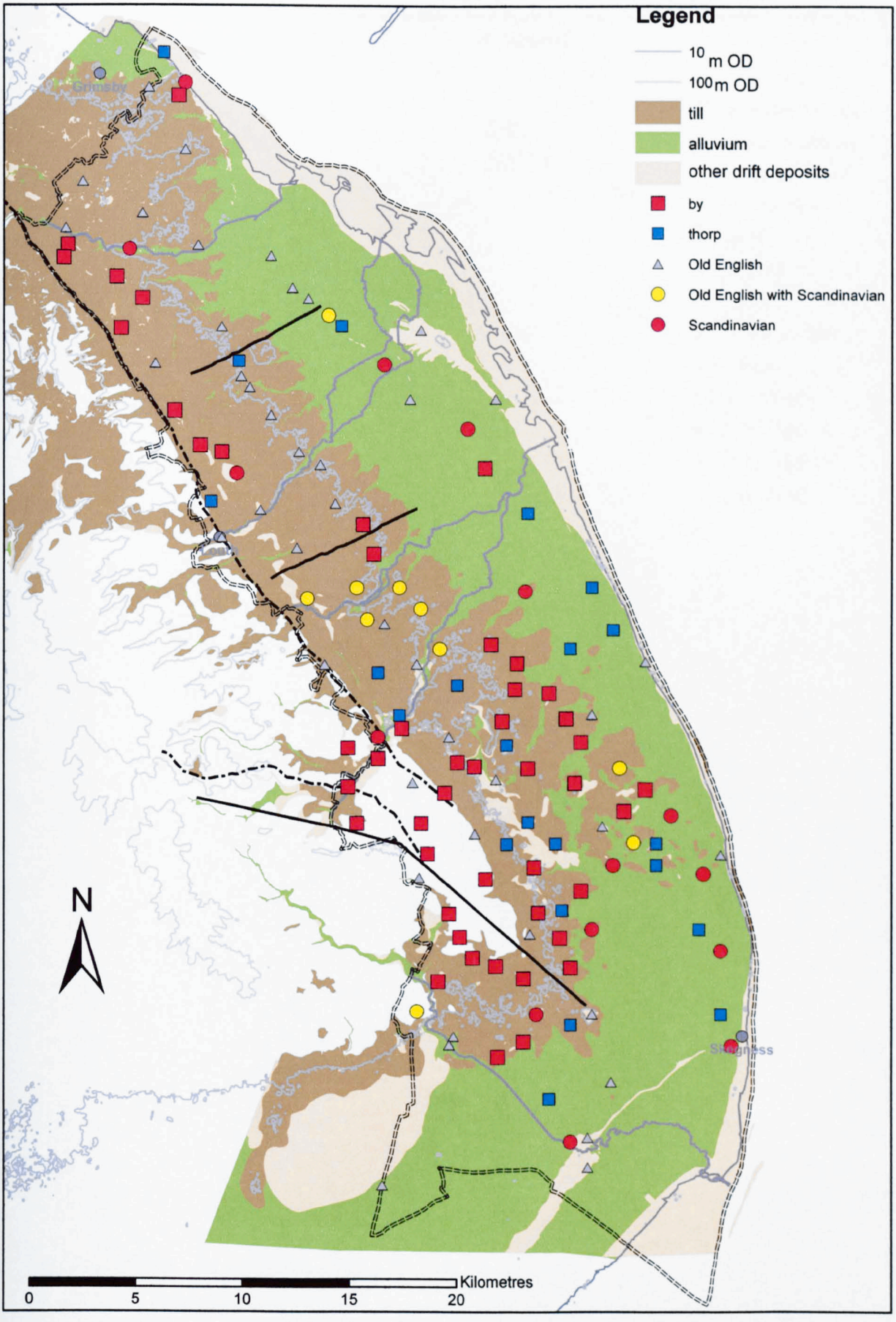


Figure 5.25: Distribution of Scandinavian place-names

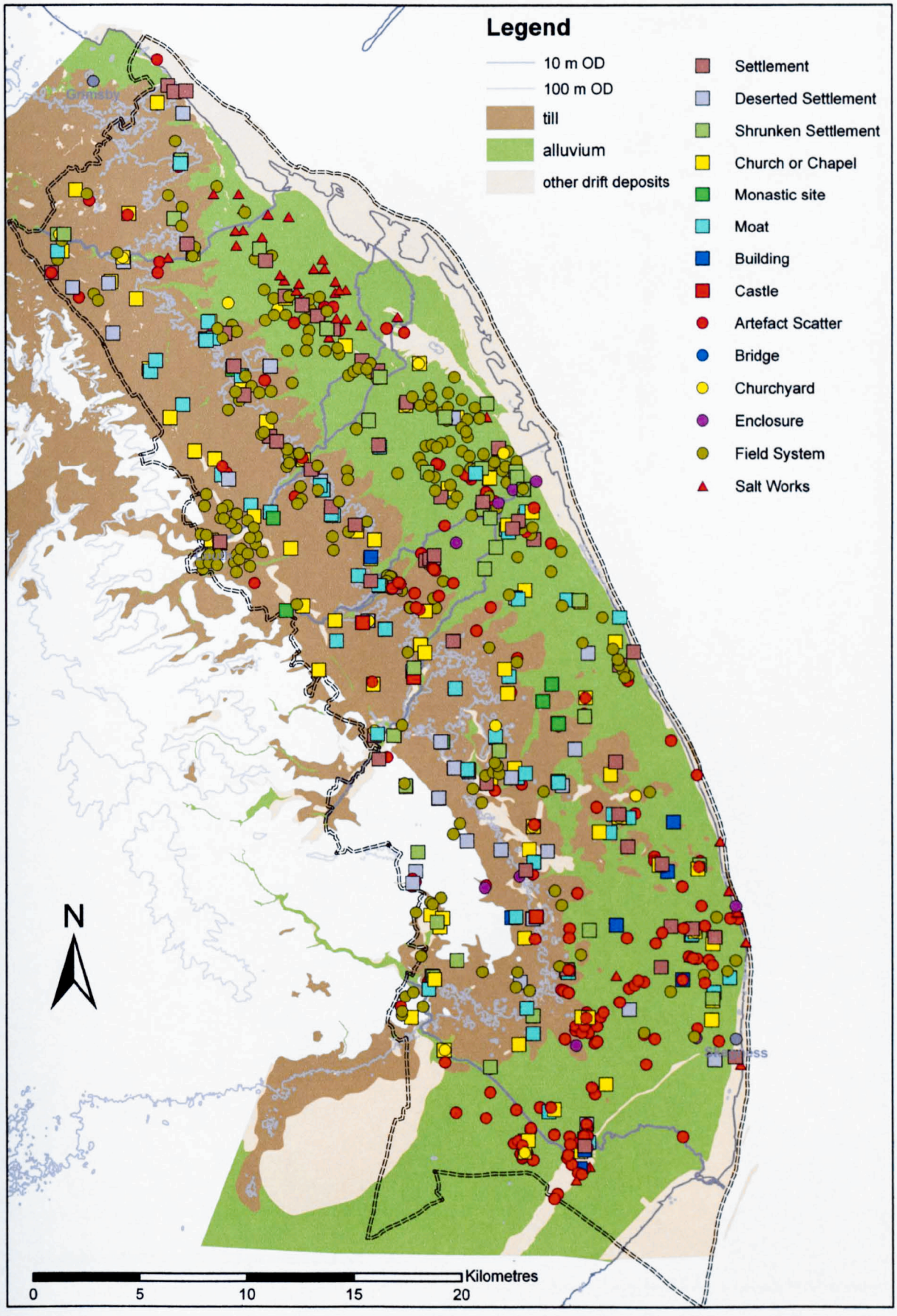


Figure 5.26: Distribution of Medieval archaeology

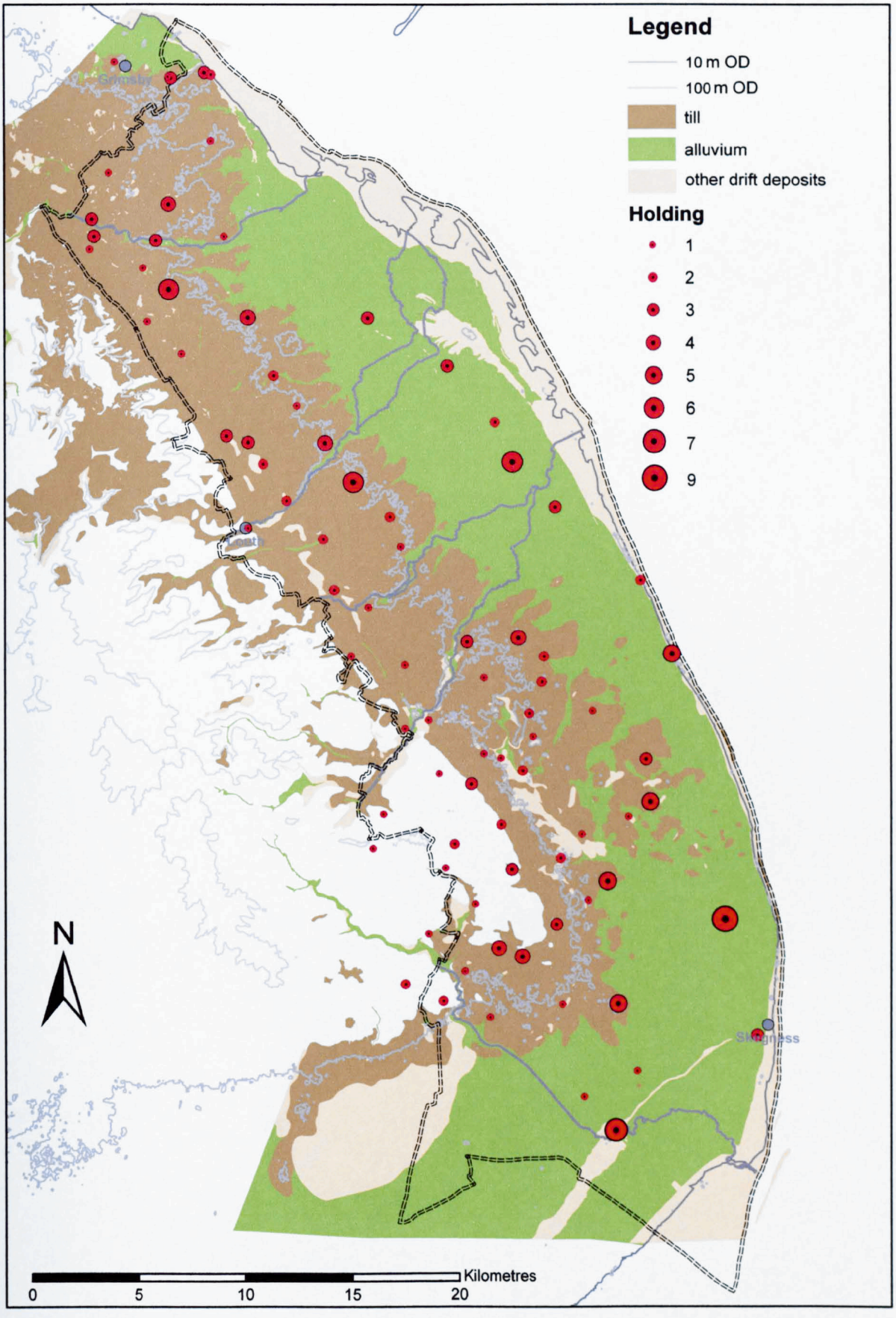


Figure 5.27: Number of entries per vill (includes manors, sokelands and berewicks)

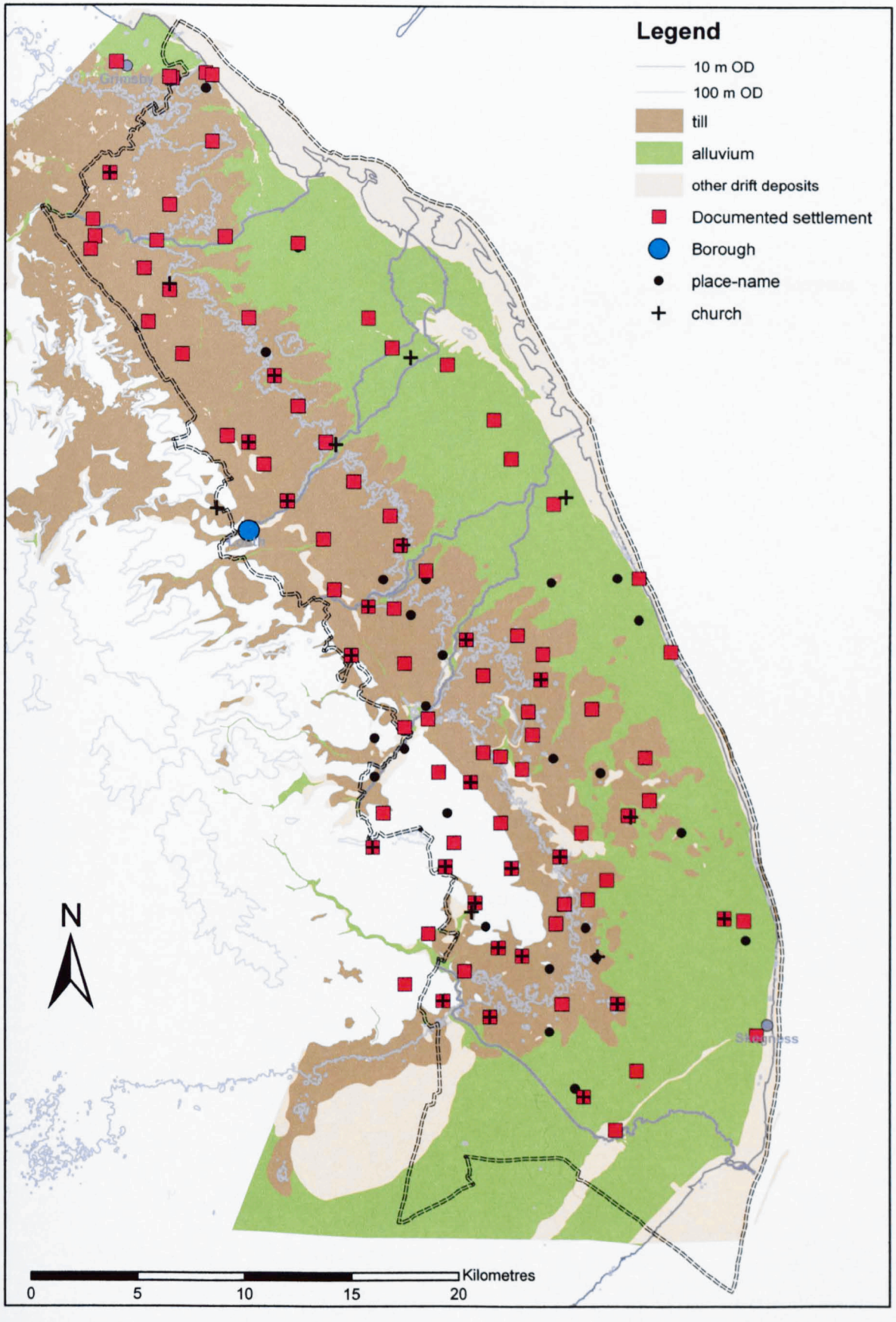


Figure 5.28: Composite map showing the distribution of settlement in the early twelfth century (from Domesday evidence, the Lindsey Survey and the archaeological evidence)

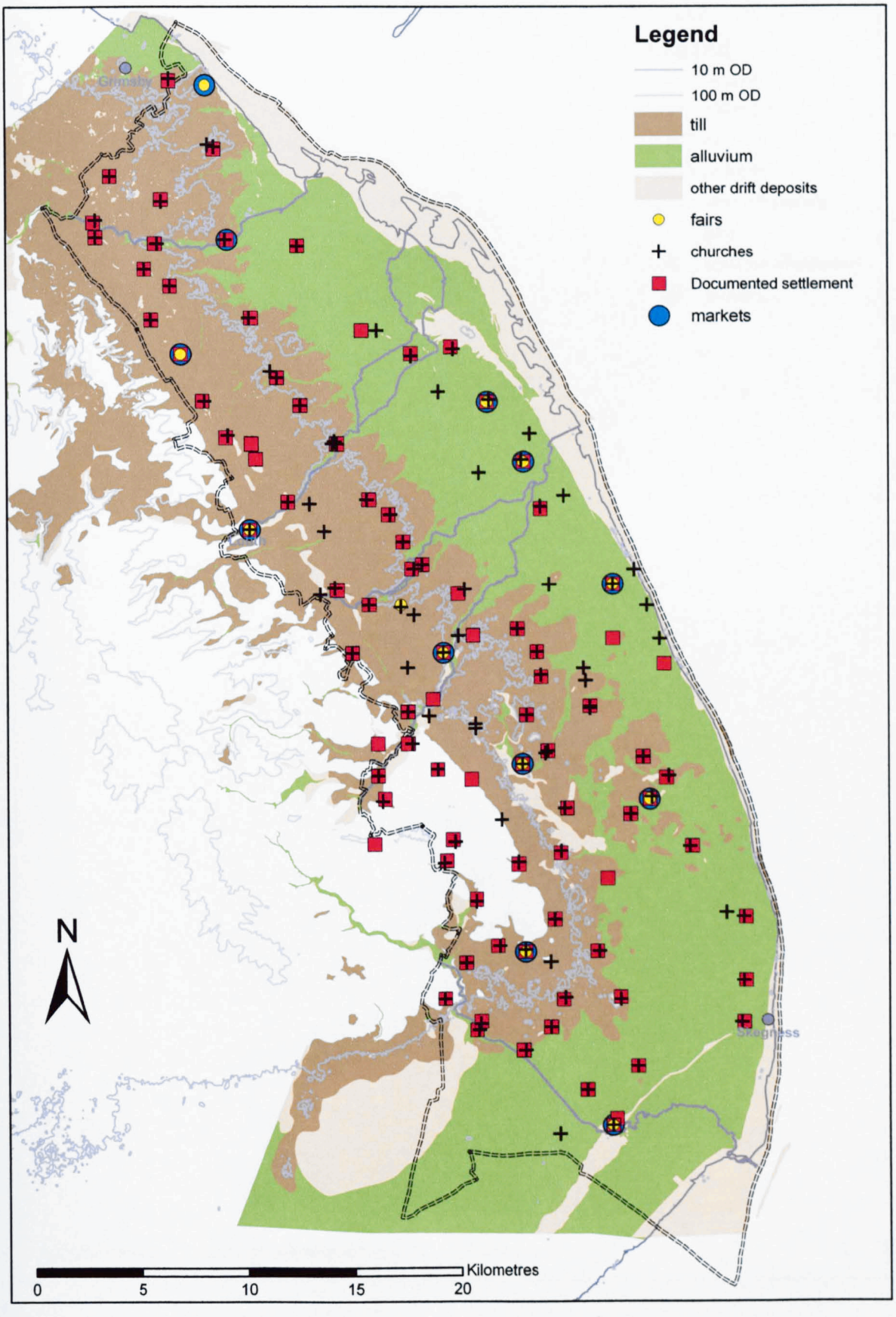


Figure 5.29: Composite map showing the distribution of settlement in the late fourteenth century (from the Taxatio, lay subsidy of 1334 and the poll tax of 1377)

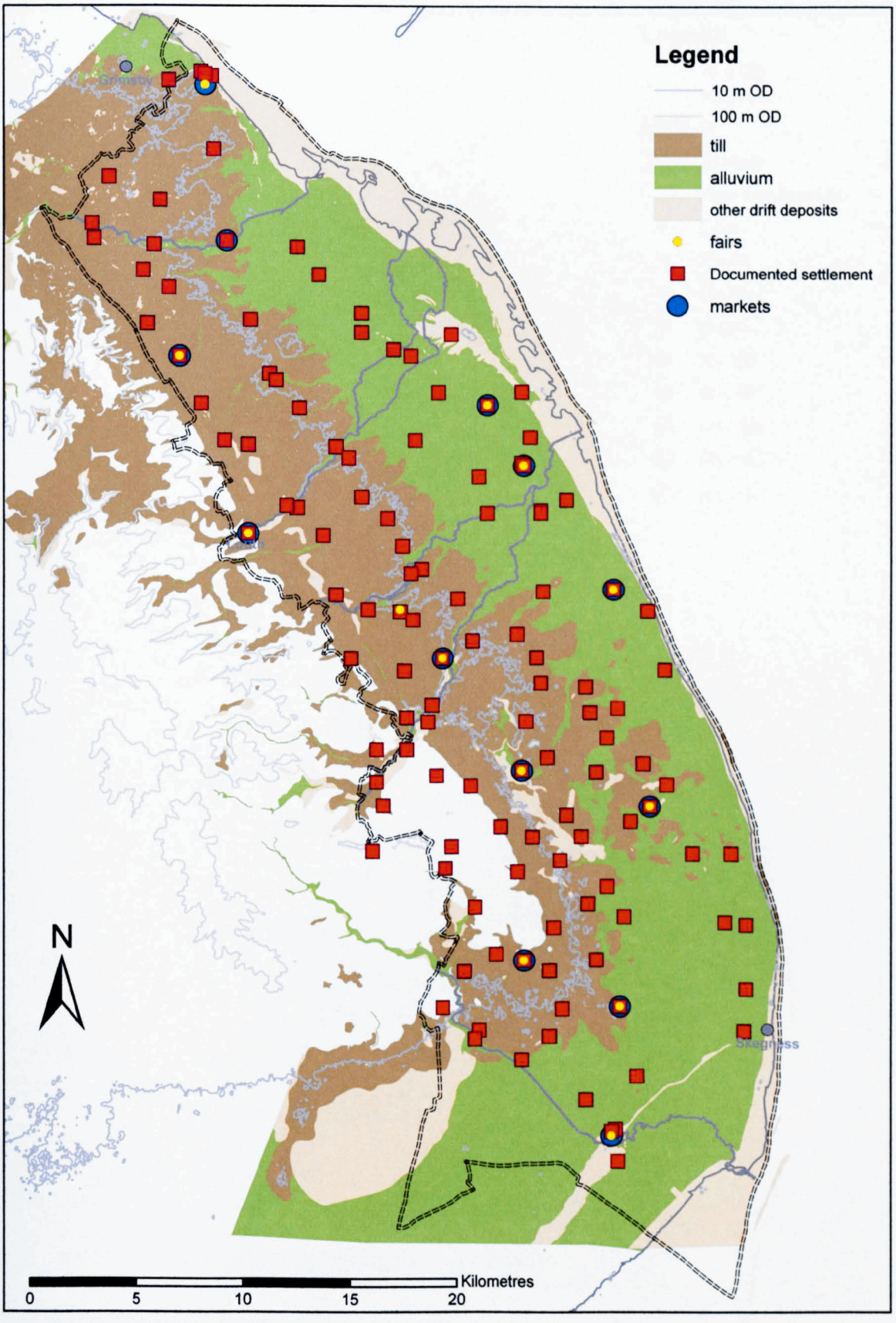


Figure 5.30: Composite map showing the distribution of settlement in the mid-sixteenth century (from the lay subsidies of 1524, 1525 and 1543, and the 1563 Diocesan Return)

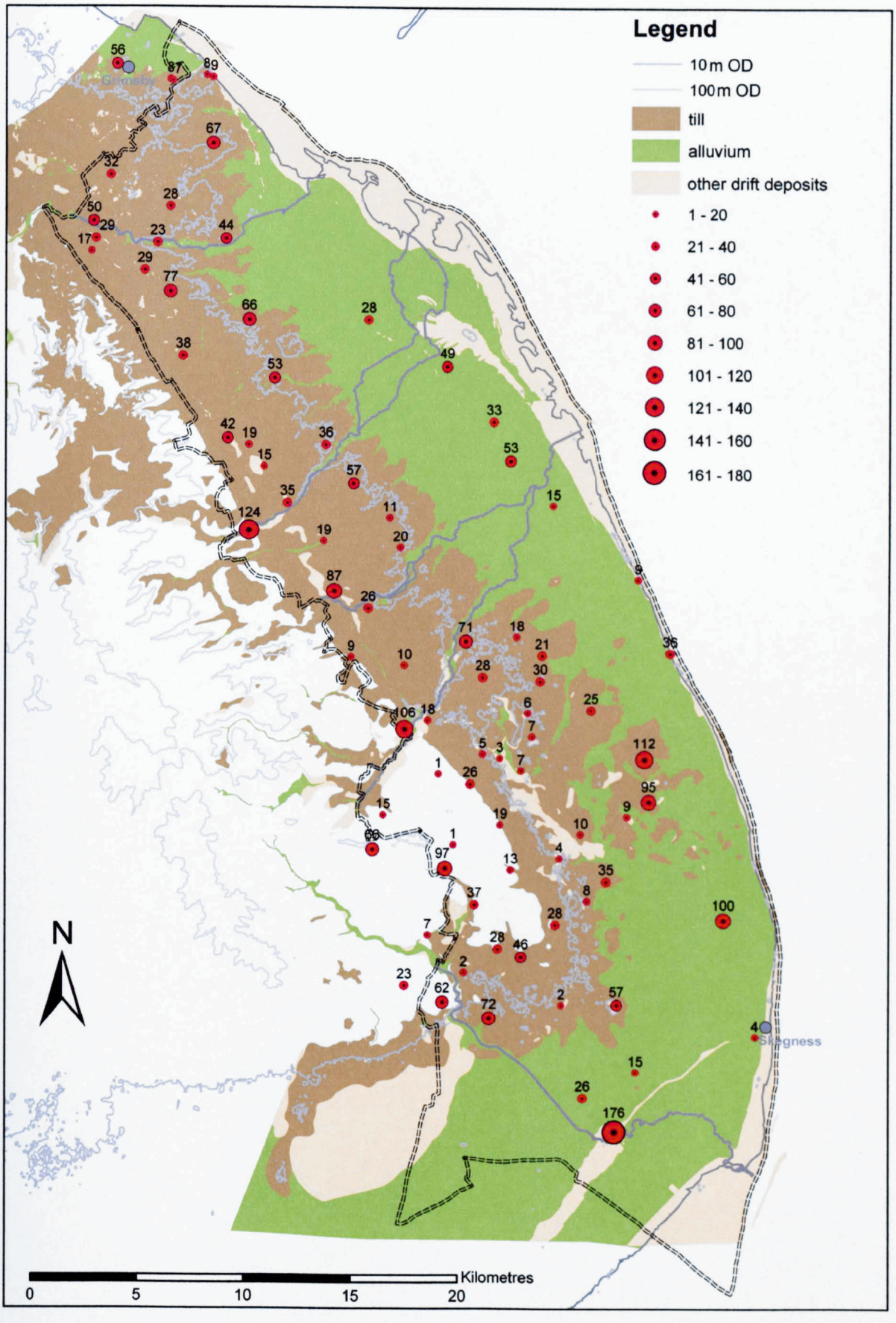


Figure 5.31: Total population per vill recorded in the Domesday Book

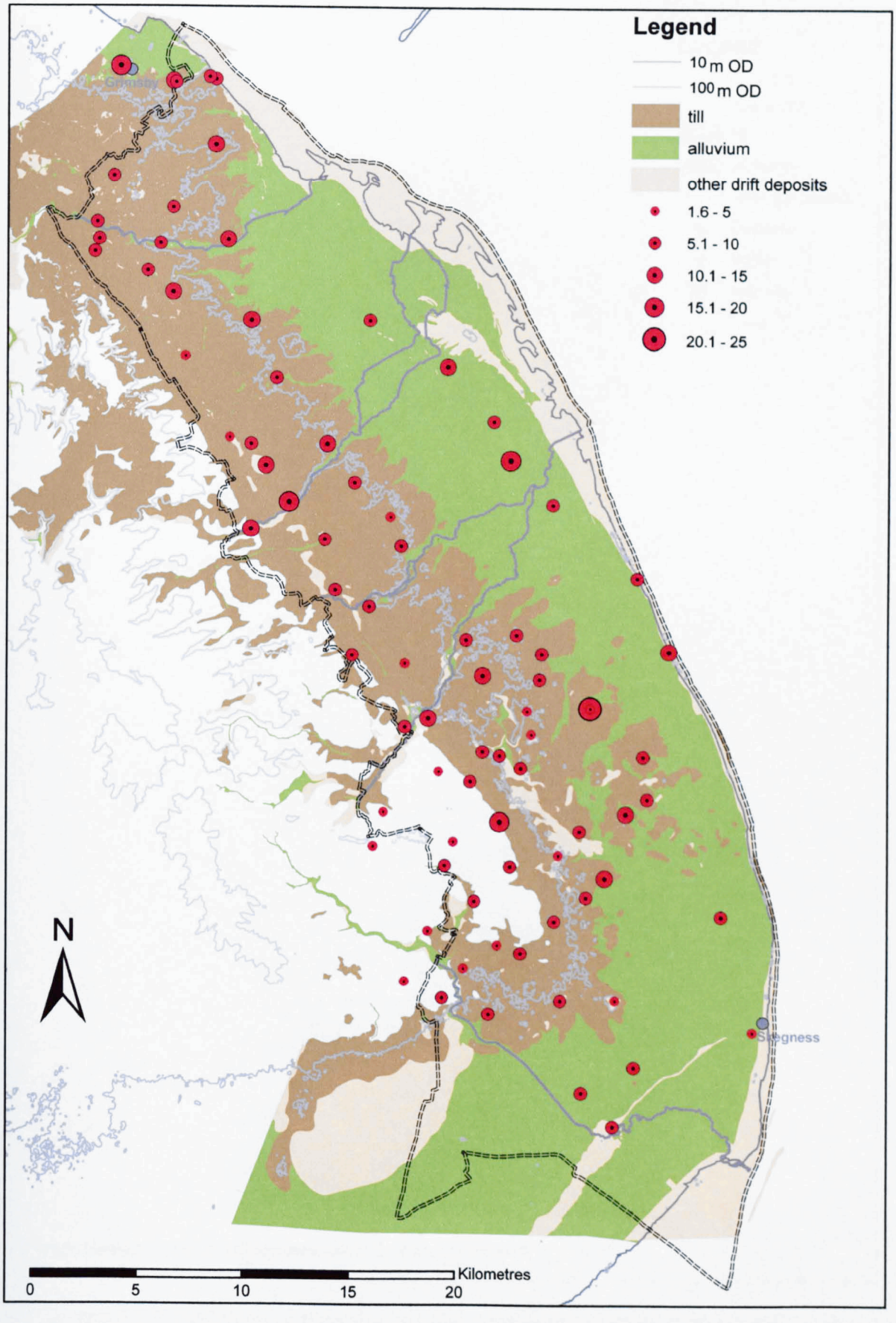


Figure 5.32: Population per carucate in each vill recorded in the Domesday Book

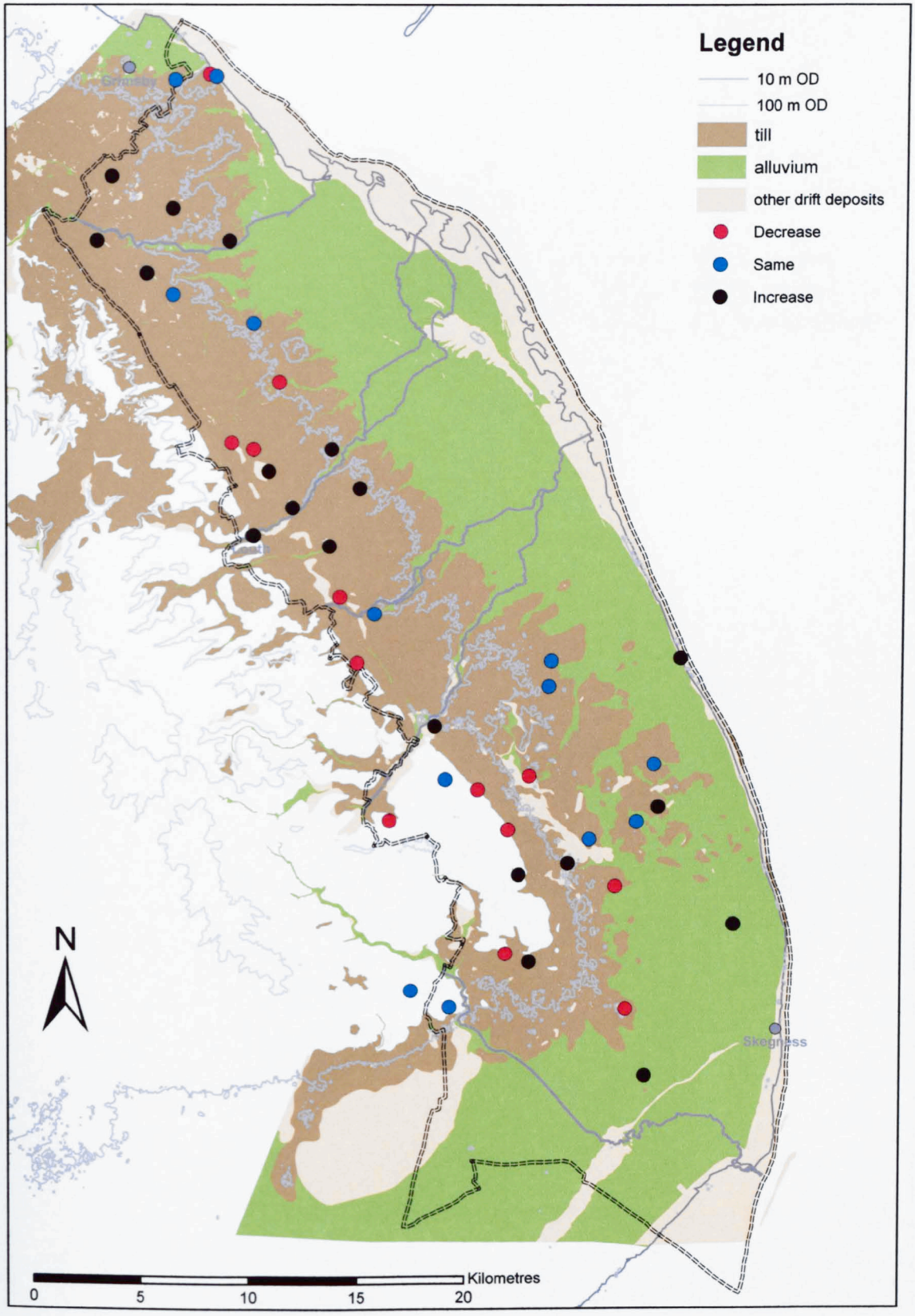


Figure 5.33: Indication of the value in 1086 compared to that in 1066 per vill, showing whether there has been an increase, decrease or has remained the same

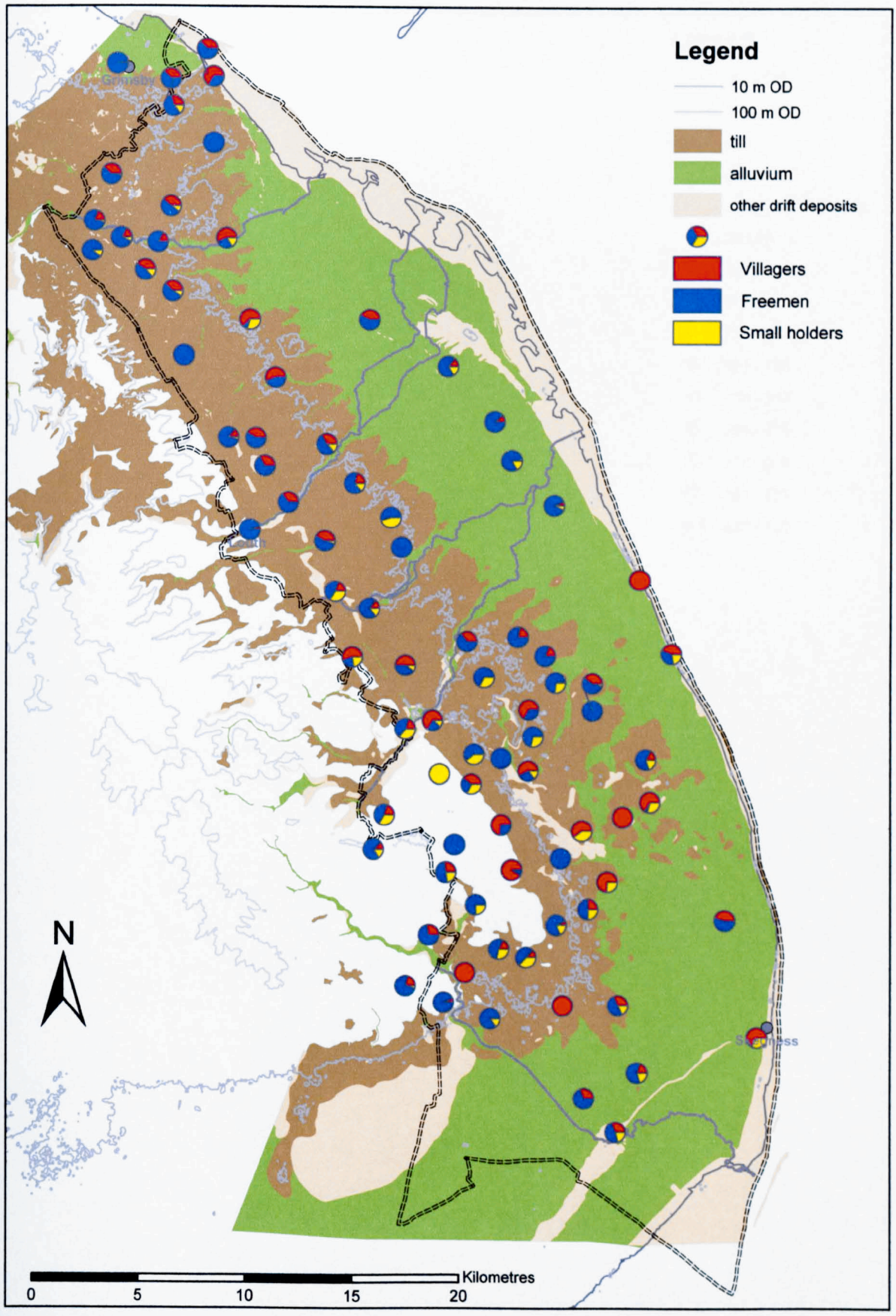


Figure 5.34: Distribution of freemen, villagers and smallholders per vill recorded in the Domesday Book

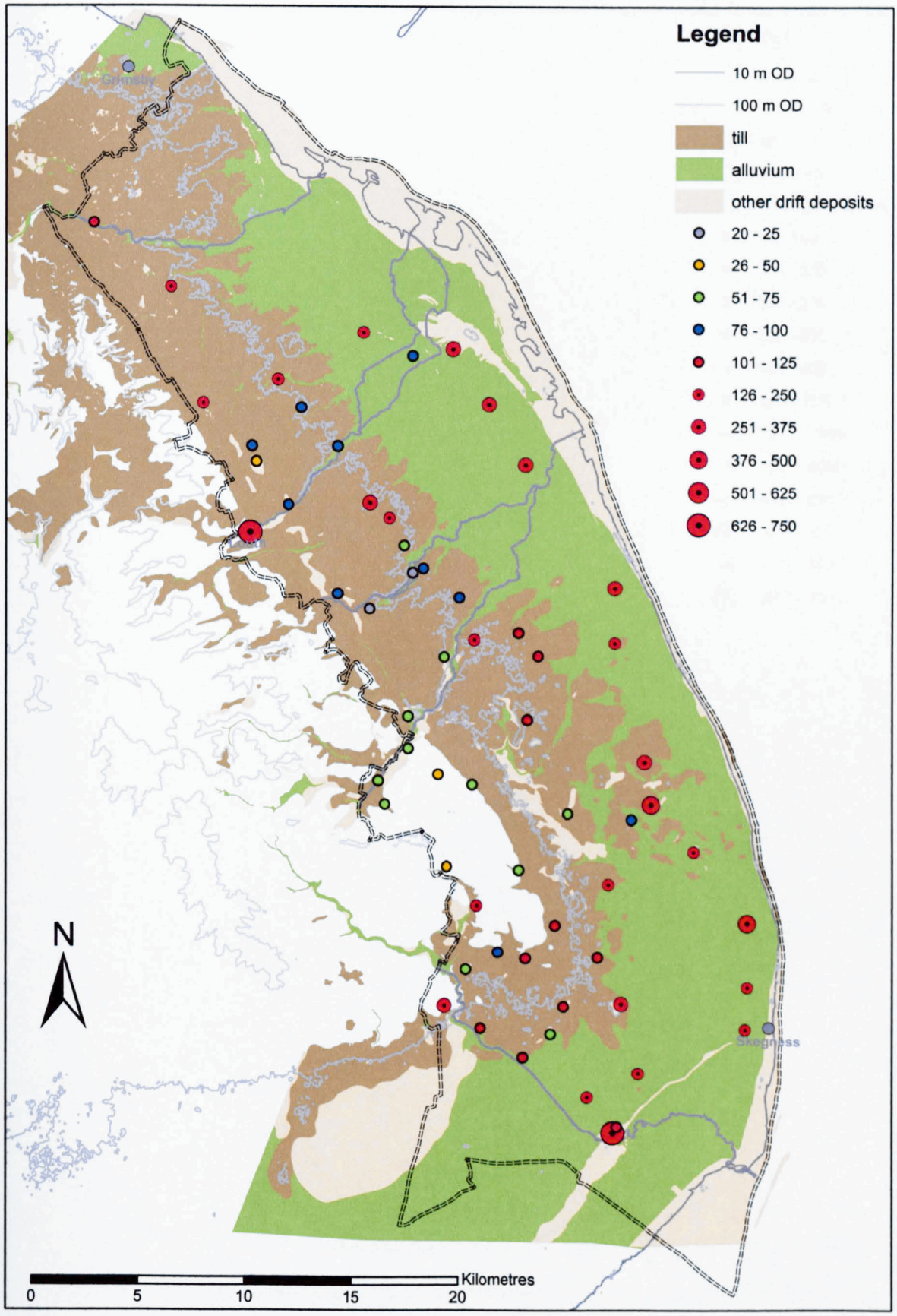


Figure 5.35: Distribution of population taxed in 1377 at 4 pence a head

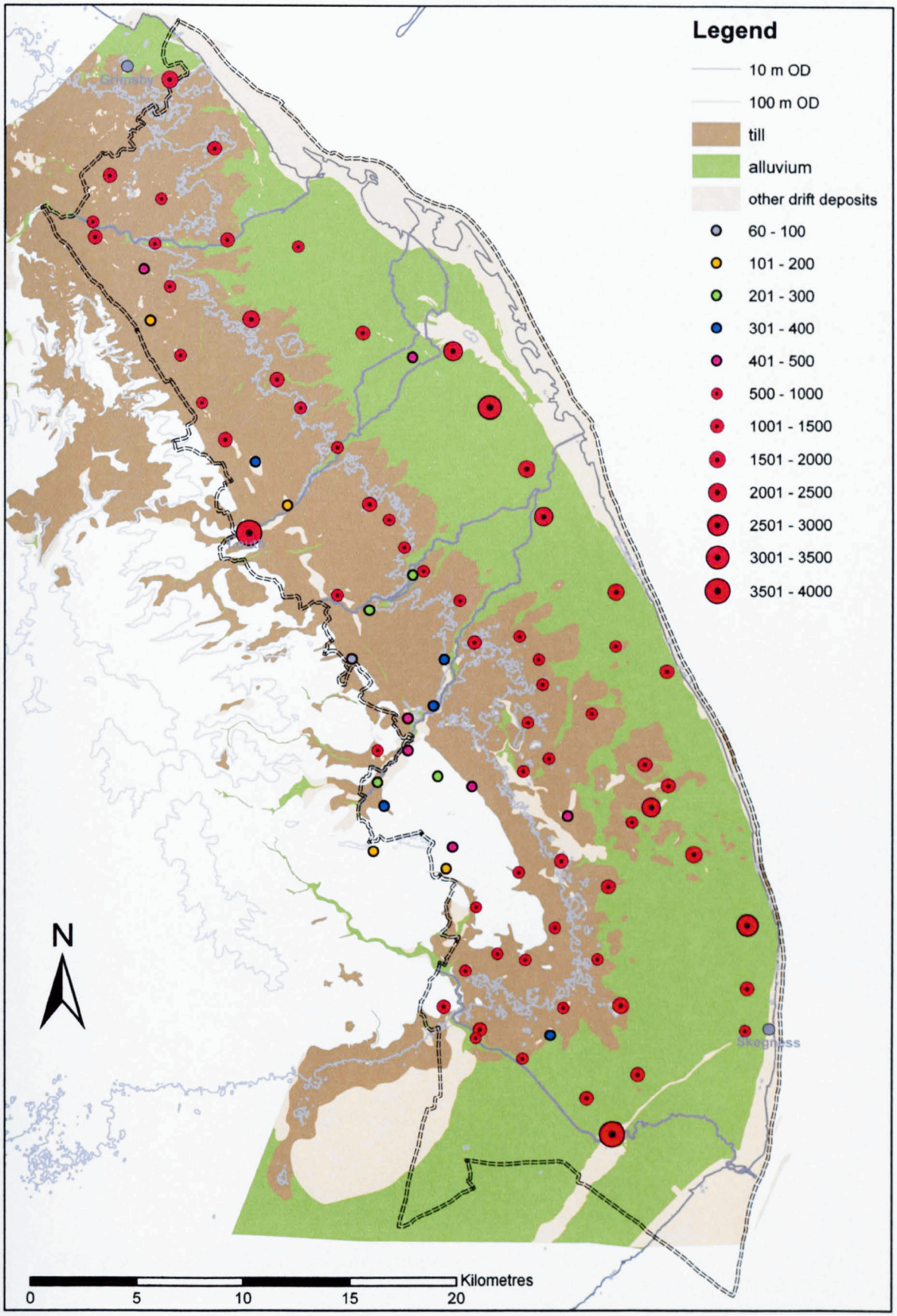


Figure 5.36: Distribution of wealth (in pence) from the 1334 lay subsidy

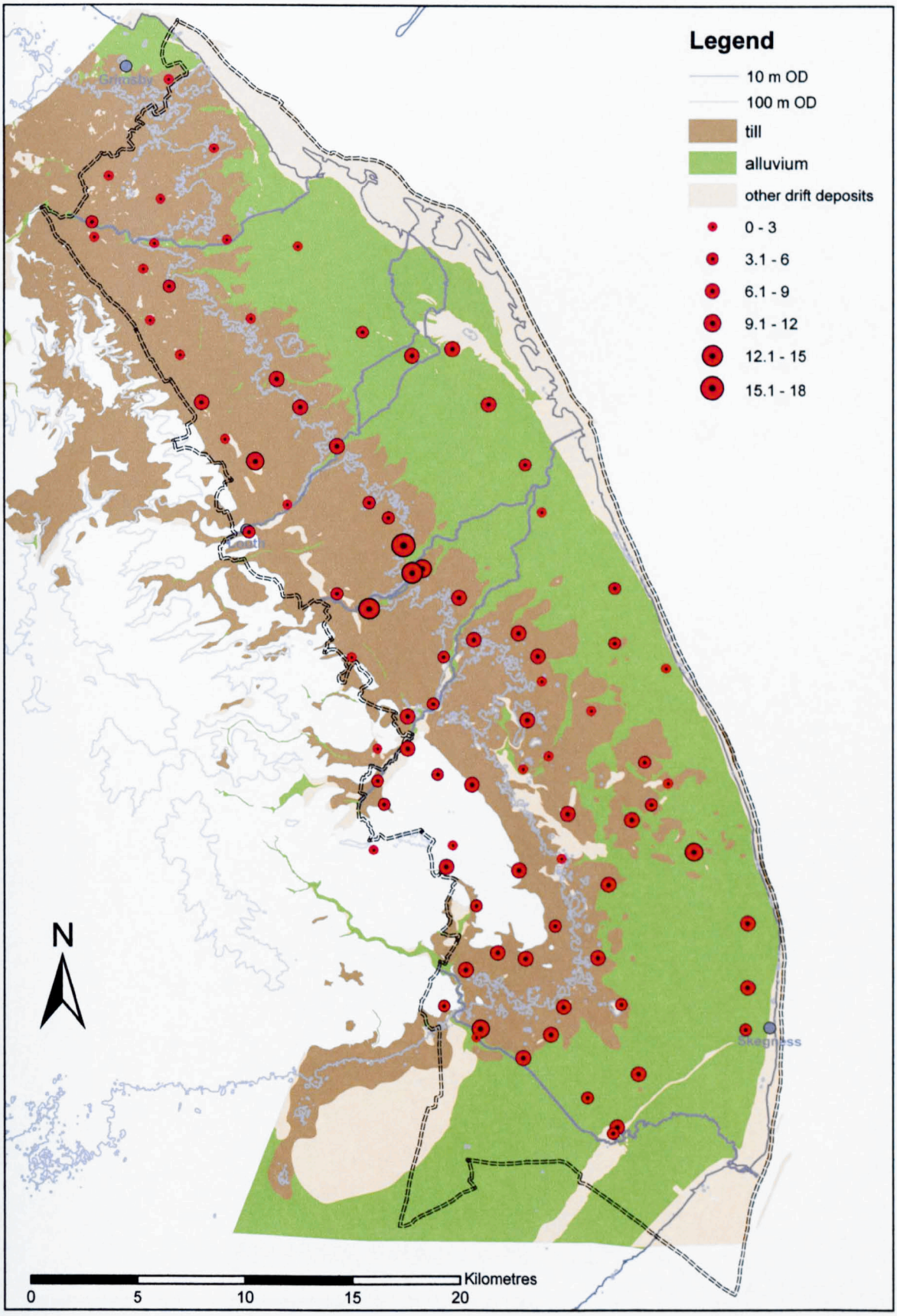


Figure 5.37: Pence per head of the population estimated from the number of people taxed in the poll tax of 1377 and the amount requested from each vill in the 1344 lay subsidy

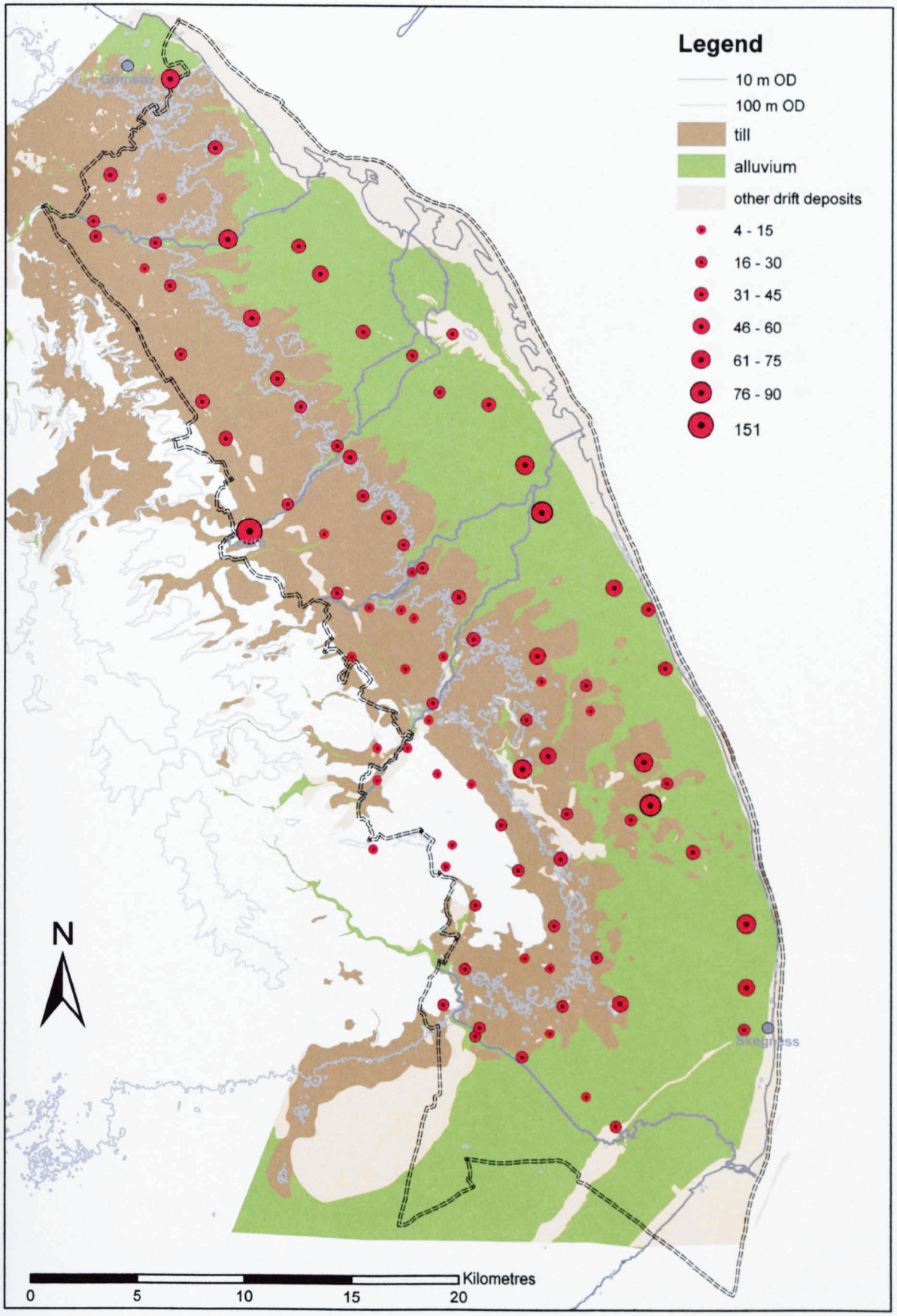


Figure 5.38: Distribution of the number of people who paid the 1524 and 1525 lay subsidies

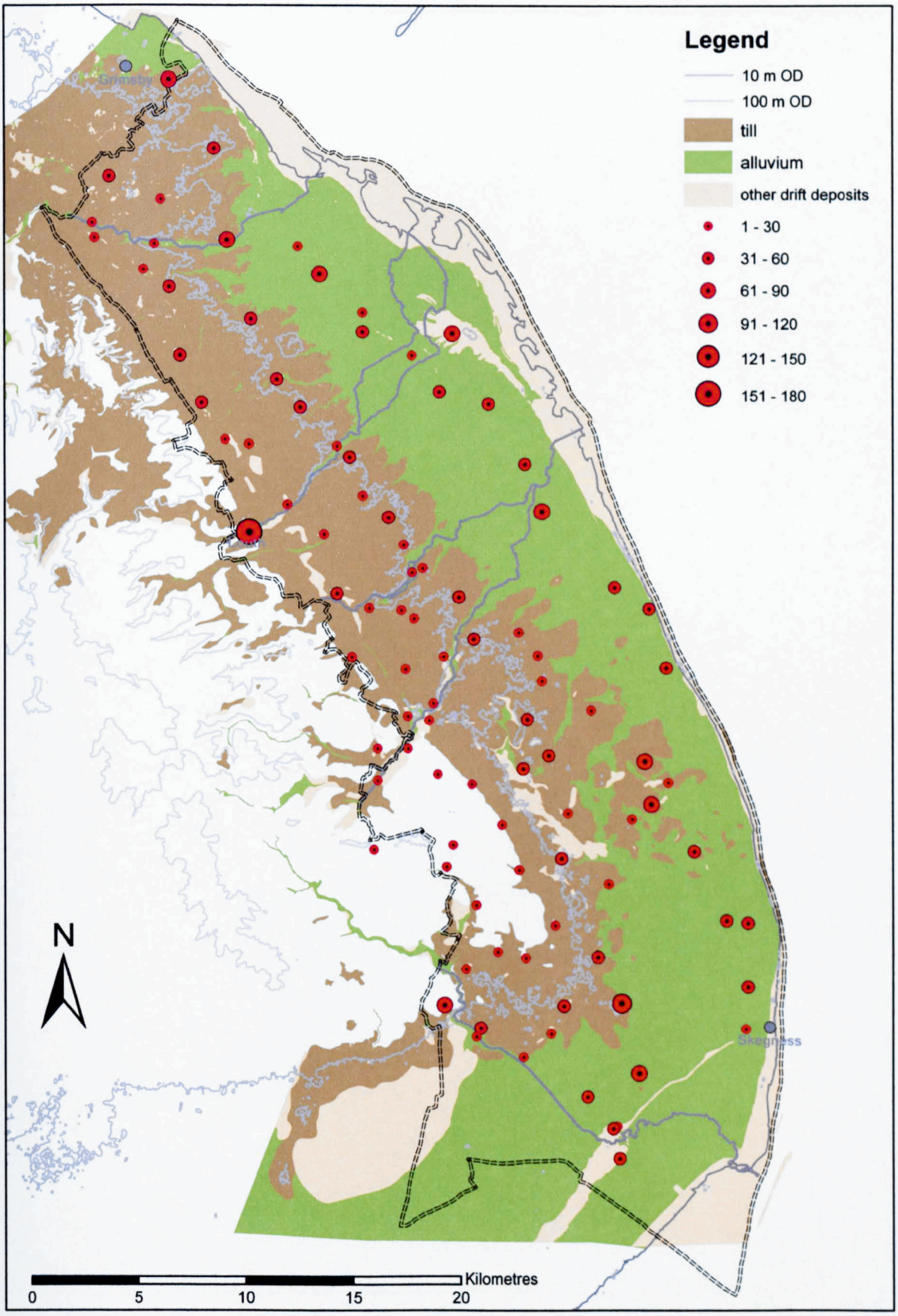


Figure 5.39: Distribution of the number of people who paid the 1543 lay subsidy

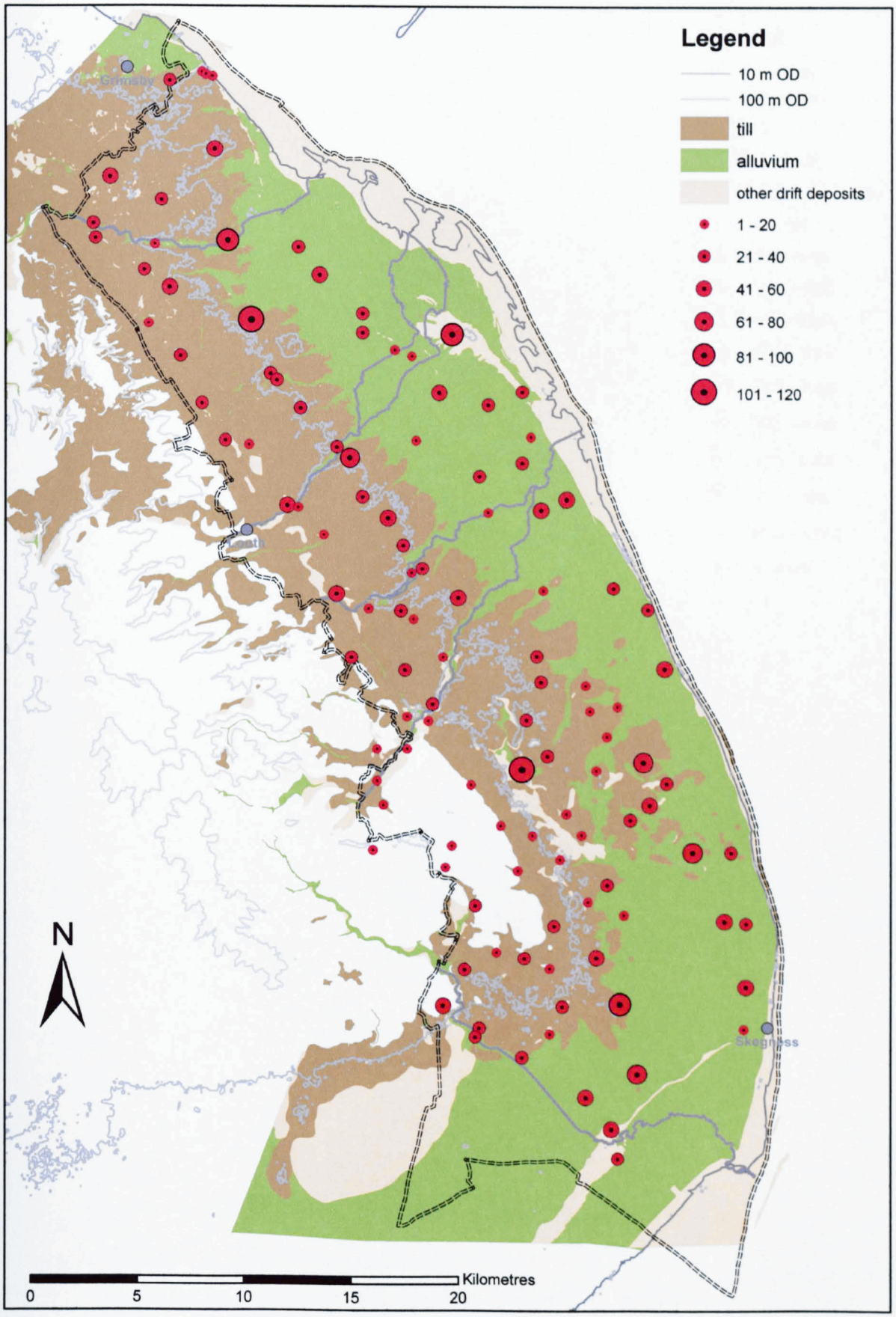


Figure 5.40: Distribution of the number of households in 1563

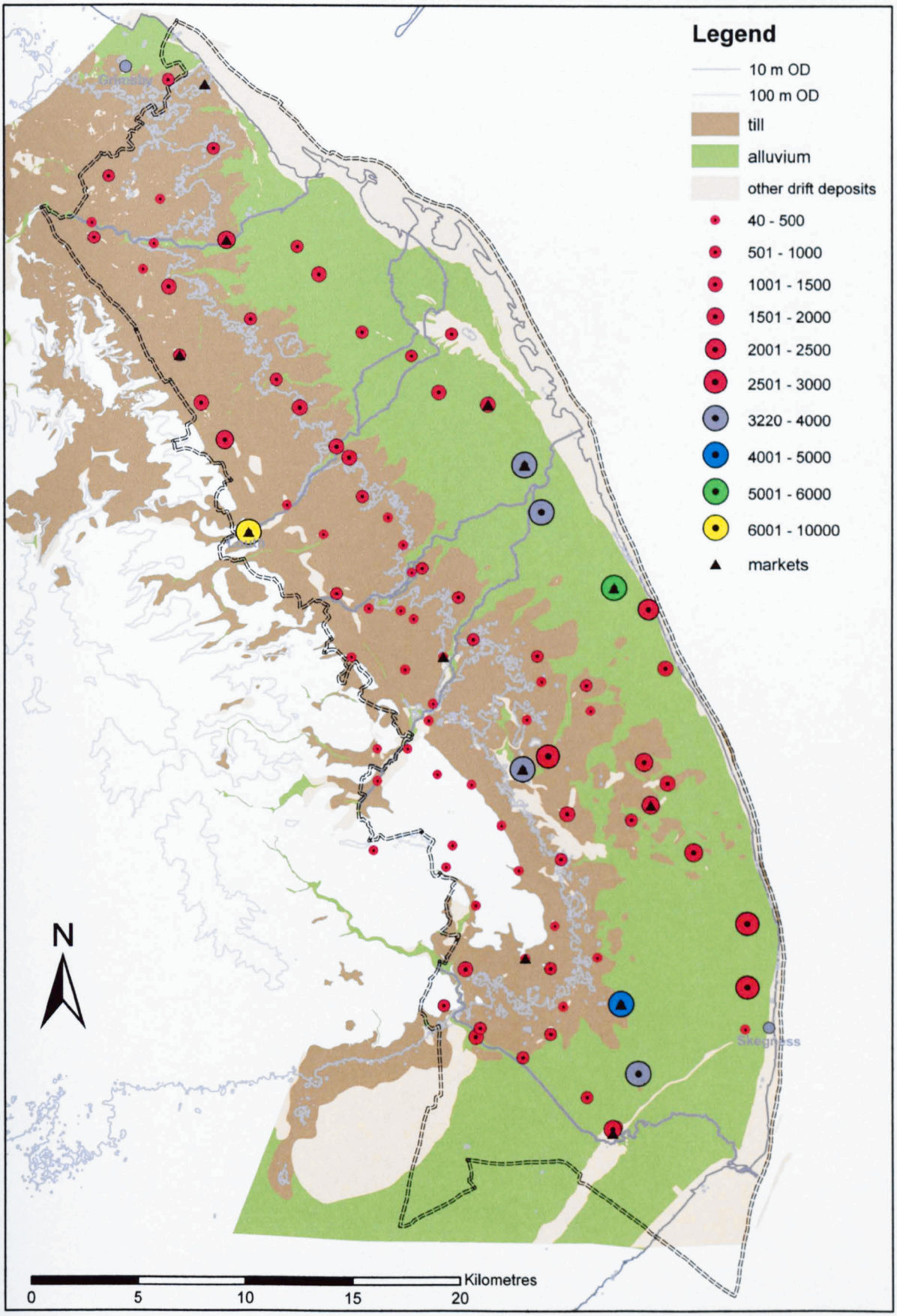


Figure 5.41: Distribution of wealth (in pence) from the 1524 and 1525 lay subsidies

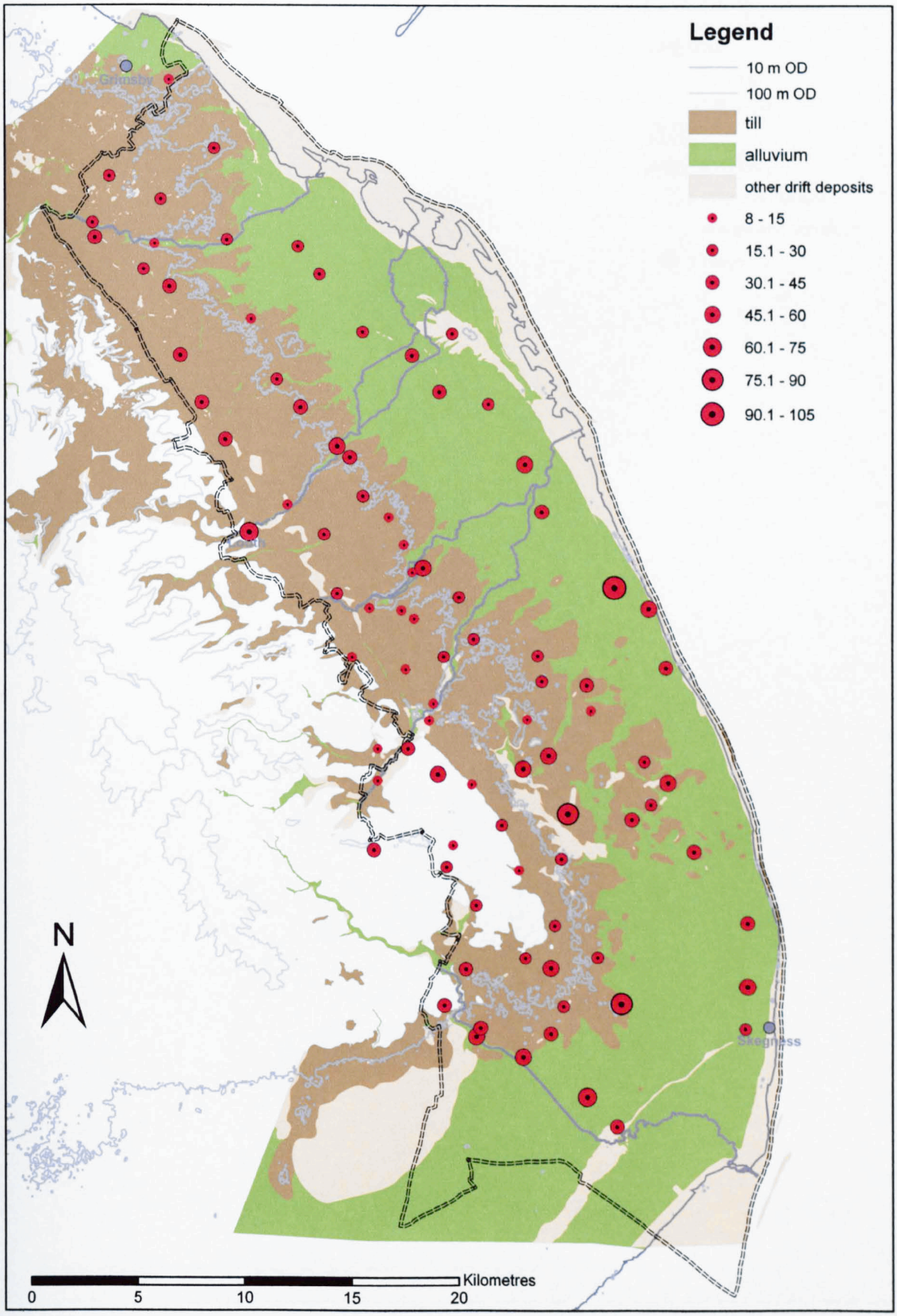


Figure 5.42: Distribution of pence per person from the 1524 and 1525 lay subsidies

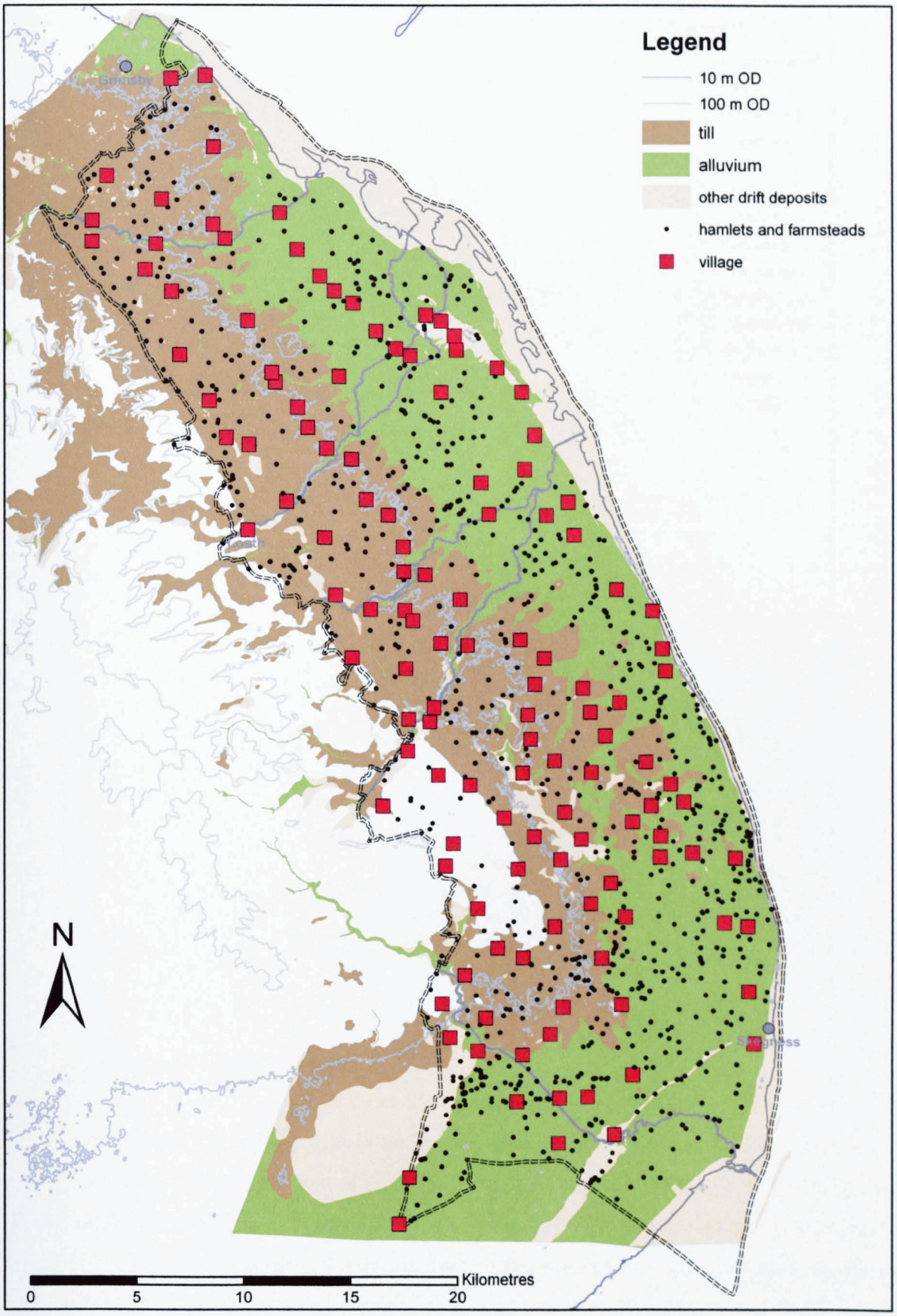


Figure 5.43: Nineteenth century settlement pattern

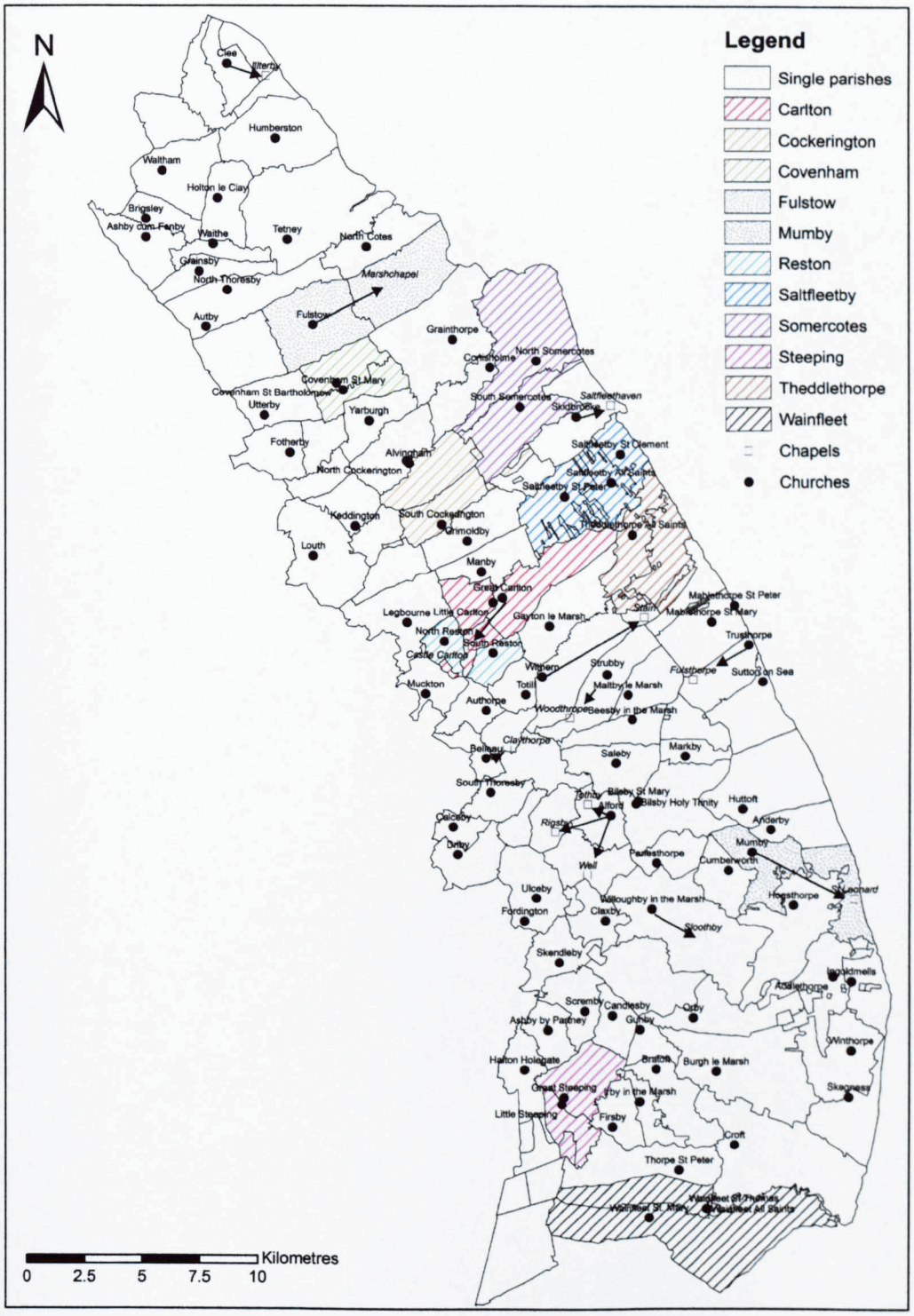


Figure 5.44: The 1851 parish boundaries (based on data provided through EDINA UKBORDERS with the support of the ESRC and JISC and uses boundary material © Great Britain Historic GIS Project, Portsmouth University). Hatched parishes are those that bear the same name but have at some point in time had prefixes or suffixes added (such as North and South). Shaded parishes are those that have documentary evidence for the partitioning of a new parish based on a chapel. Chapels based on list provided in Owen, D. (1975)

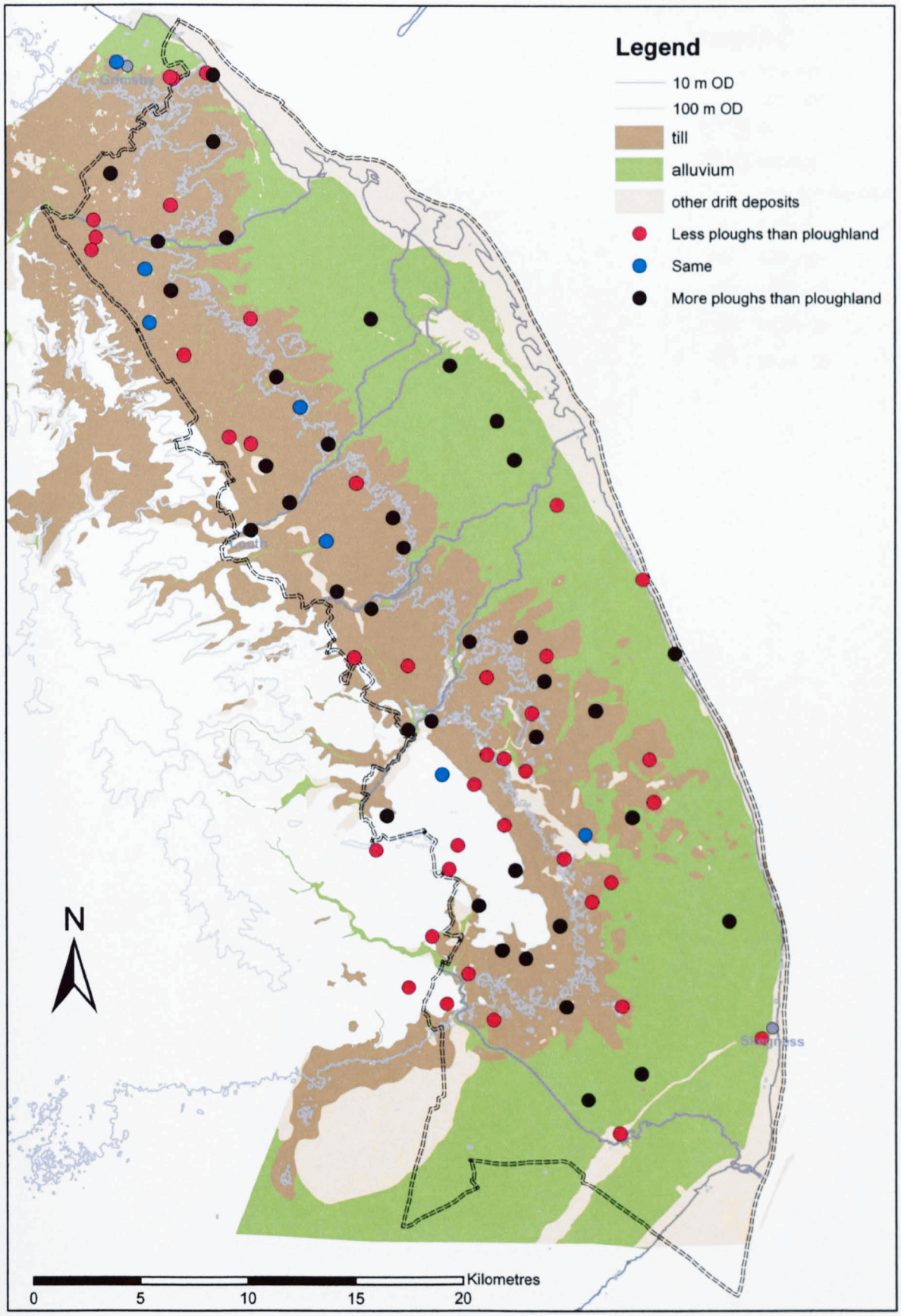


Figure 5.45: Difference between the numbers of ploughs recorded per vill and the 'land for x ploughs'

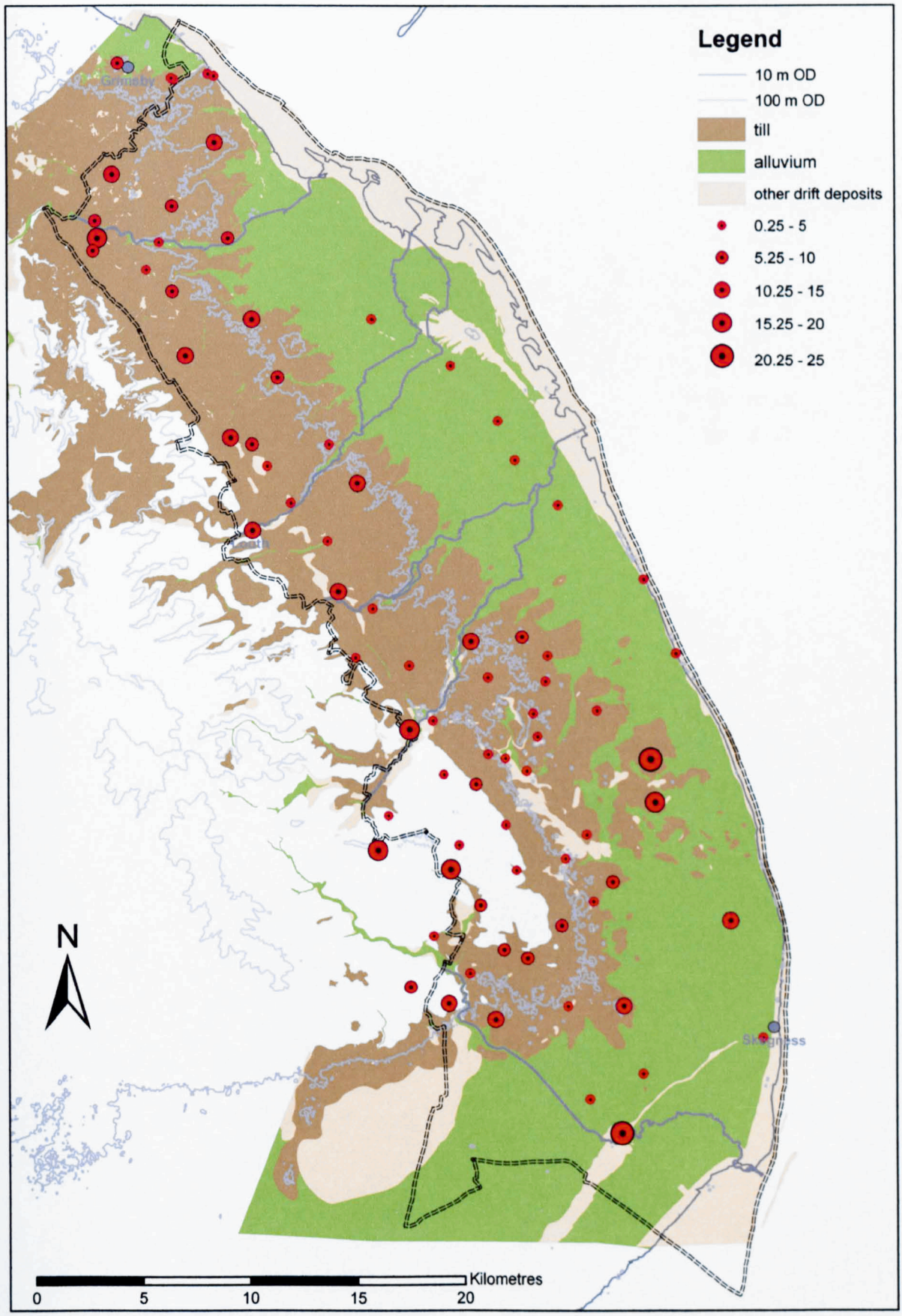


Figure 5.46: Number of 'land for x ploughs' recorded in the Domesday Book per vill

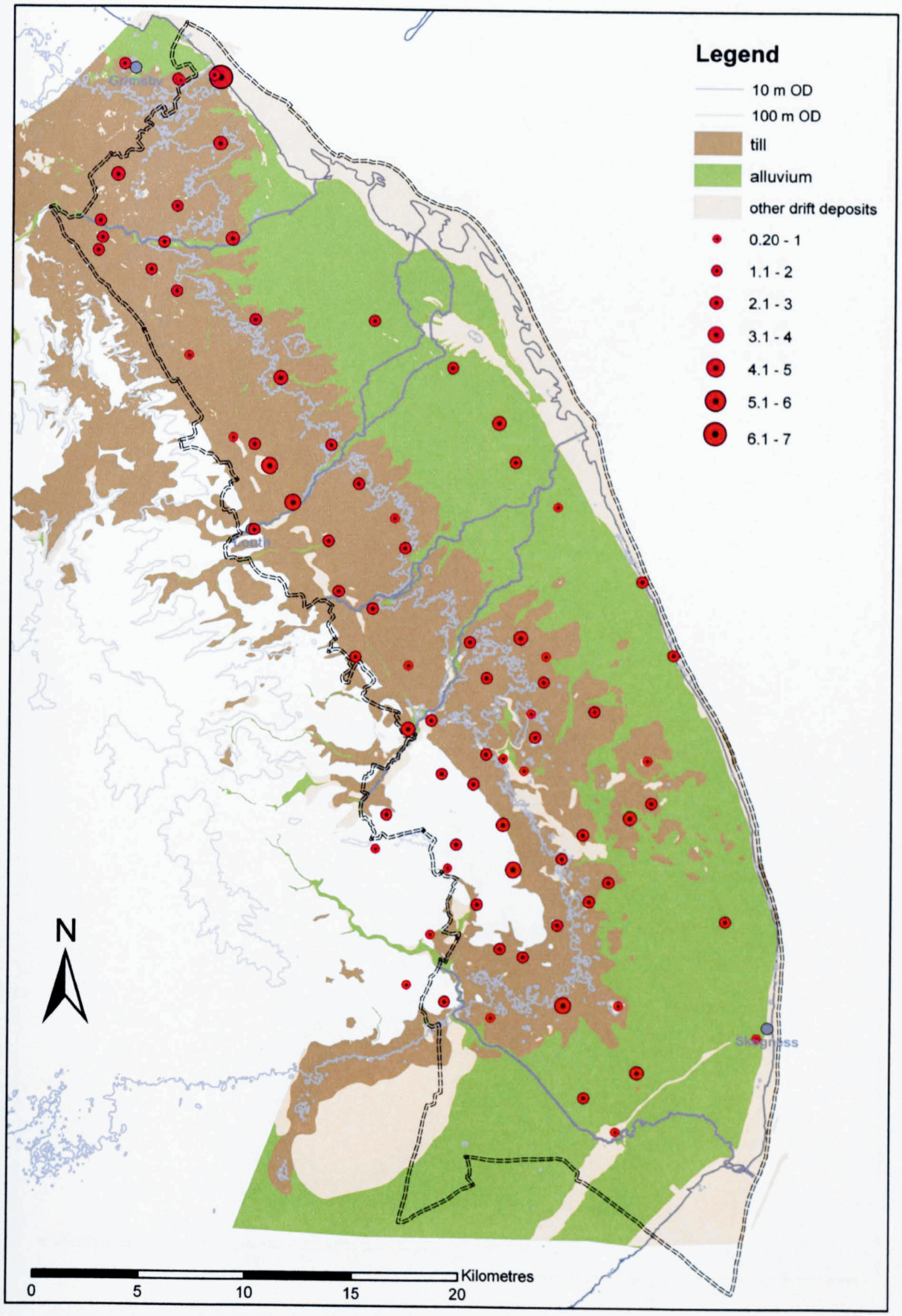


Figure 5.47: Distribution of ploughs per carucate per vill recorded in the Domesday Book

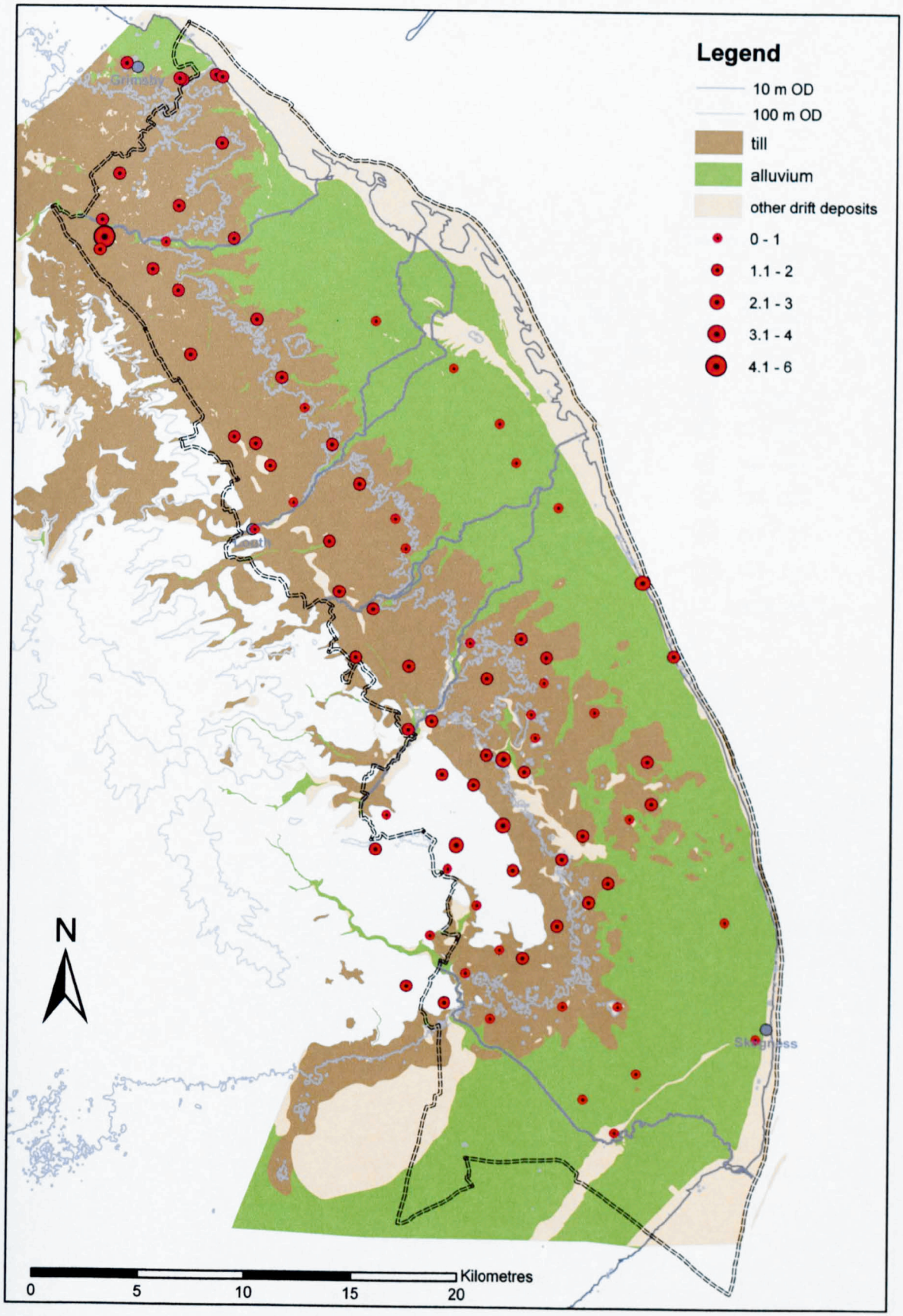


Figure 5.48: Distribution of 'land for x ploughs' per carucate per vill recorded in the Domesday Book

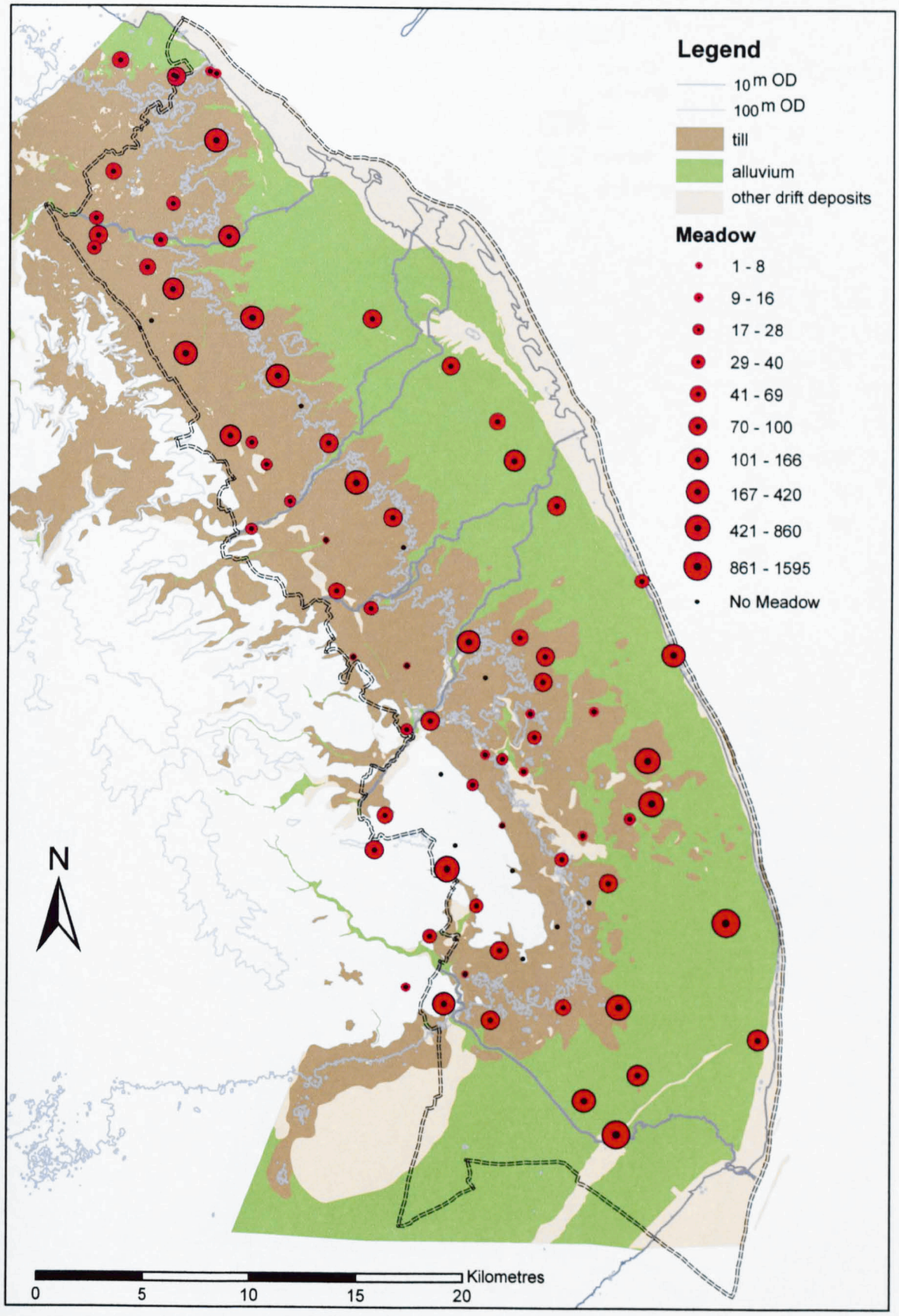


Figure 5.49: Distribution of meadow recorded in the Domesday Book with areas given in acres

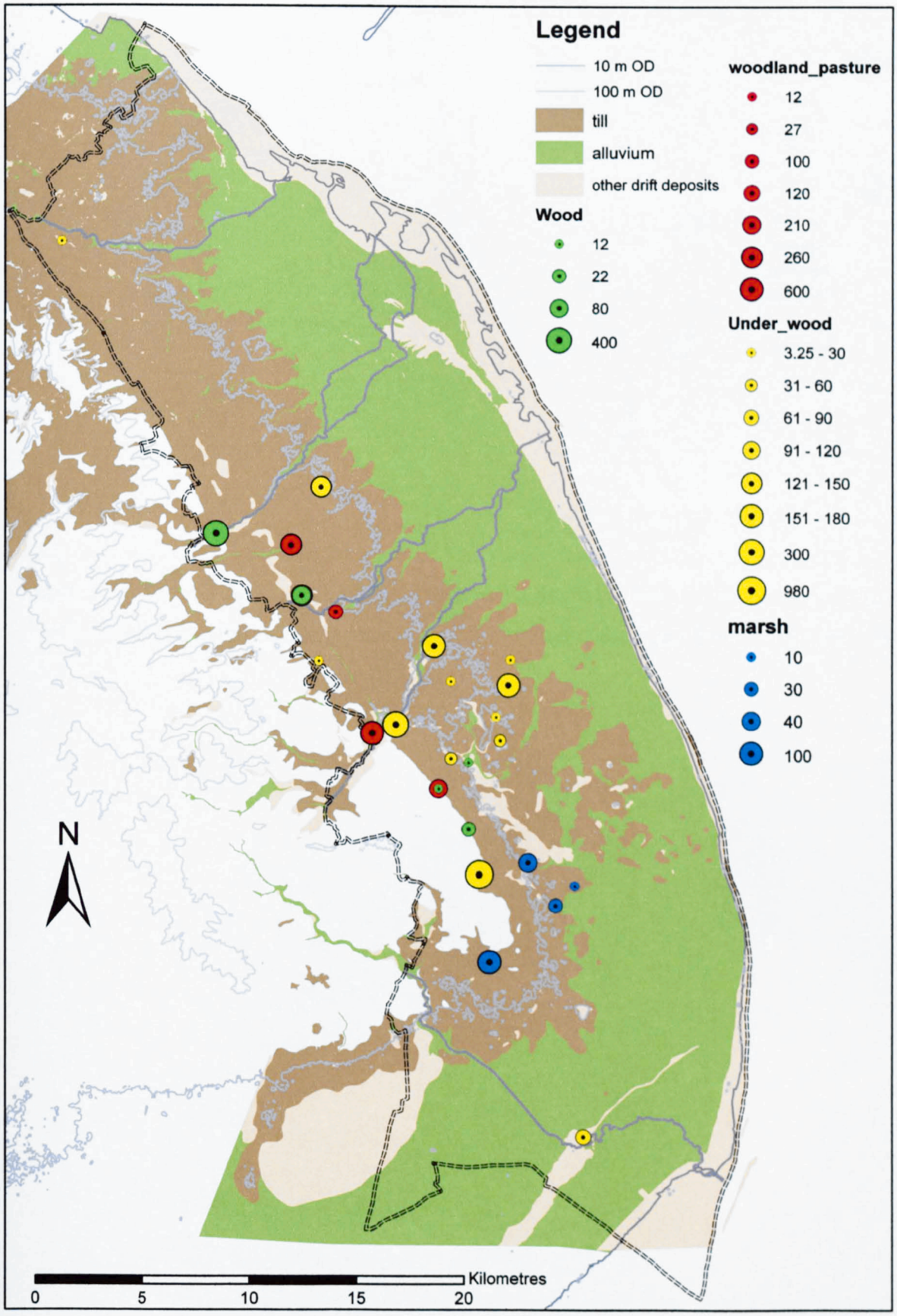


Figure 5.50: Distribution of wood, woodland pasture, underwood and marsh (all in acres) recorded in the Domesday Book

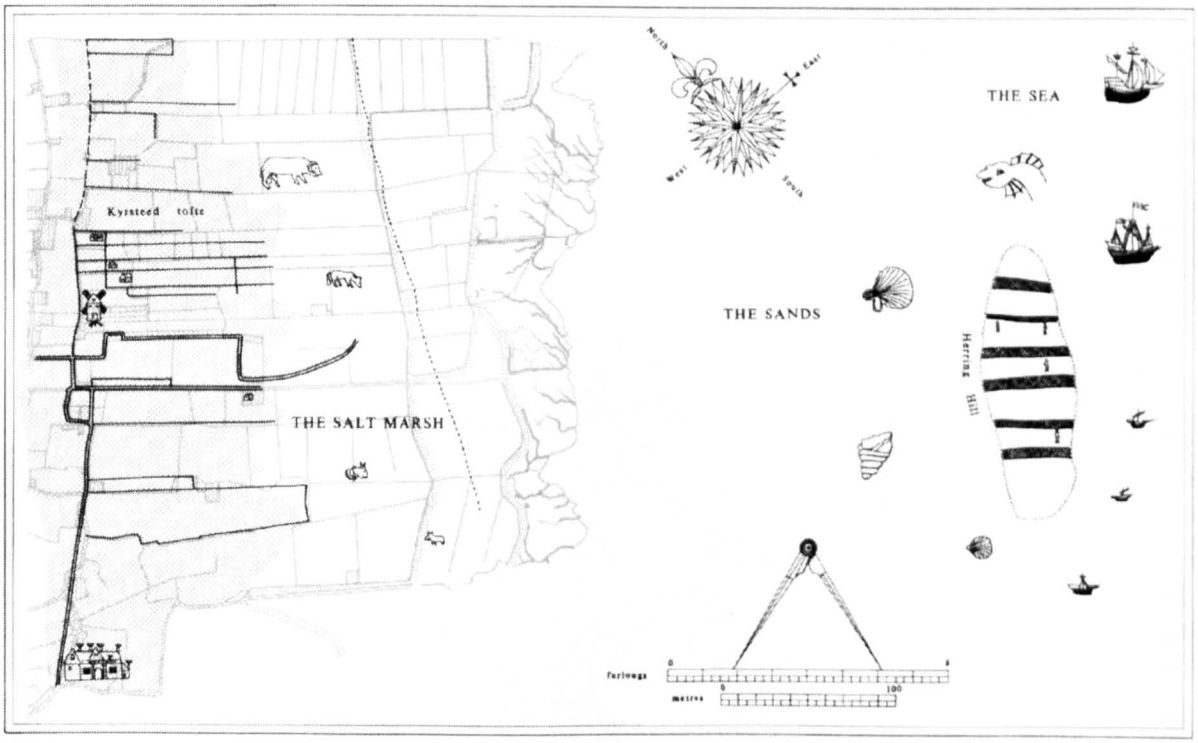


Figure 5.51: Plan of the coast at Wrangle combining the detail from modern map with that of 1606 highlighting the different resources of the coastal zone (Lane 1993: 110, Figure 90)

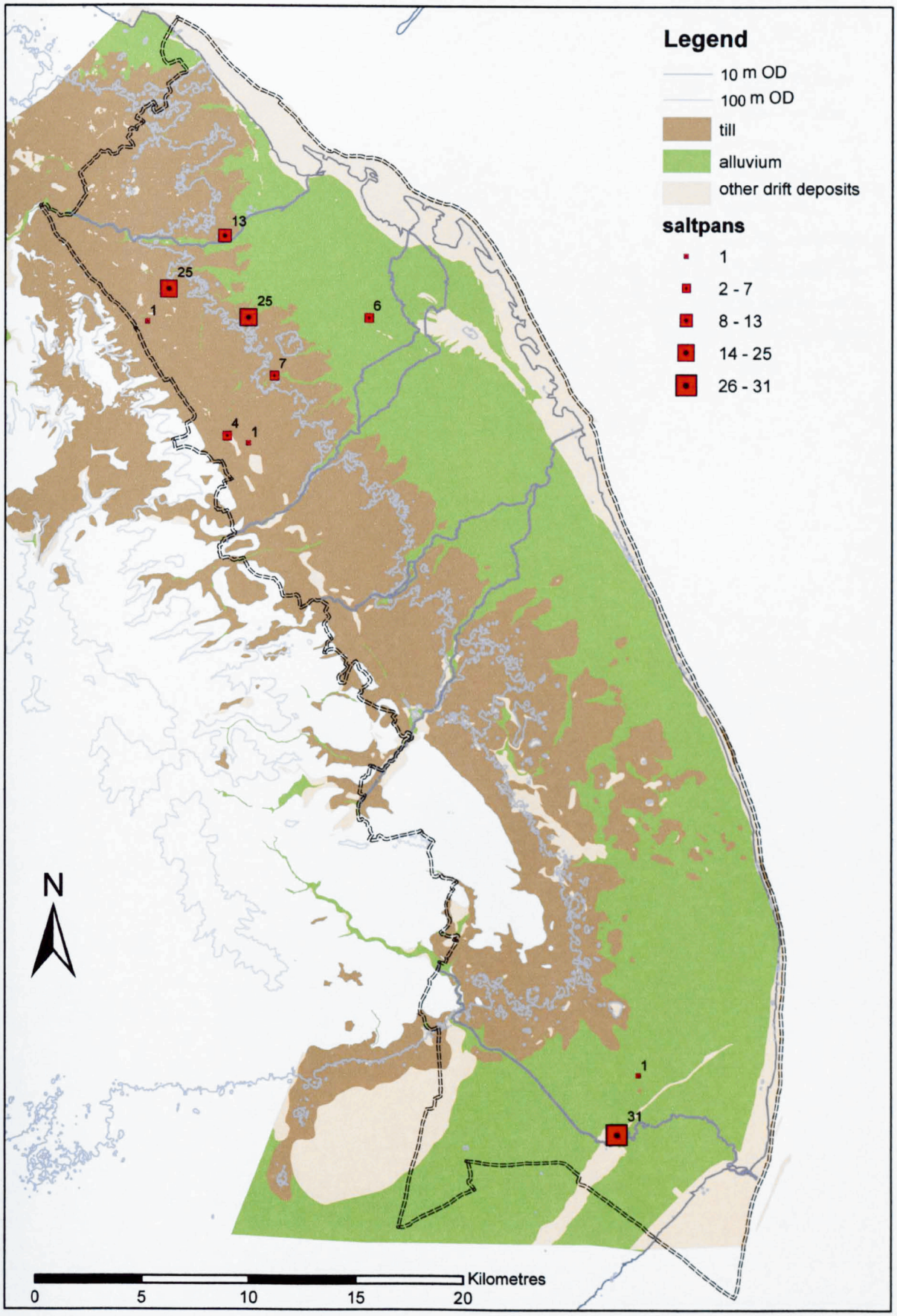


Figure 5.52: Distribution of the number of saltpans per vill recorded in the Domesday Book

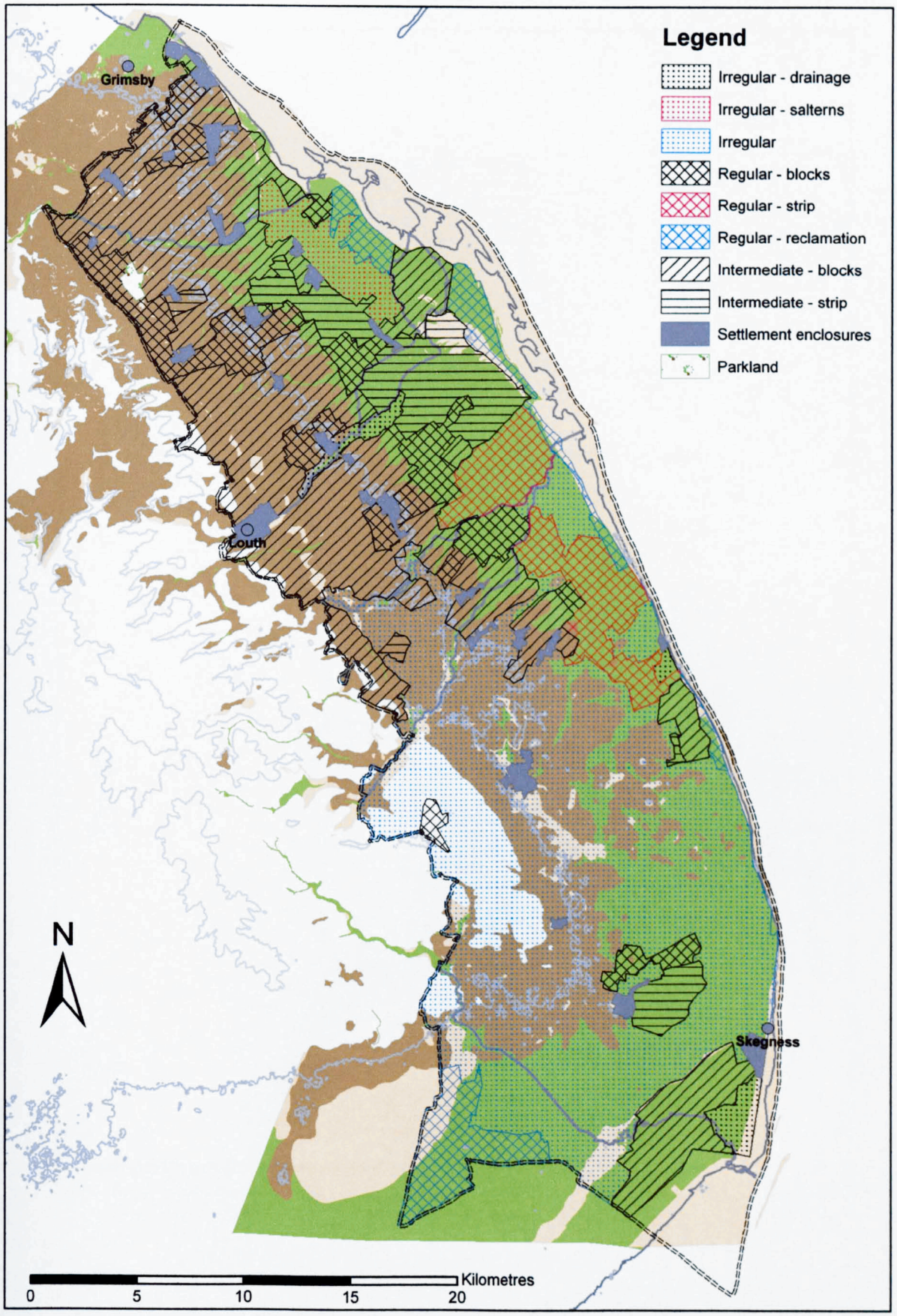


Figure 5.53: Major historic landscape character zones of the Lincolnshire Marsh

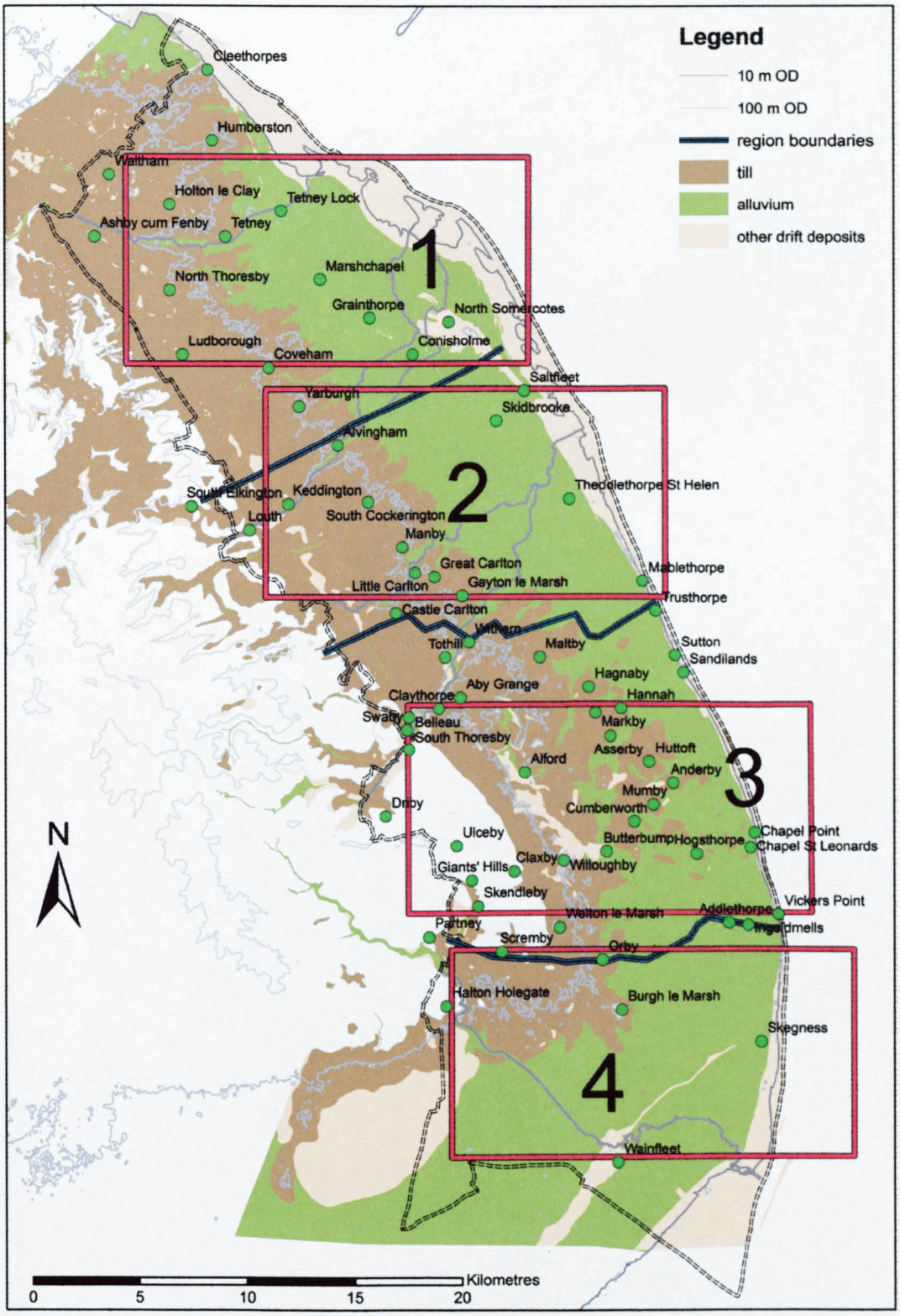


Figure 6.1: Location of the four sample areas mapped in Chapters 6-9. The limits of the four different development zones are shown in blue and a number of key places are indicated

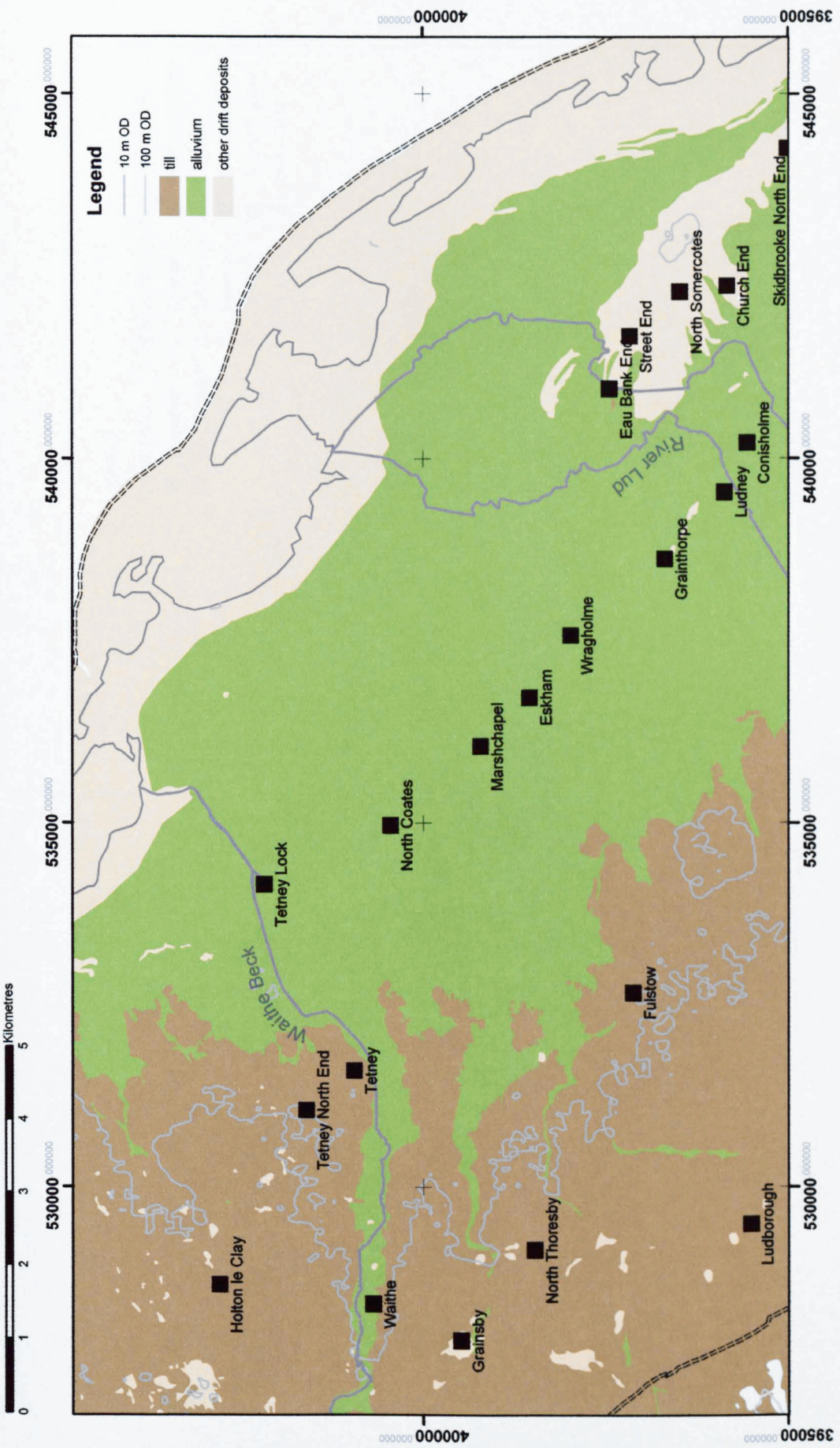


Figure 6.2: Zone One: Drift geology and main settlements

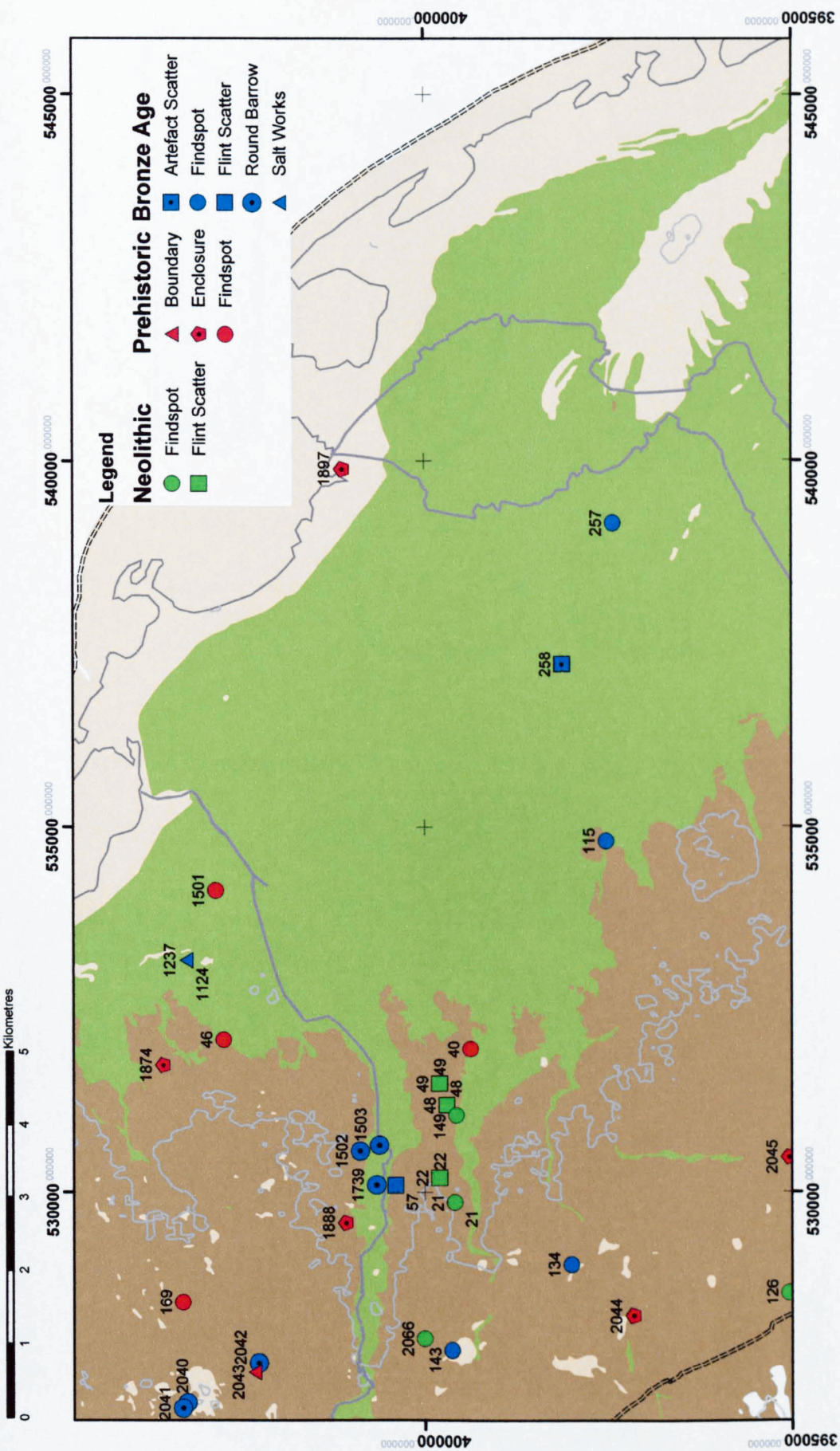


Figure 6.3: Zone One: Prehistoric archaeology

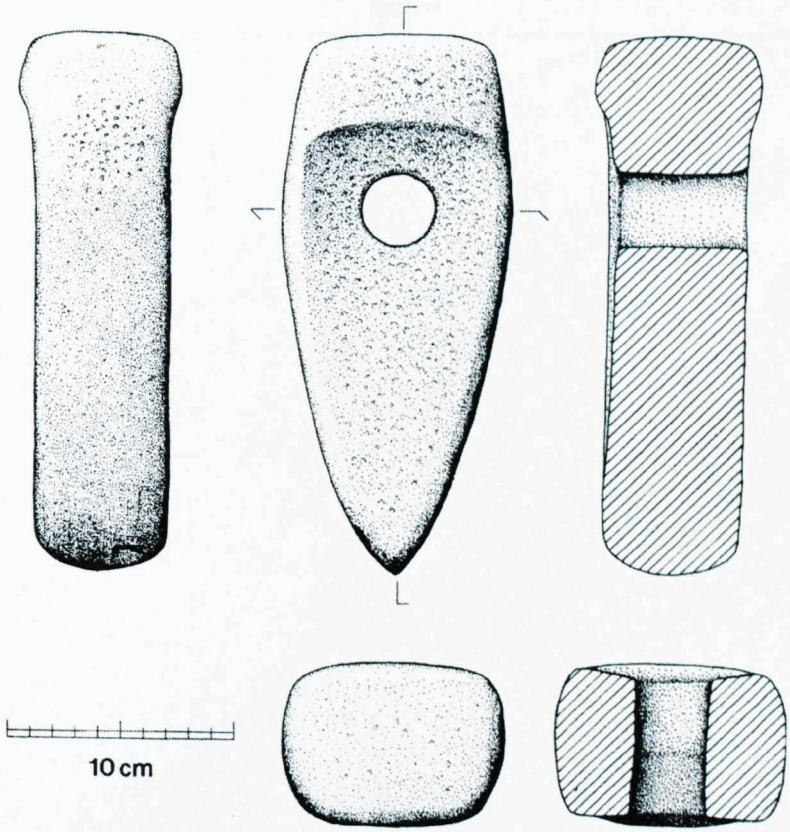


Figure 6.4: Axe-hammer from Cleethorpes beach (Leahy 1986: 144, Figure 1)

Figure 6.5: Beacon Hill Barrow, Cleethorpes

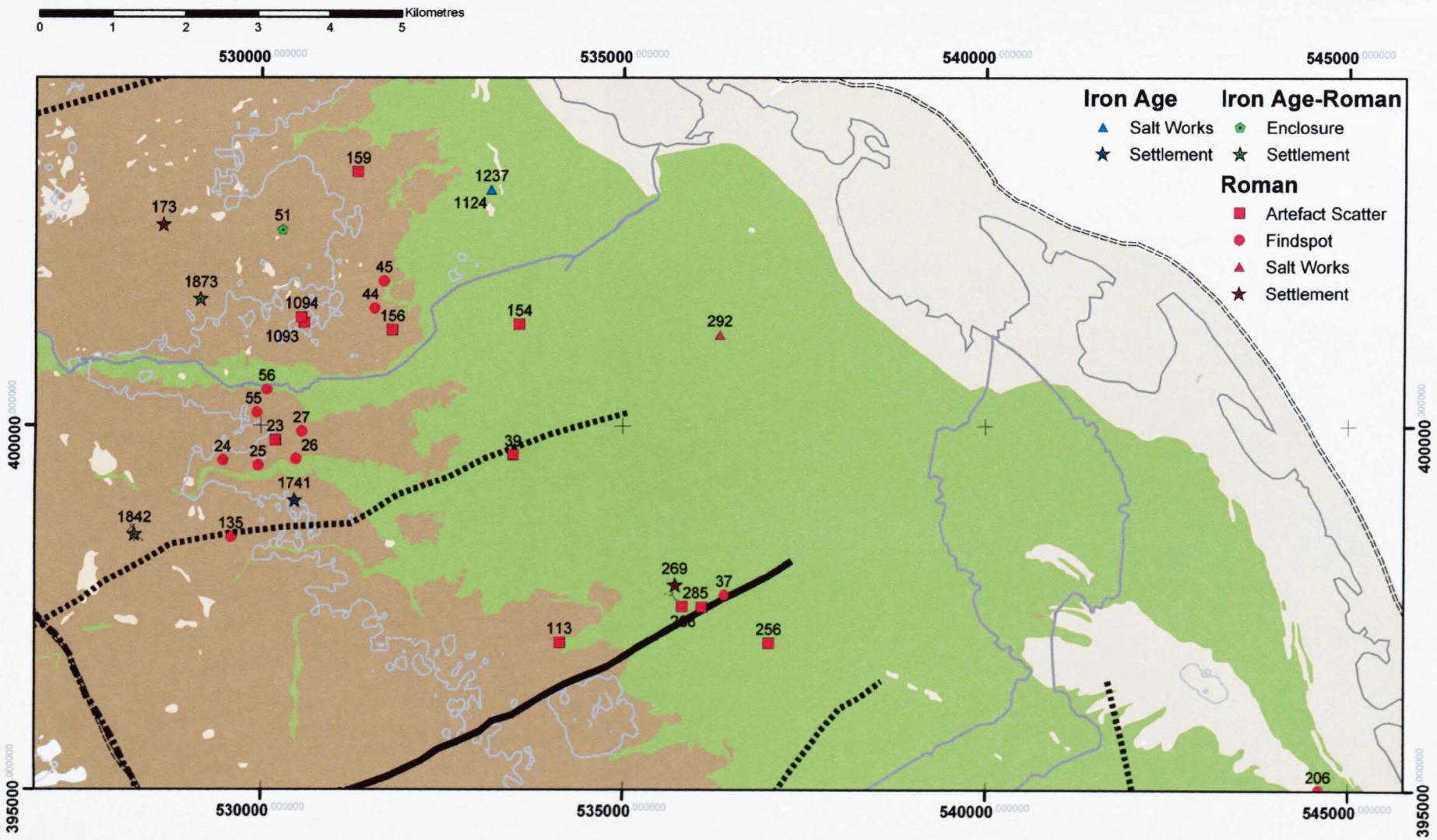


Figure 6.6: Zone One: Later prehistoric and Roman archaeology including aerial photographic transcriptions from the NMP. Solid lines are definite Roman roads, dashed lines are projected roads

Figure 6.7: Later prehistoric/Roman enclosure at Tetney (51). NMR 12850/30 (16.7.96). English Heritage. © Crown Copyright

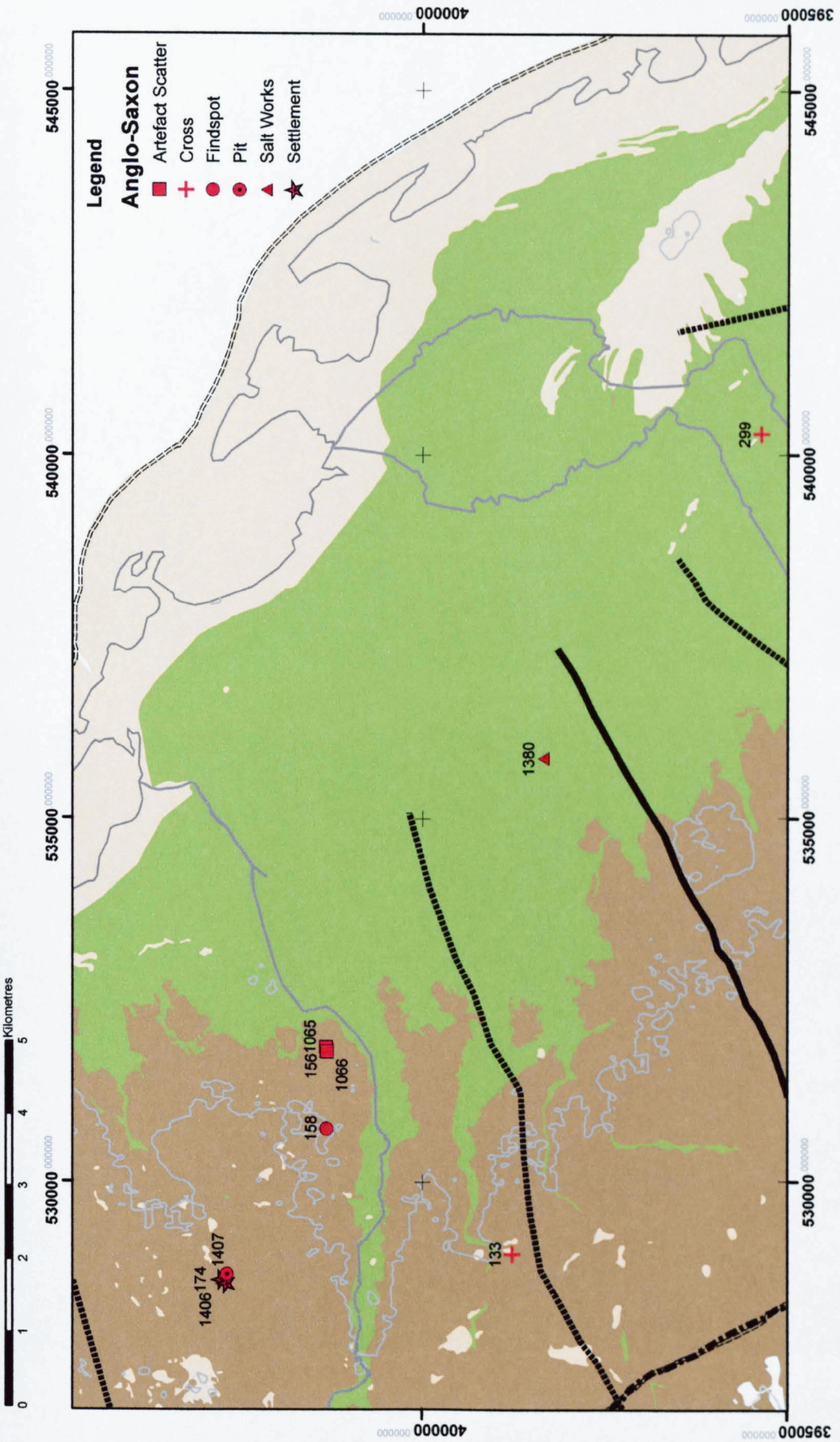


Figure 6.8: Zone One: Saxon archaeology. Solid lines are definite Roman roads, dashed lines are projected roads

Figure 6.9: The piece of Anglo-Saxon grave-cover in North Thoresby church

Figure 6.10: Saltern debris from the excavations at Marshchapel. © Humber Wetlands Project, University of Hull

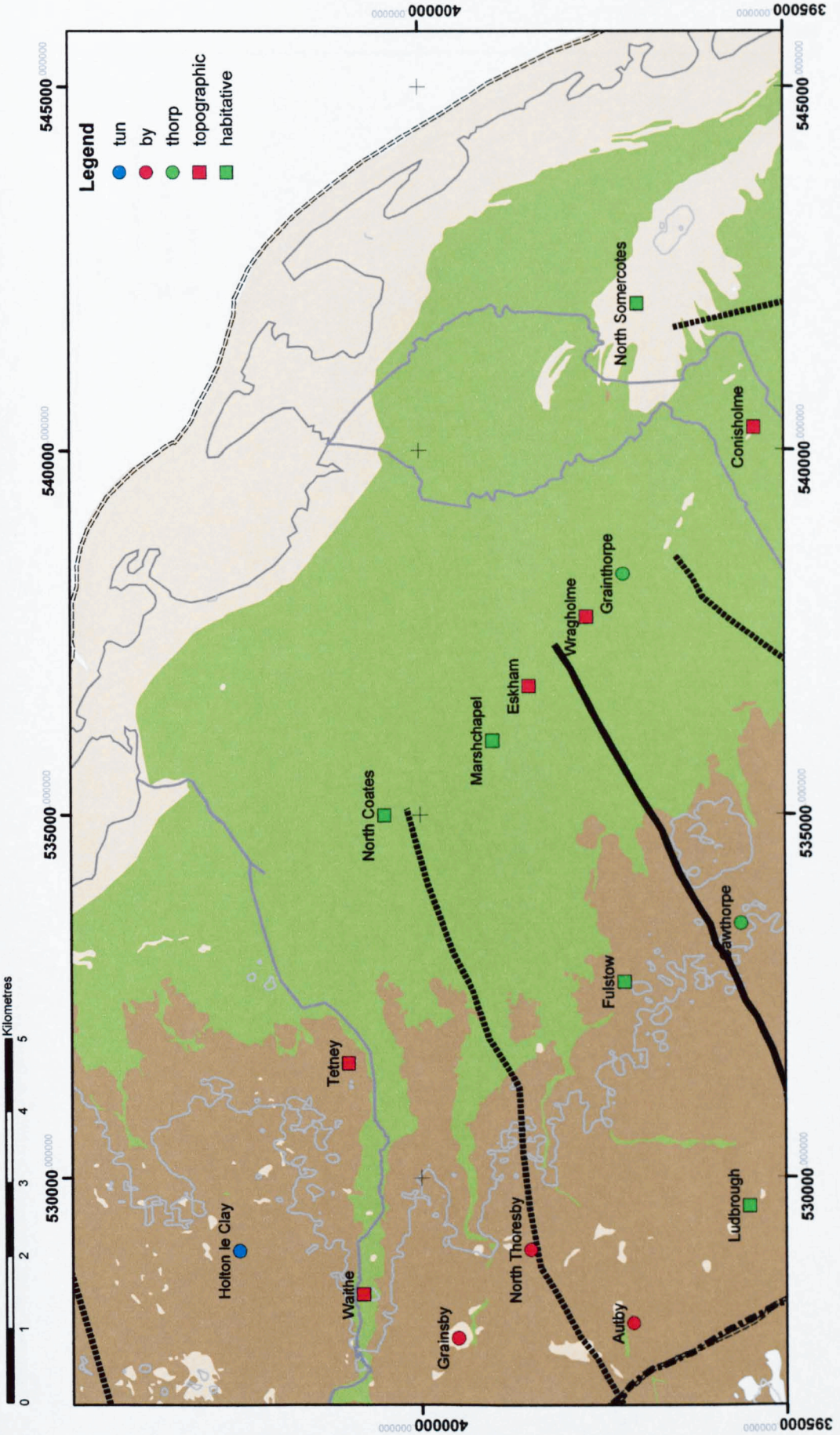


Figure 6.11: Zone One: Place-names. Solid lines are definite Roman roads, dashed lines are projected roads

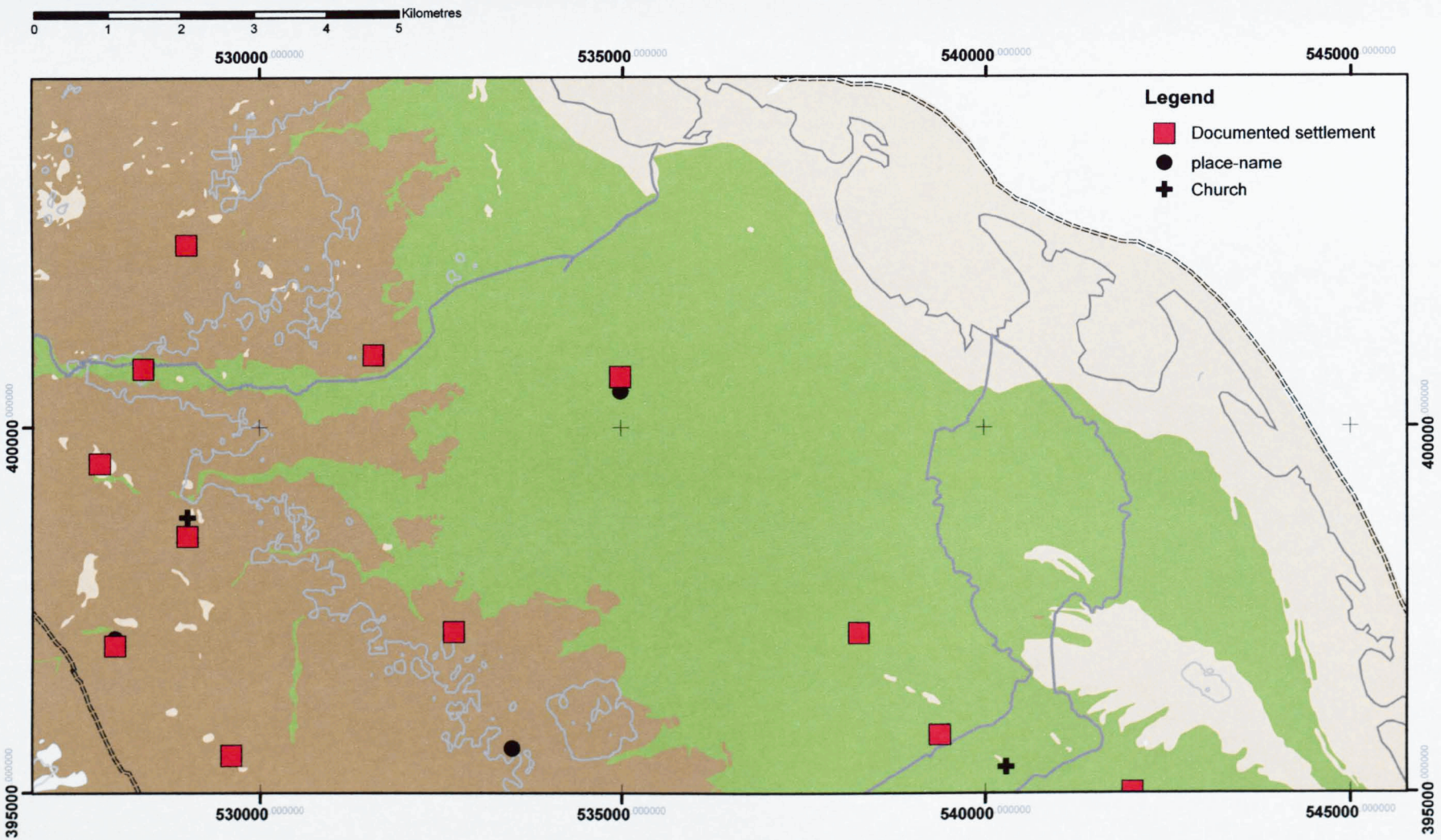


Figure 6.12: Zone One: Composite map showing the distribution of settlement in the early twelfth century (from Domesday evidence, the Lindsey Survey and the archaeological evidence)

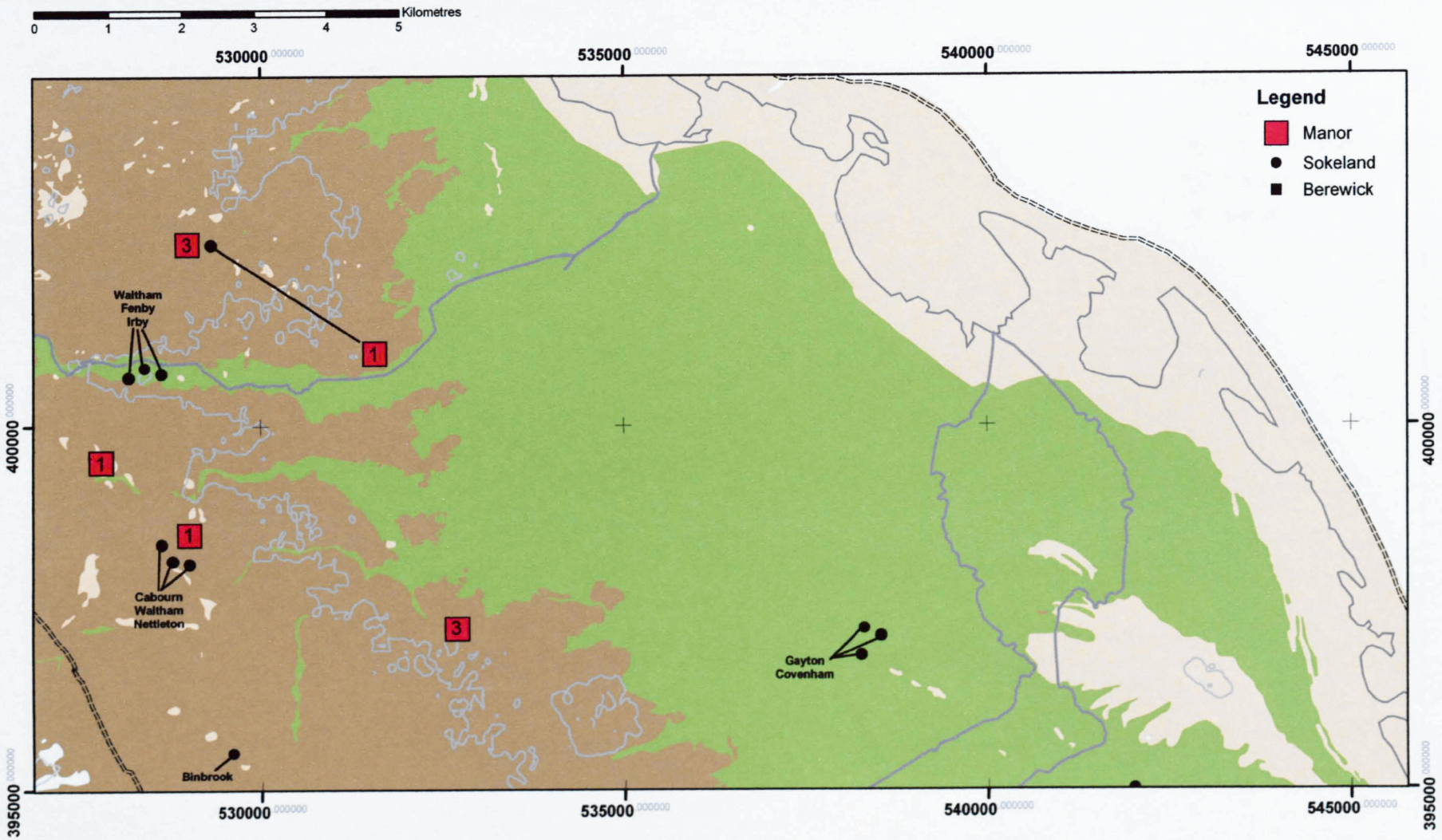


Figure 6.13: Zone One: Domesday manor structure showing manors, sokeland and berewicks and their jurisdictions. Numbers in the squares indicate the number of manors at each vill

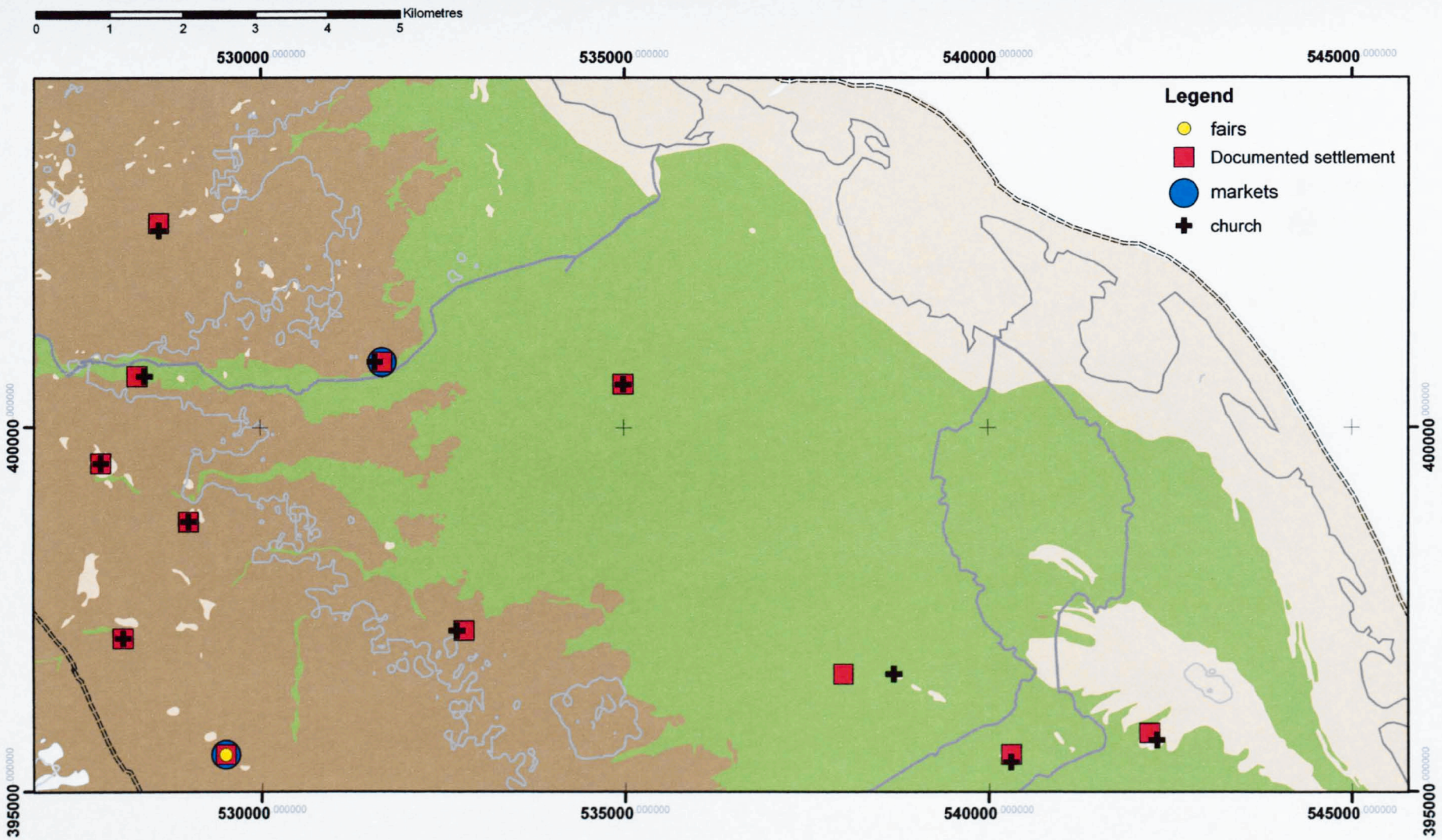


Figure 6.14: Zone One: Composite map showing the distribution of settlement in the fourteenth century (from the Taxatio, lay subsidy of 1334 and the poll tax of 1377)

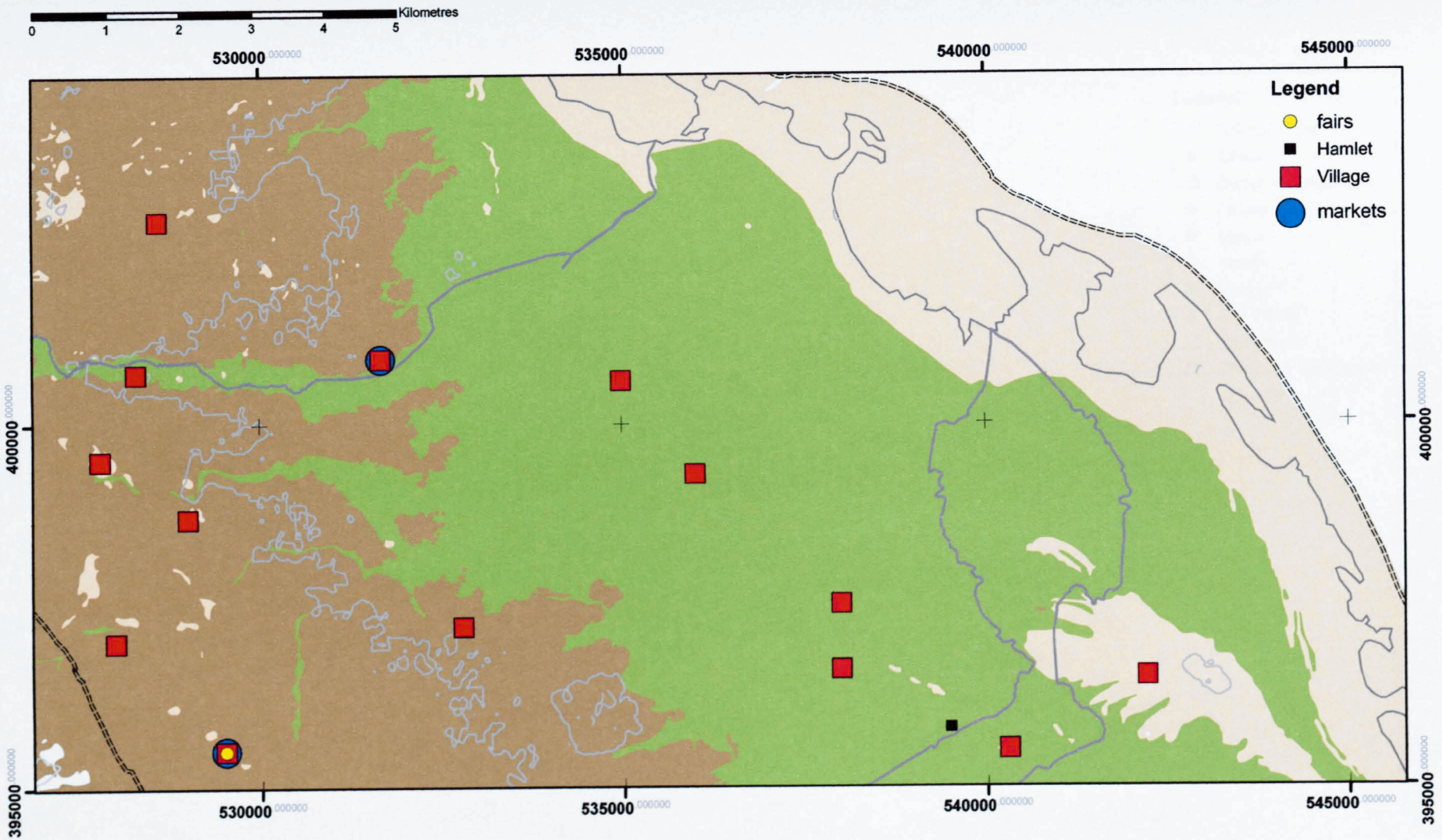


Figure 6.15: Zone One: Composite map showing the distribution of settlement in the mid-sixteenth century (from the lay subsidies of 1524, 1525 and 1543, and the 1563 Diocesan Return)

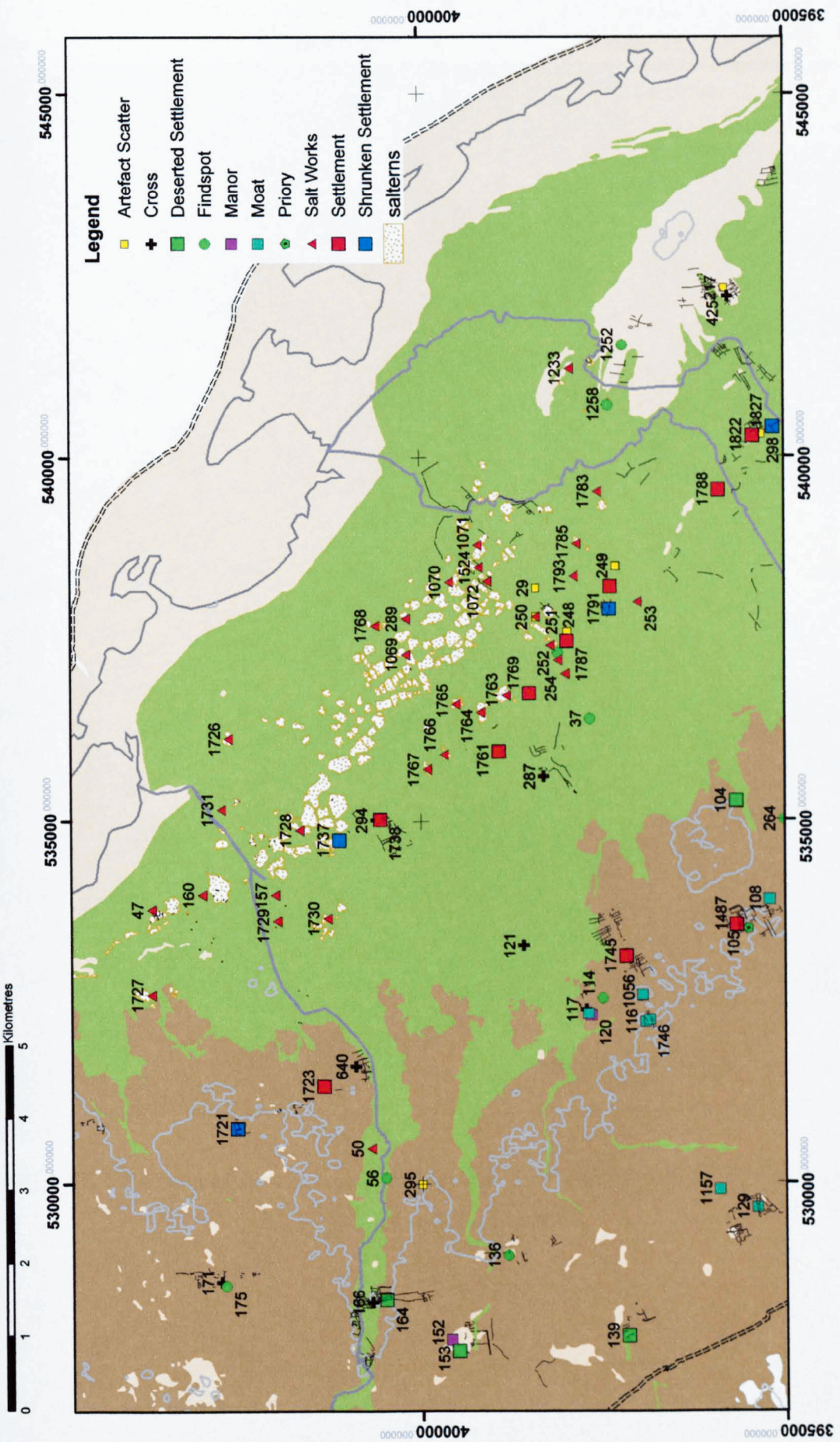


Figure 6.16: Zone One: Medieval archaeology including aerial photographic transcriptions from the NMP

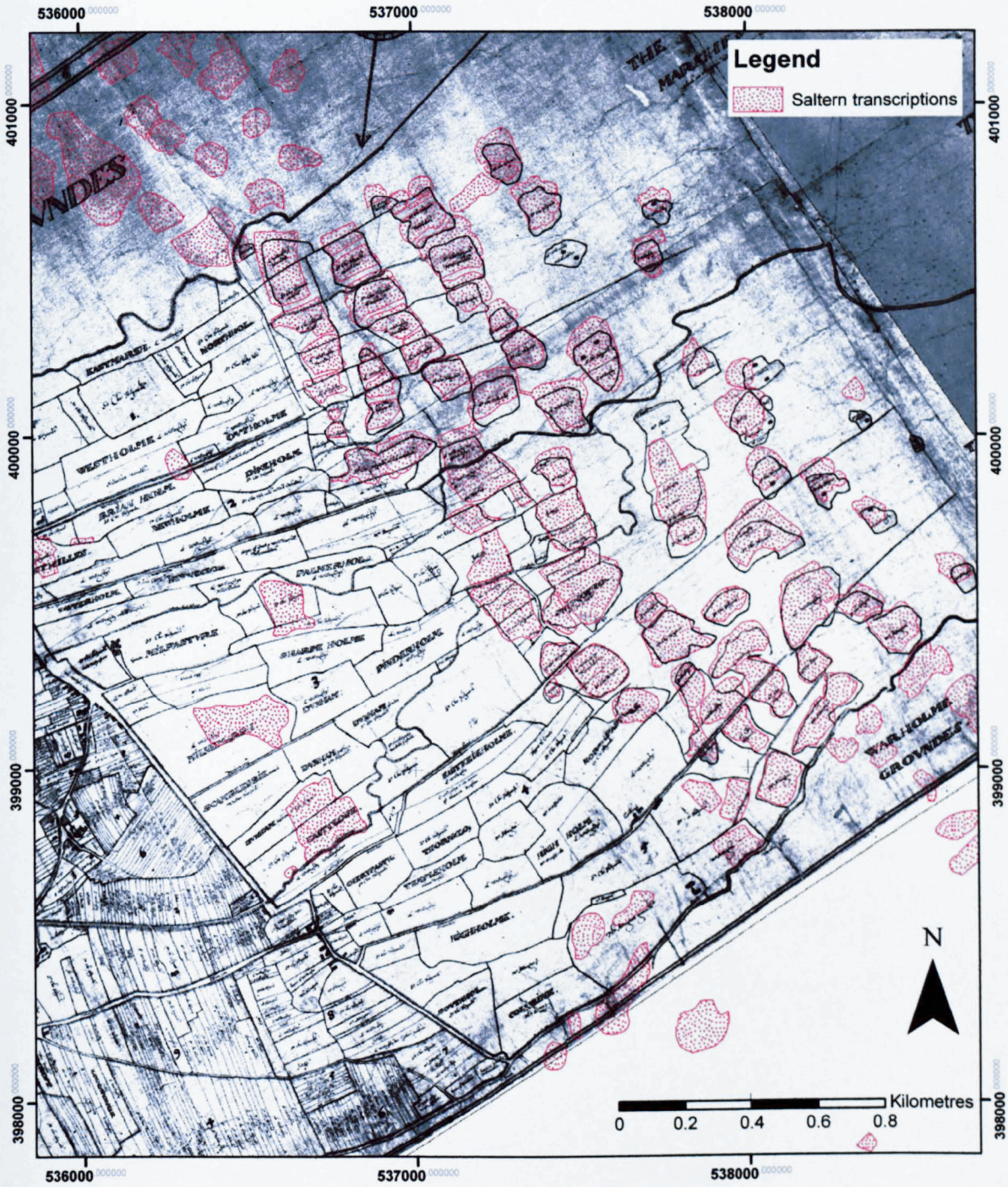


Figure 6.17: 1595 map of Marshchapel, and the salterns recorded on the aerial photographic transcriptions from the NMP

Figure 6.18: Edge of one of the saltern mounds at Marshchapel

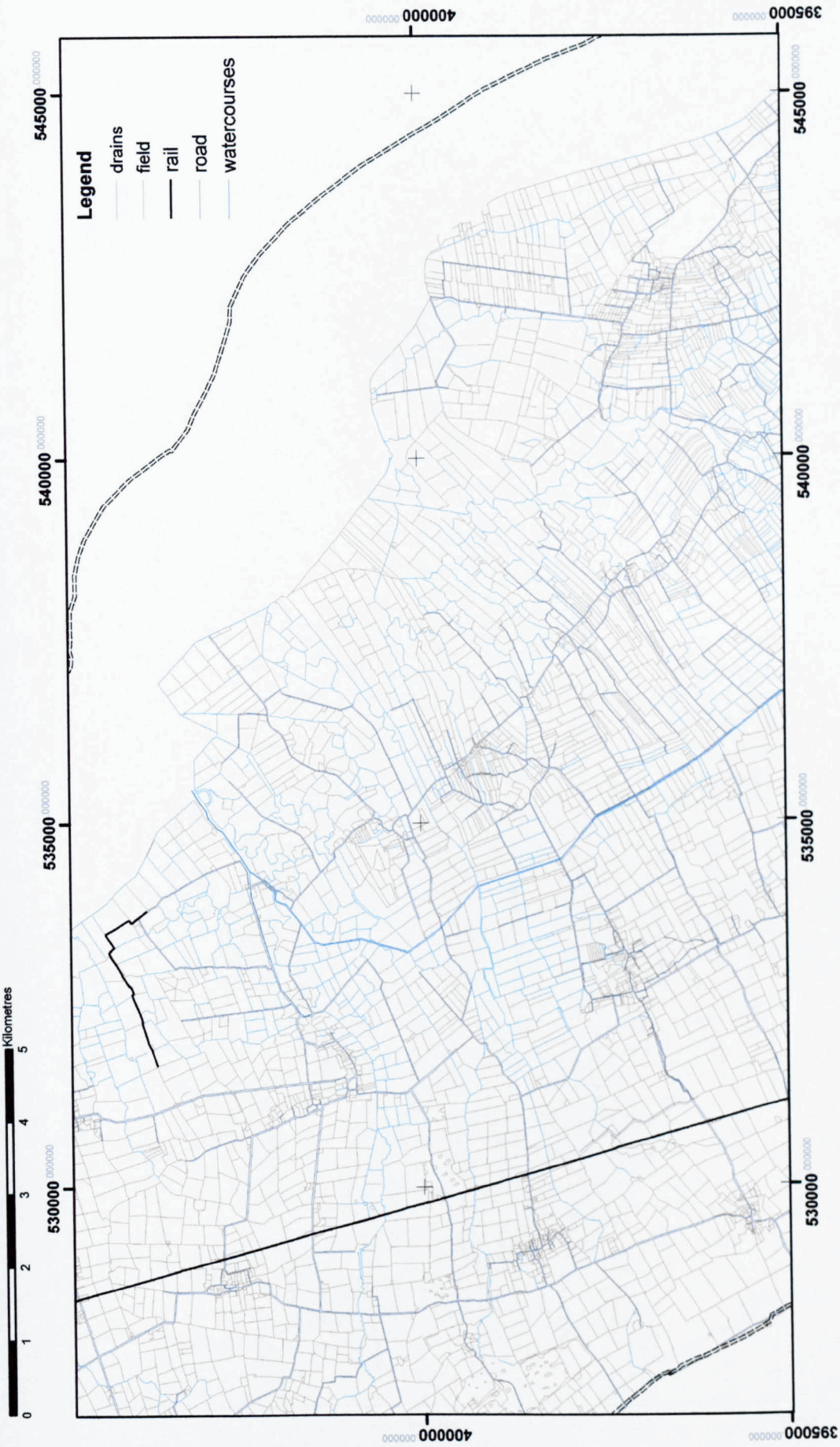


Figure 6.19: Zone One: Nineteenth century field pattern as recorded on the Ordnance Survey second edition mapping

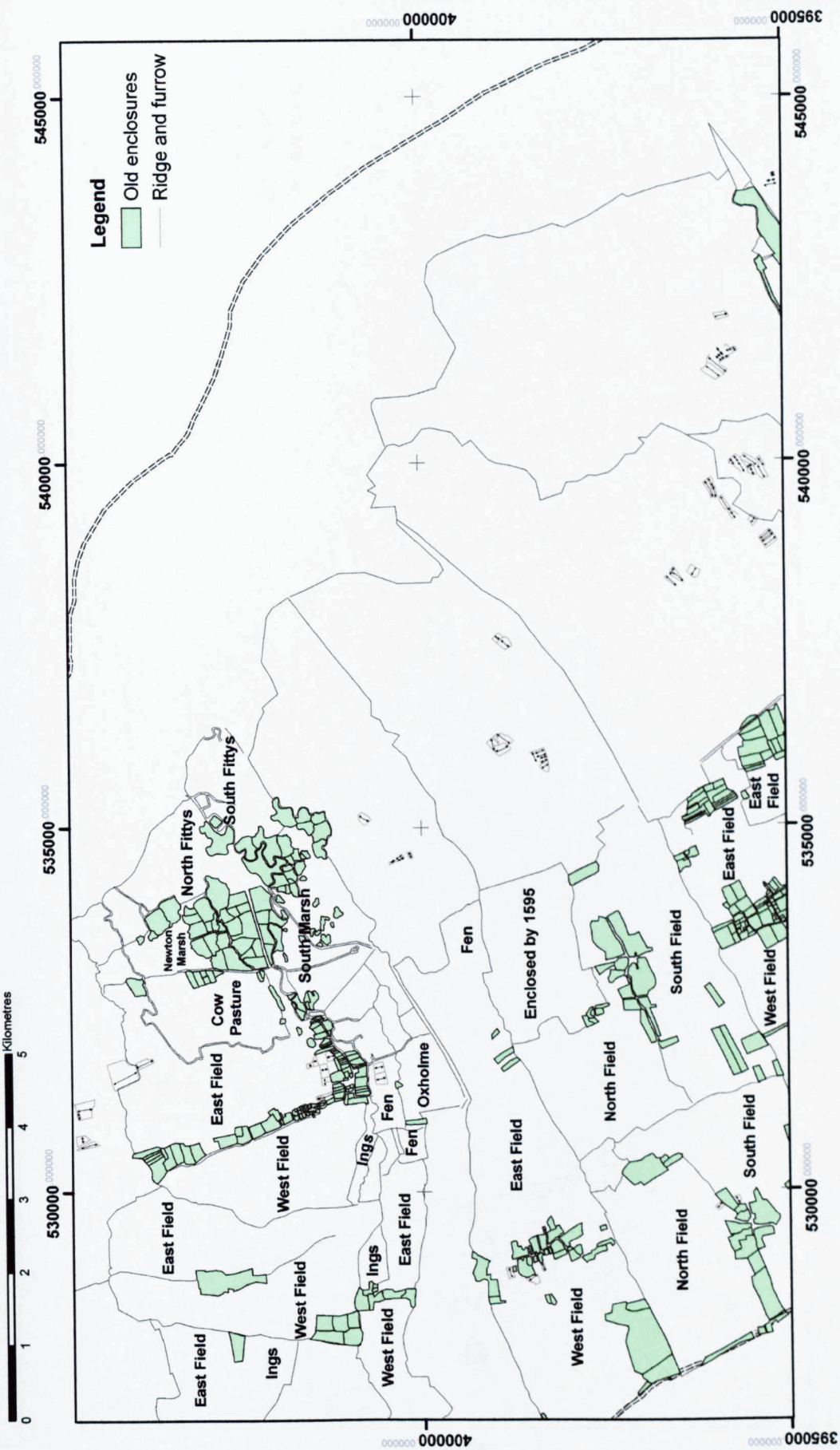


Figure 6.20: Zone One: Reconstruction of the pre-Enclosure field systems from archival data and the work of the Russells (Russell and Russell 1983, 1987). Also marked are areas of ridge and furrow recorded by the NMP and by Palmer and Tann (2006)

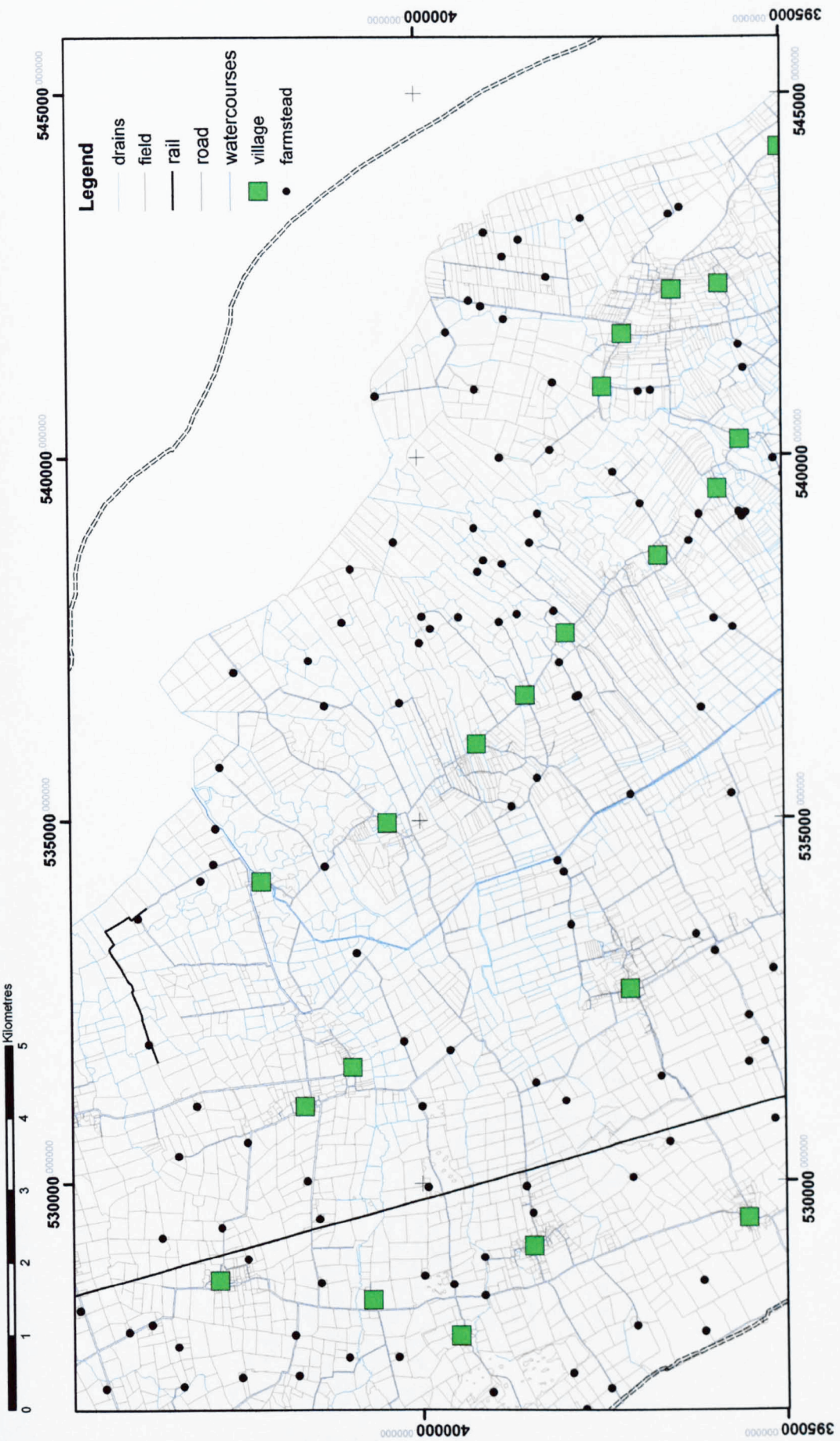


Figure 6.21: Zone One: Nineteenth century settlement pattern

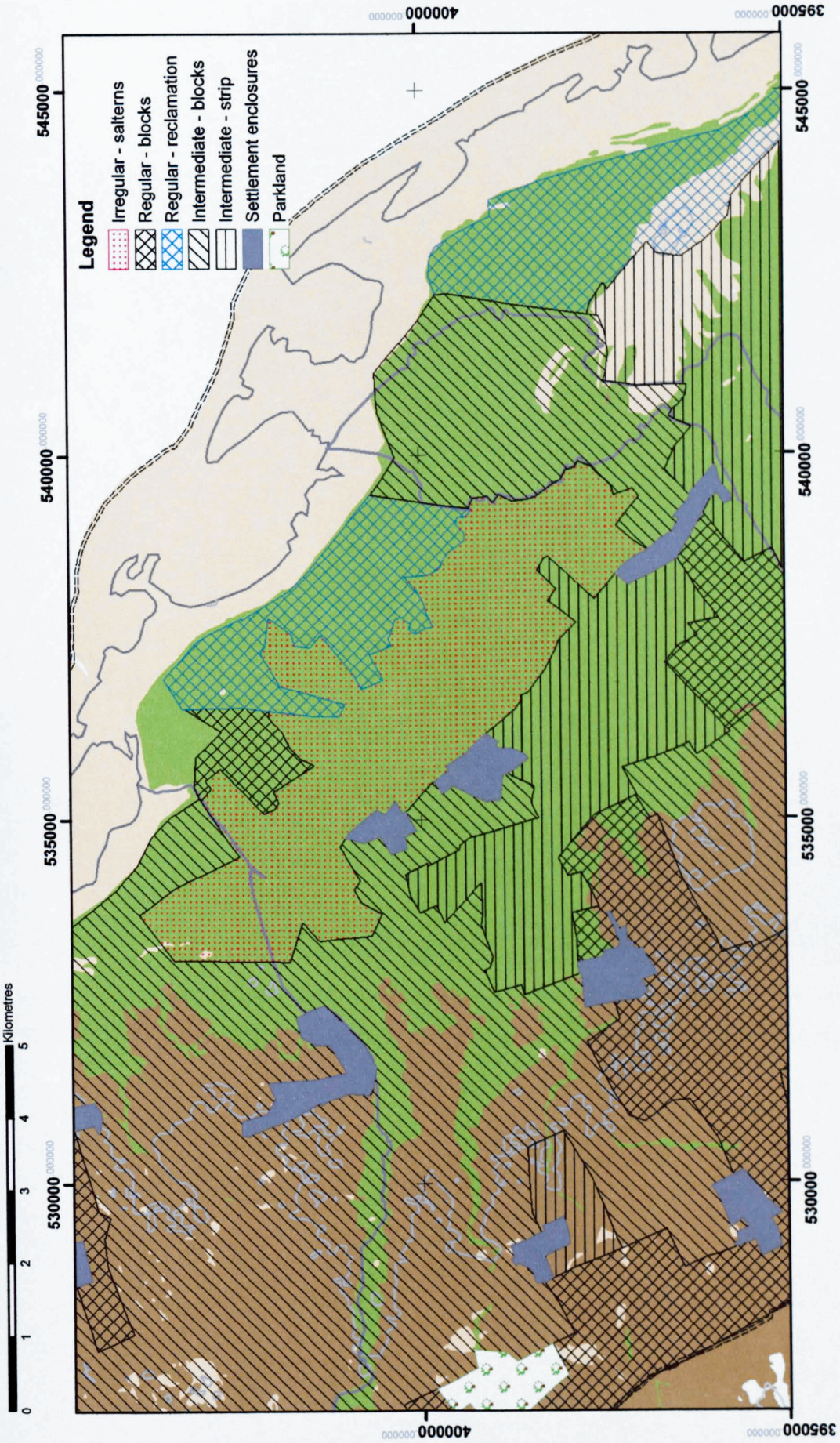


Figure 6.22: Zone One: Major historic landscape character zones

Figure 6.23: Aerial photograph of saltern mounds and resultant field system at Marshchapel. PF 82 (29.3.55). Cambridge University Committee for Aerial Photography. © Crown Copyright

Figure 6.24: Aerial photograph of the Marshchapel area, highlighting the irregular field system to the east, and regular landscape to the west. © Getmapping

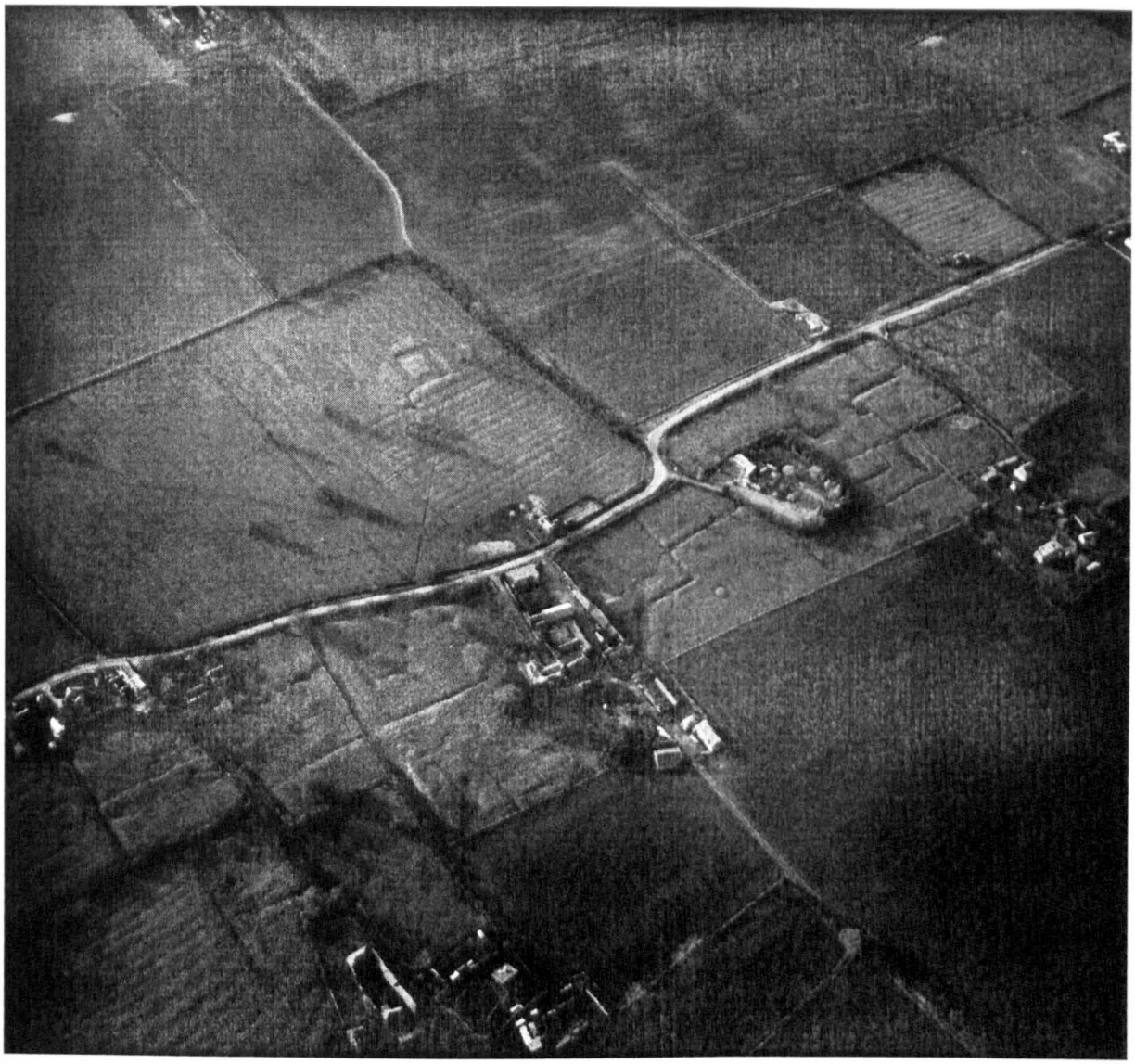


Figure 6.25: Earthworks and village remains at Covenham St Bartholomew. NMR 12438/16 (15.11.93). English Heritage. © Crown Copyright

Figure 6.26: Zone One: Schematic model of landscape evolution A: Bronze Age, B: Iron Age and Roman, C: Saxon, D: Medieval

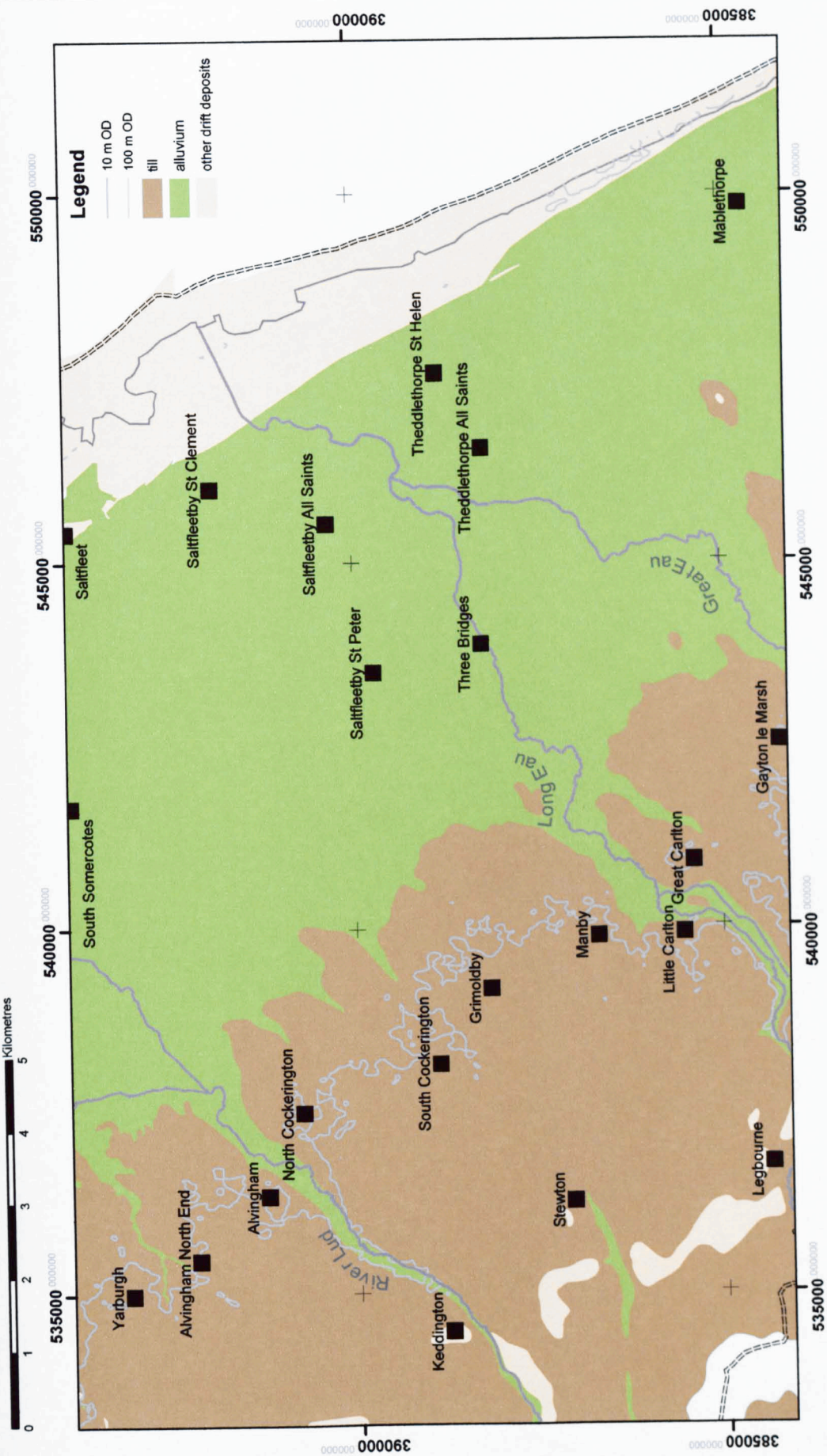


Figure 7.1: Zone Two: Drift geology and main settlements

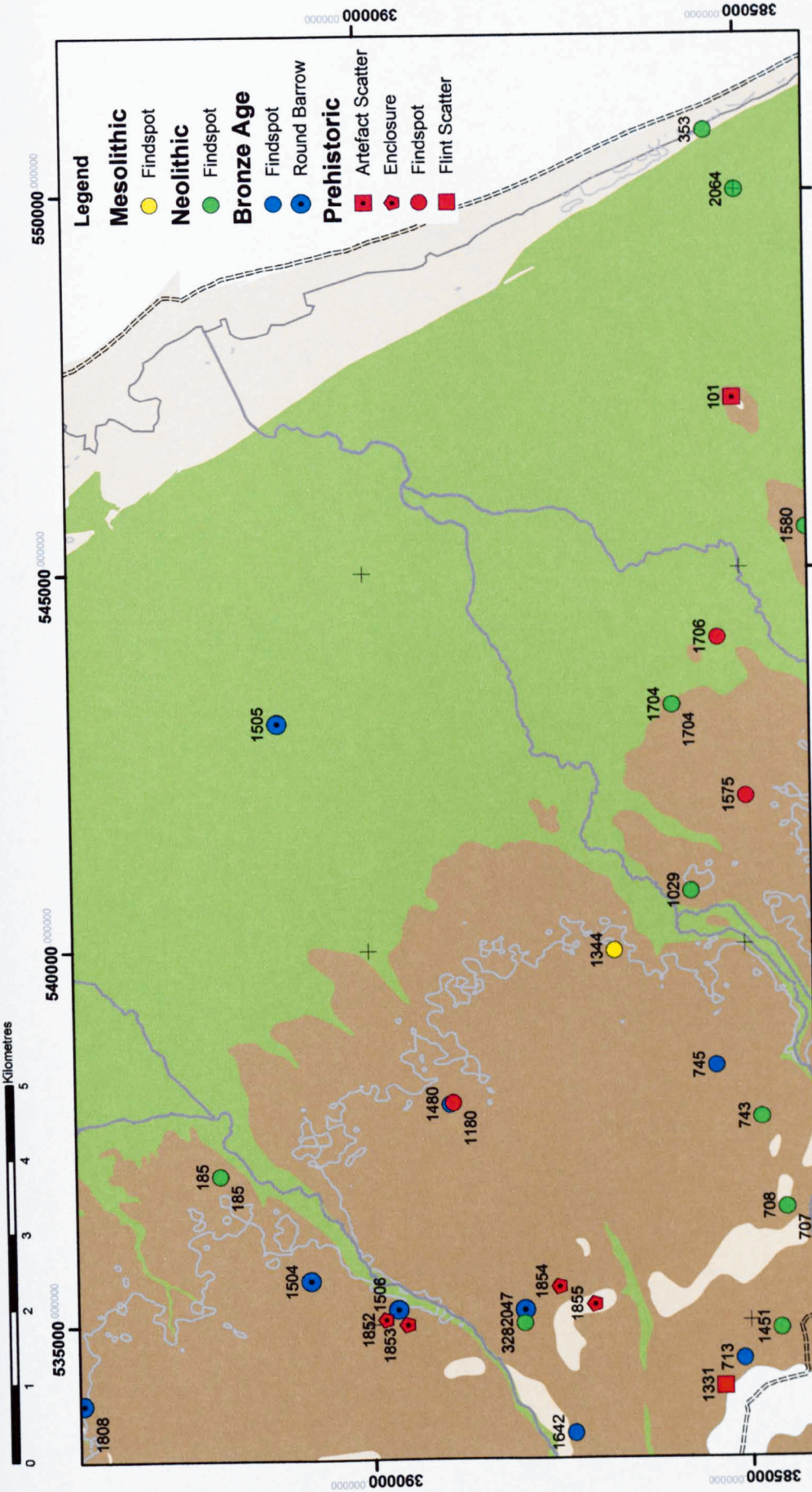


Figure 7.2: Zone Two: Prehistoric archaeology

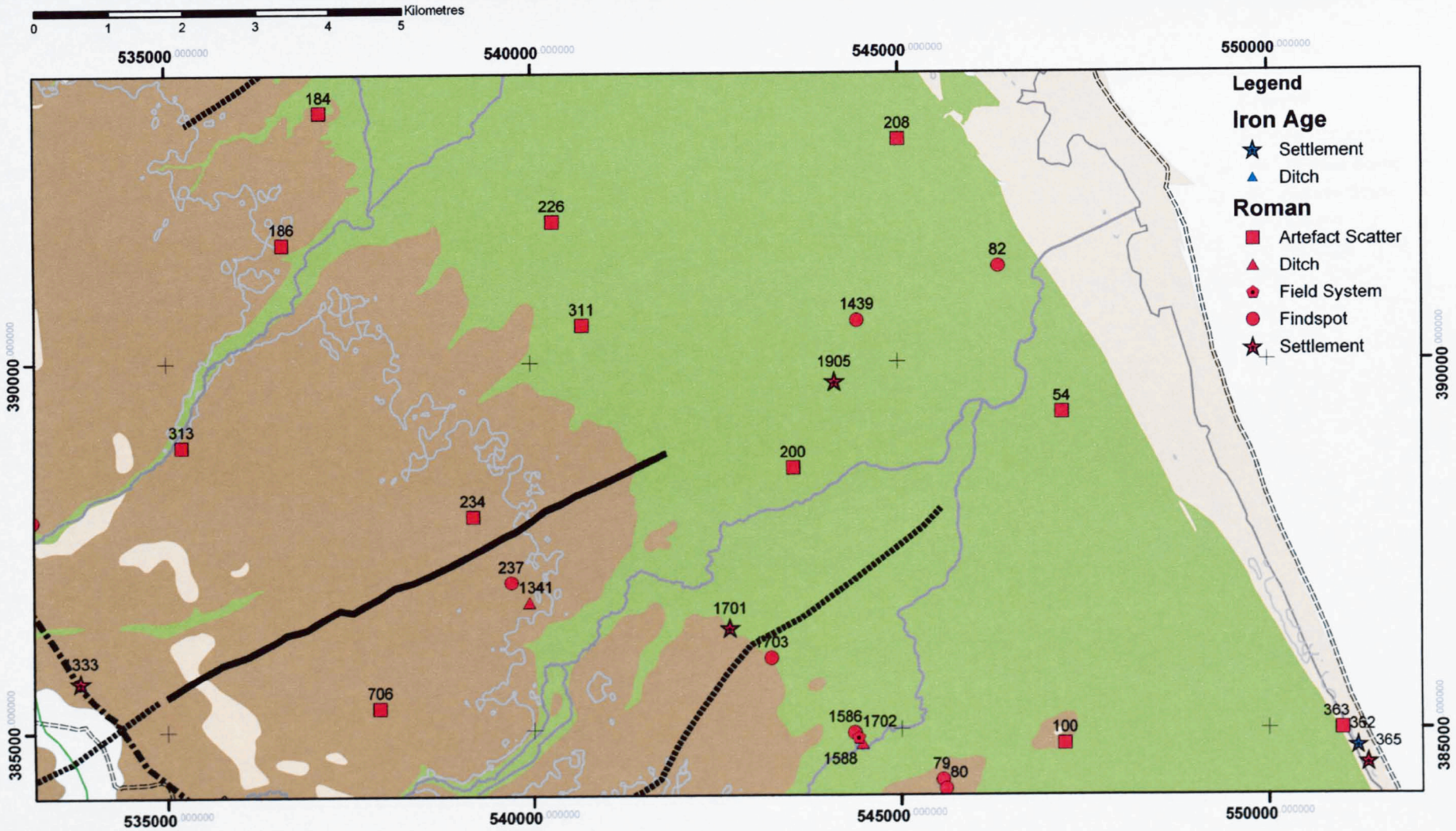


Figure 7.3: Zone Two: Later prehistoric and Roman archaeology including aerial photographic transcriptions from the NMP. Solid lines are definite Roman roads, dashed lines are projected roads

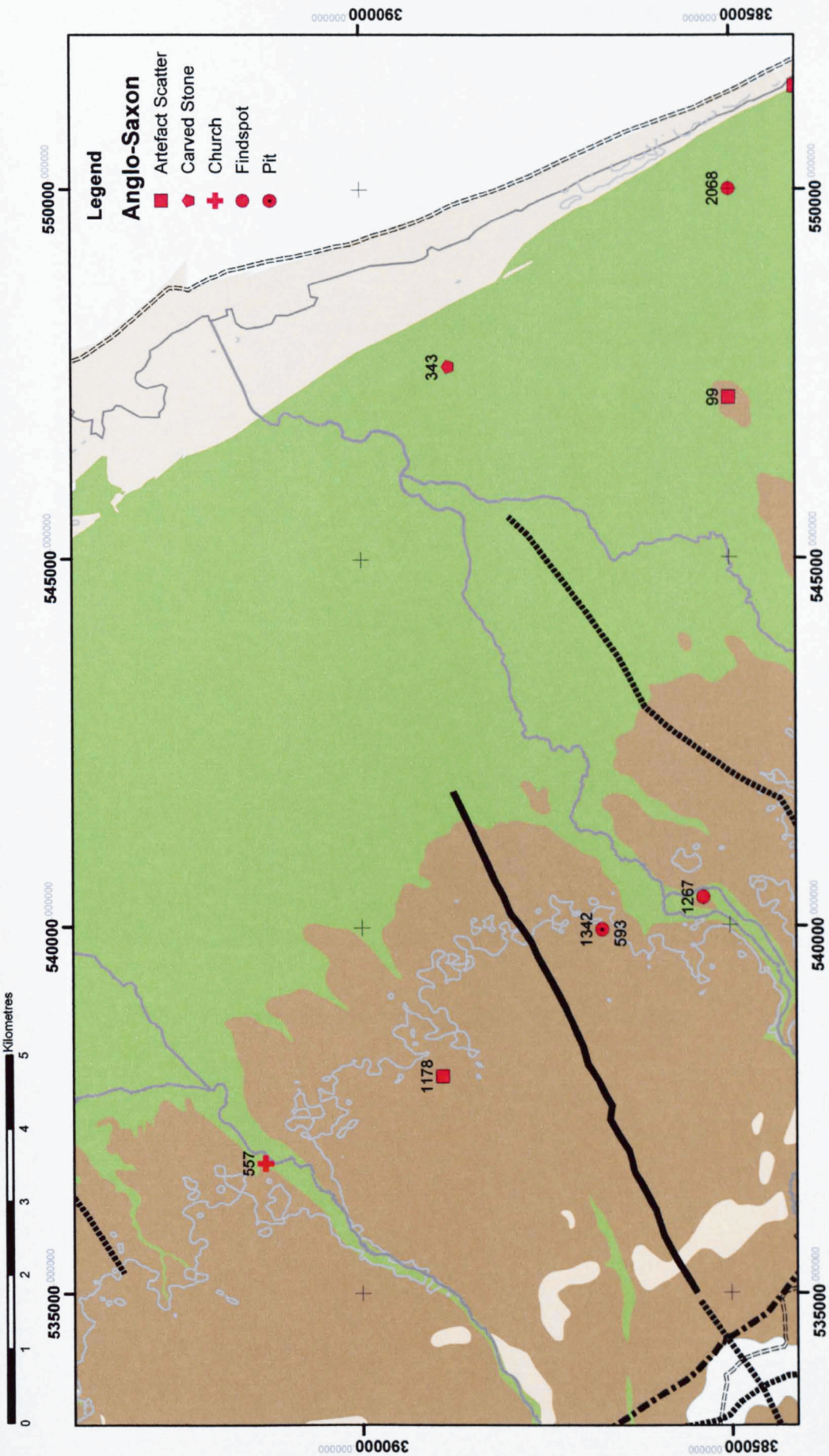


Figure 7.4: Zone Two: Saxon archaeology. Solid lines are definite Roman roads, dashed lines are projected roads

Figure 7.5: Interlaced cross fragment in Manby church

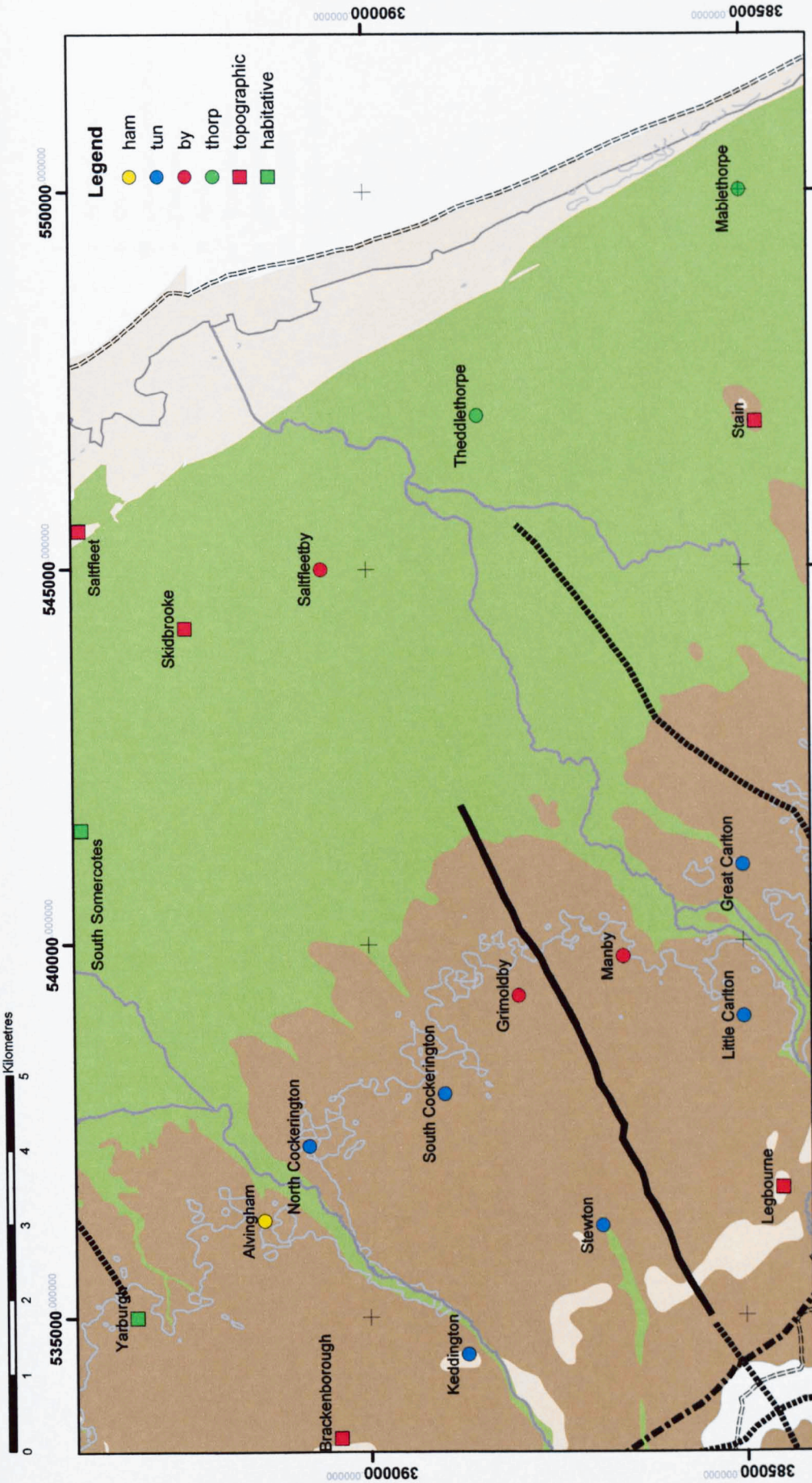


Figure 7.6: Zone Two: Place-names. Solid lines are definite Roman roads, dashed lines are projected roads

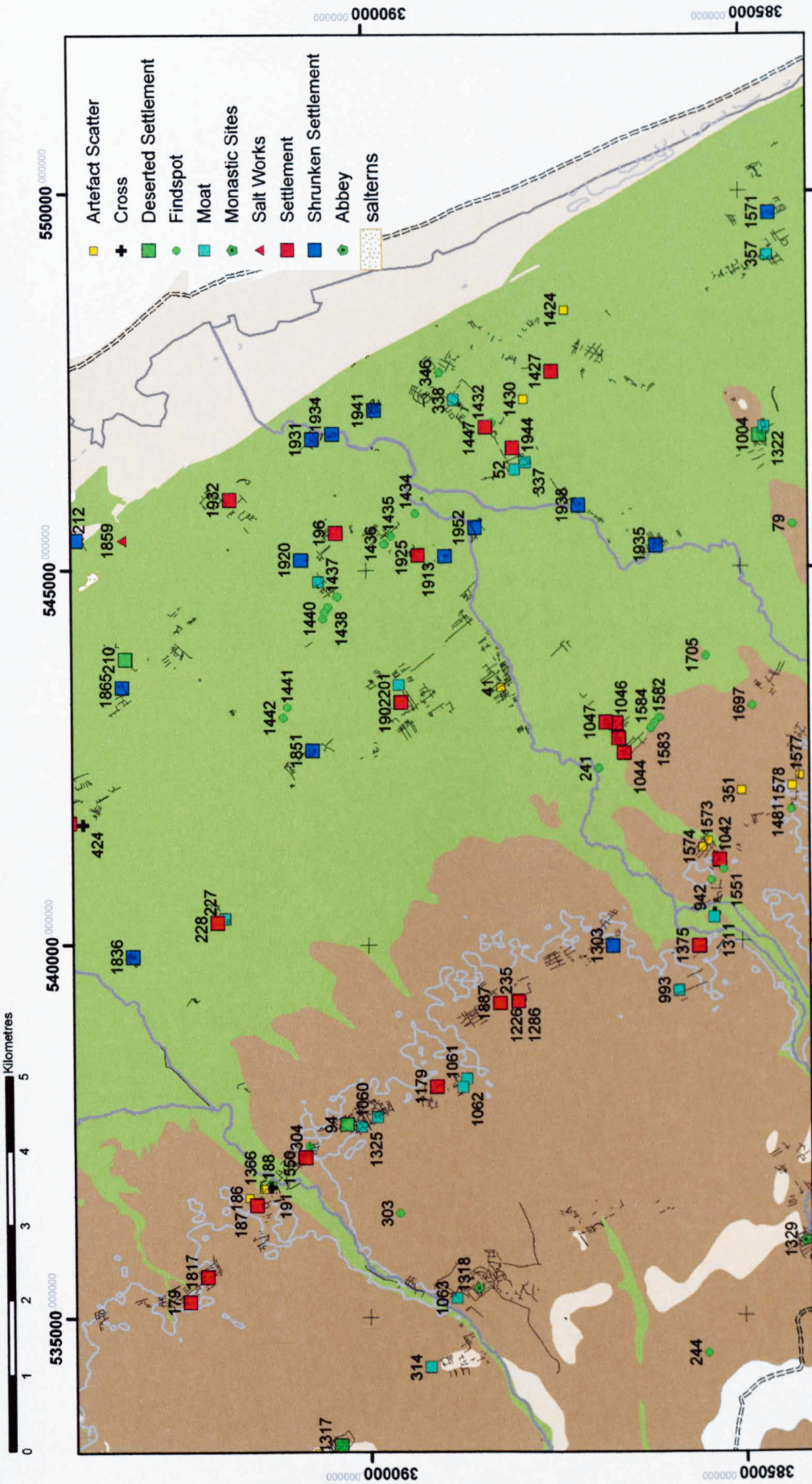


Figure 7.7: Zone Two: Medieval archaeology including aerial photographic transcriptions from the NMP

Figure 7.8: Skidbrooke church

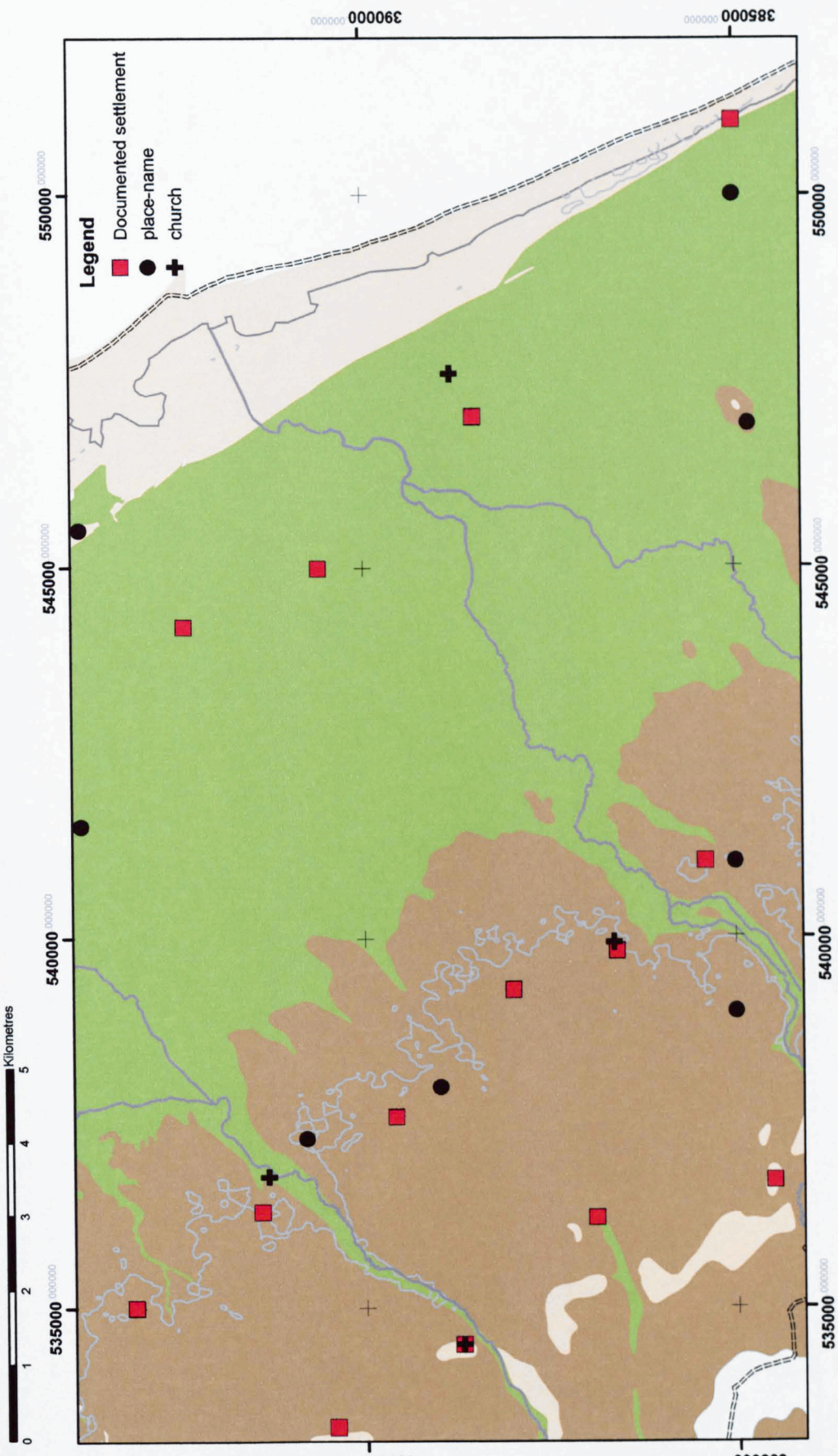


Figure 7.9: Zone Two: Composite map showing the distribution of settlement in the early twelfth century (from Domesday evidence, the Lindsey Survey and the archaeological evidence)

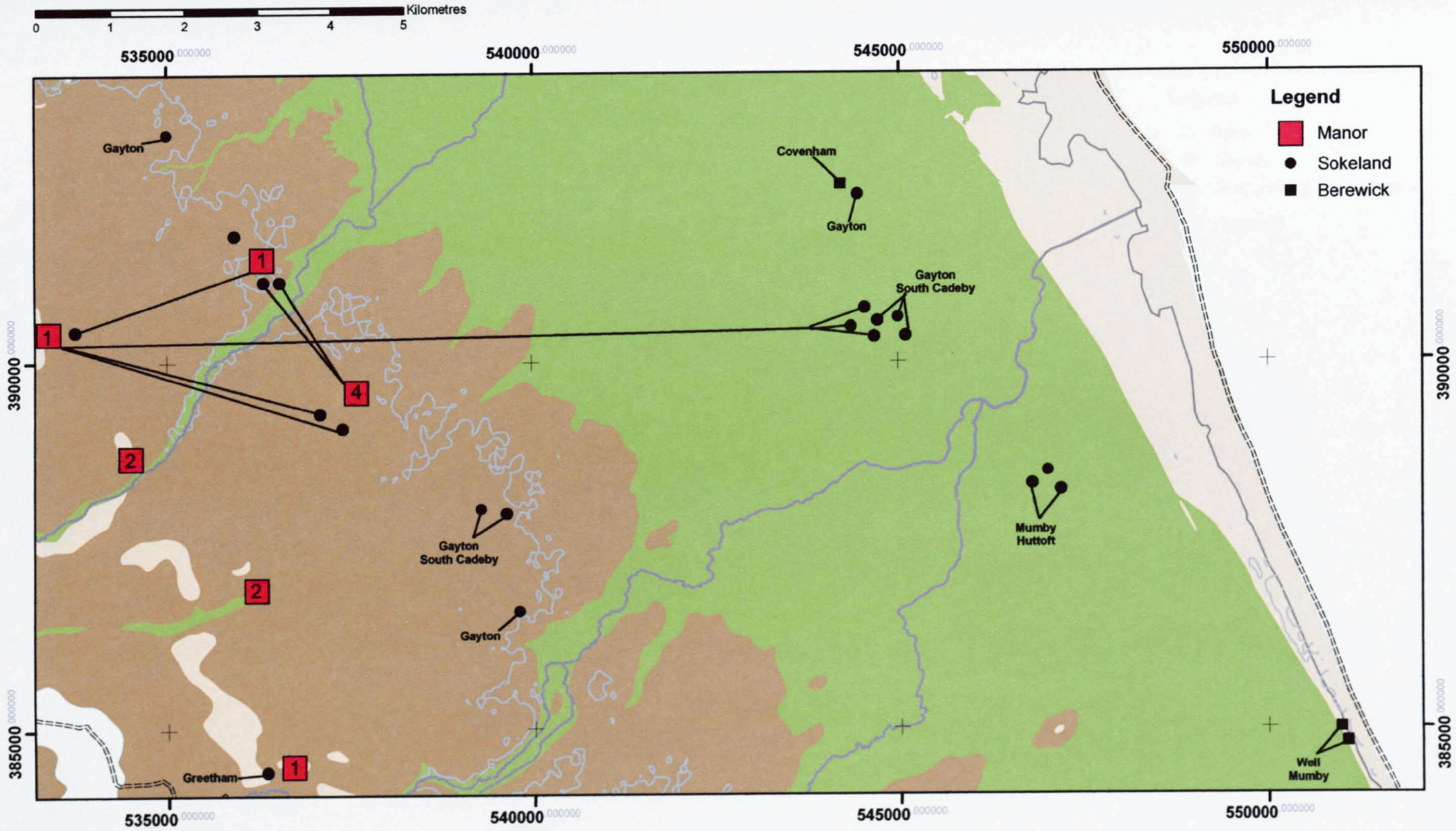


Figure 7.10: Zone Two: Domesday manor structure showing manors, sokeland and berewicks and their jurisdictions. Numbers in the squares indicate the number of manors at each vill

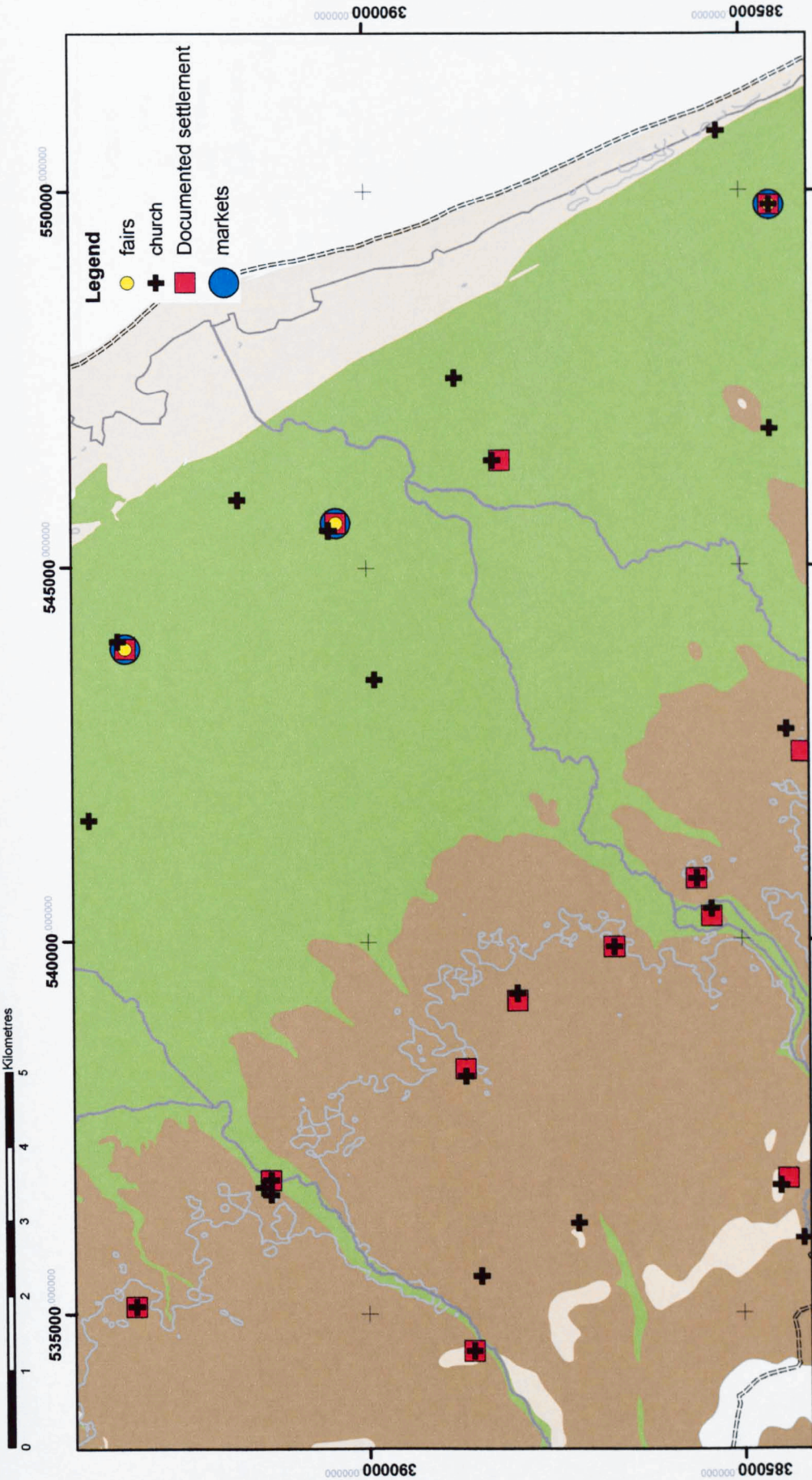


Figure 7.11: Zone Two: Composite map showing the distribution of settlement in the fourteenth century (from the Taxatio, lay subsidy of 1334 and the poll tax of 1377)

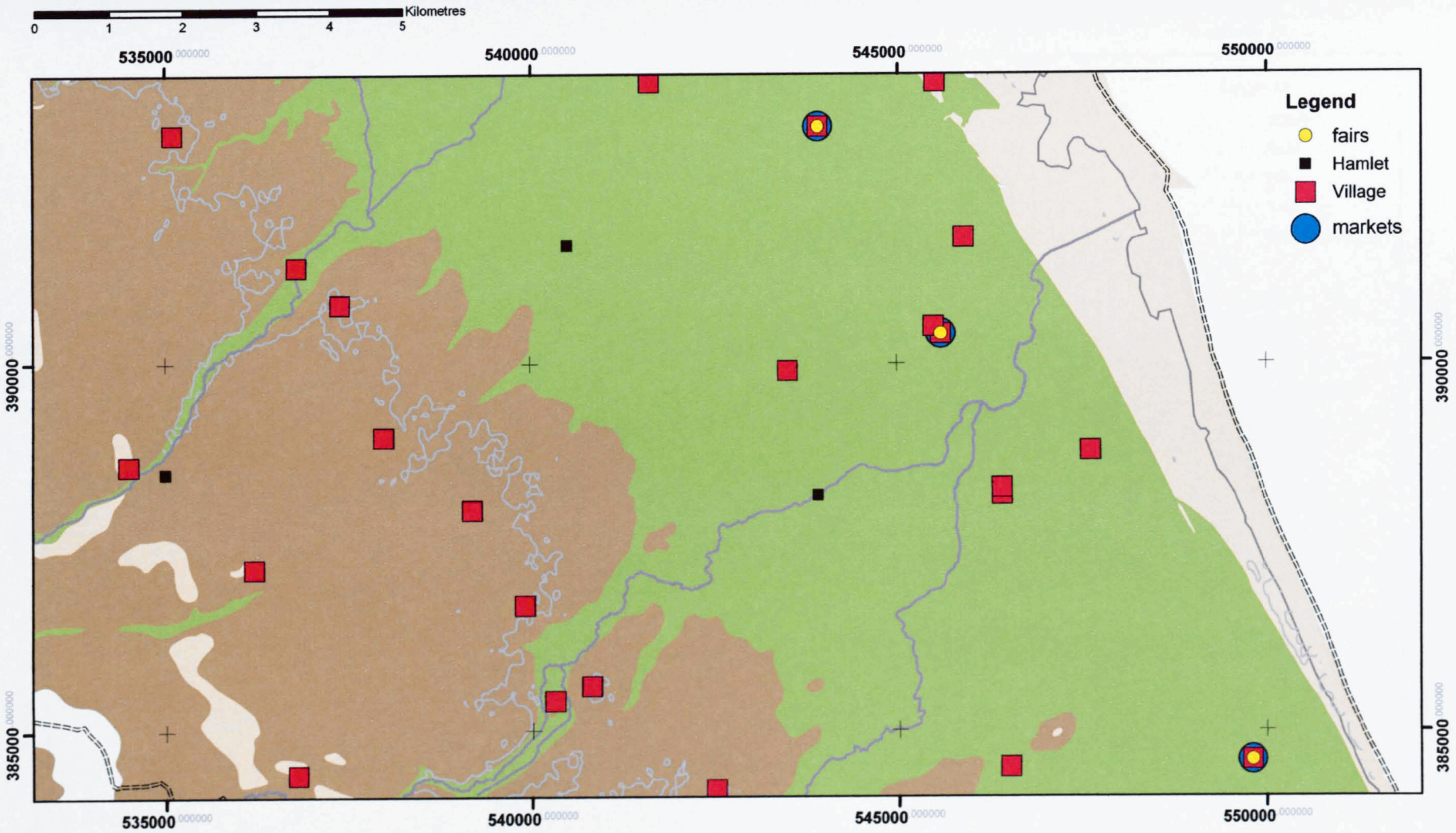


Figure 7.12: Zone Two: Composite map showing the distribution of settlement in the mid-sixteenth century (from the lay subsidies of 1524, 1525 and 1543, and the 1563 Diocesan Return)

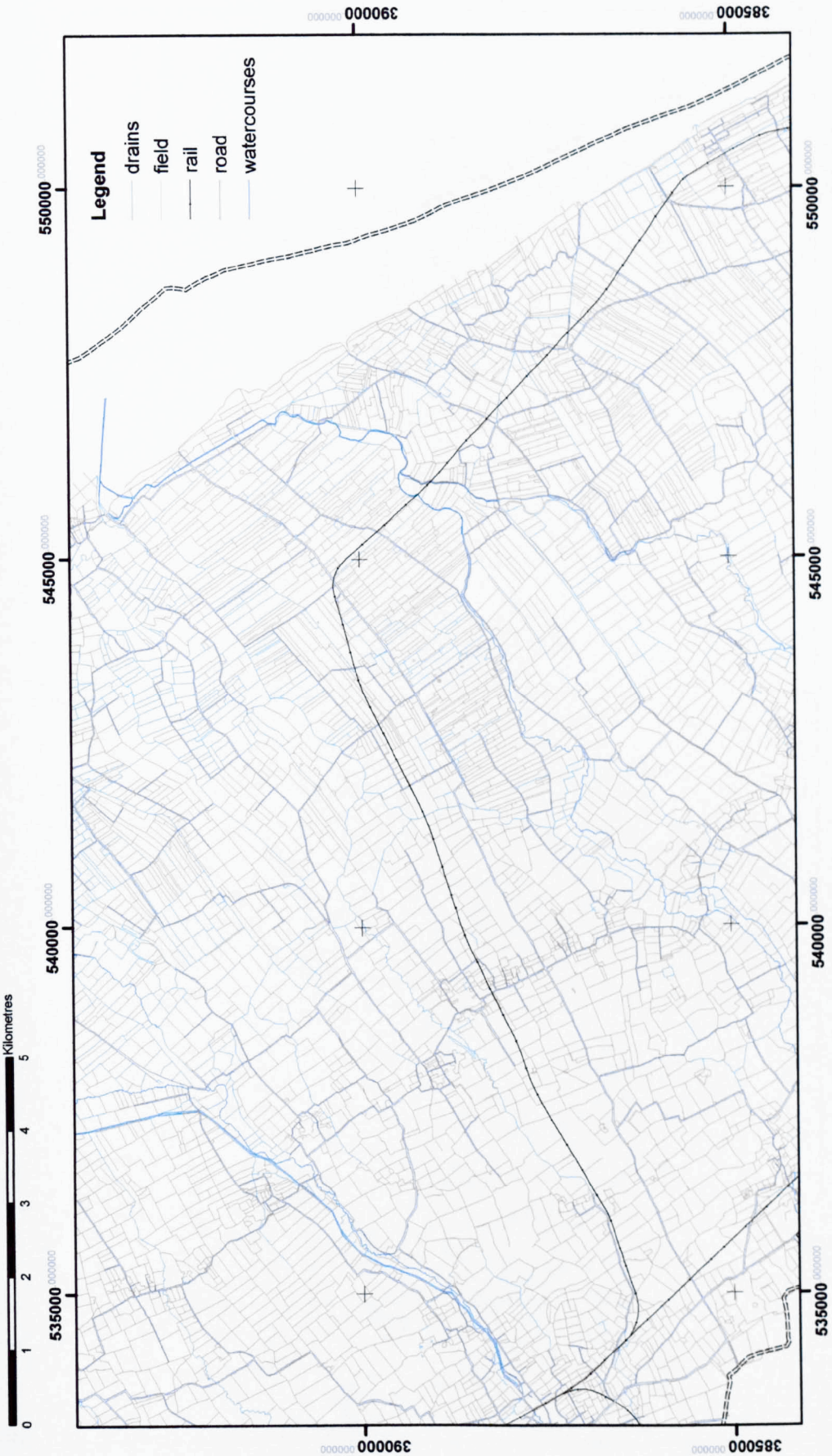


Figure 7.13: Zone Two: Nineteenth century field pattern as recorded on the Ordnance Survey second edition mapping

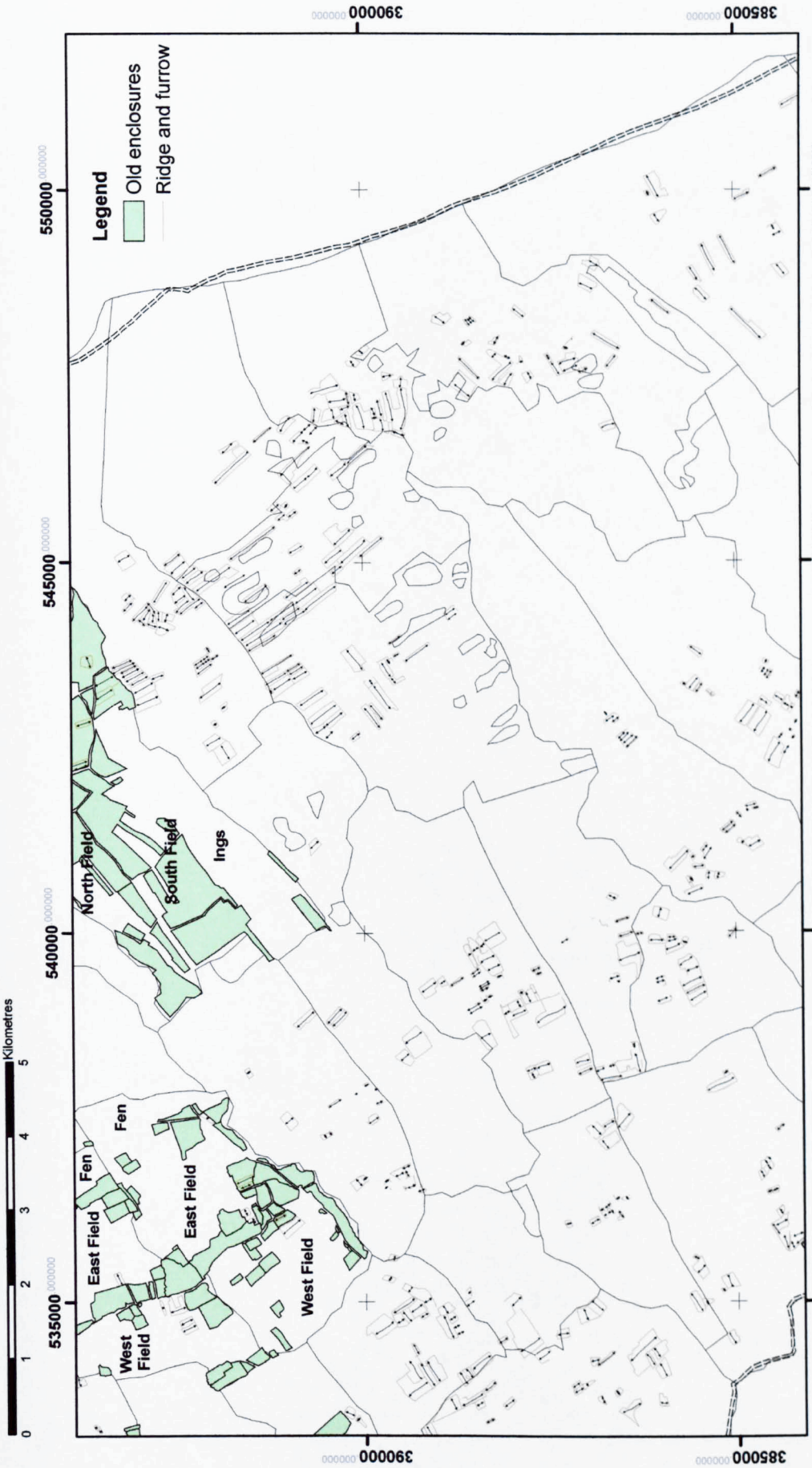


Figure 7.14: Zone Two: Reconstruction of the pre-Enclosure field systems from archival data and the work of the Russells (Russell and Russell 1983, 1987). Also marked are areas of ridge and furrow recorded by the NMP and by Palmer and Tann (2006)

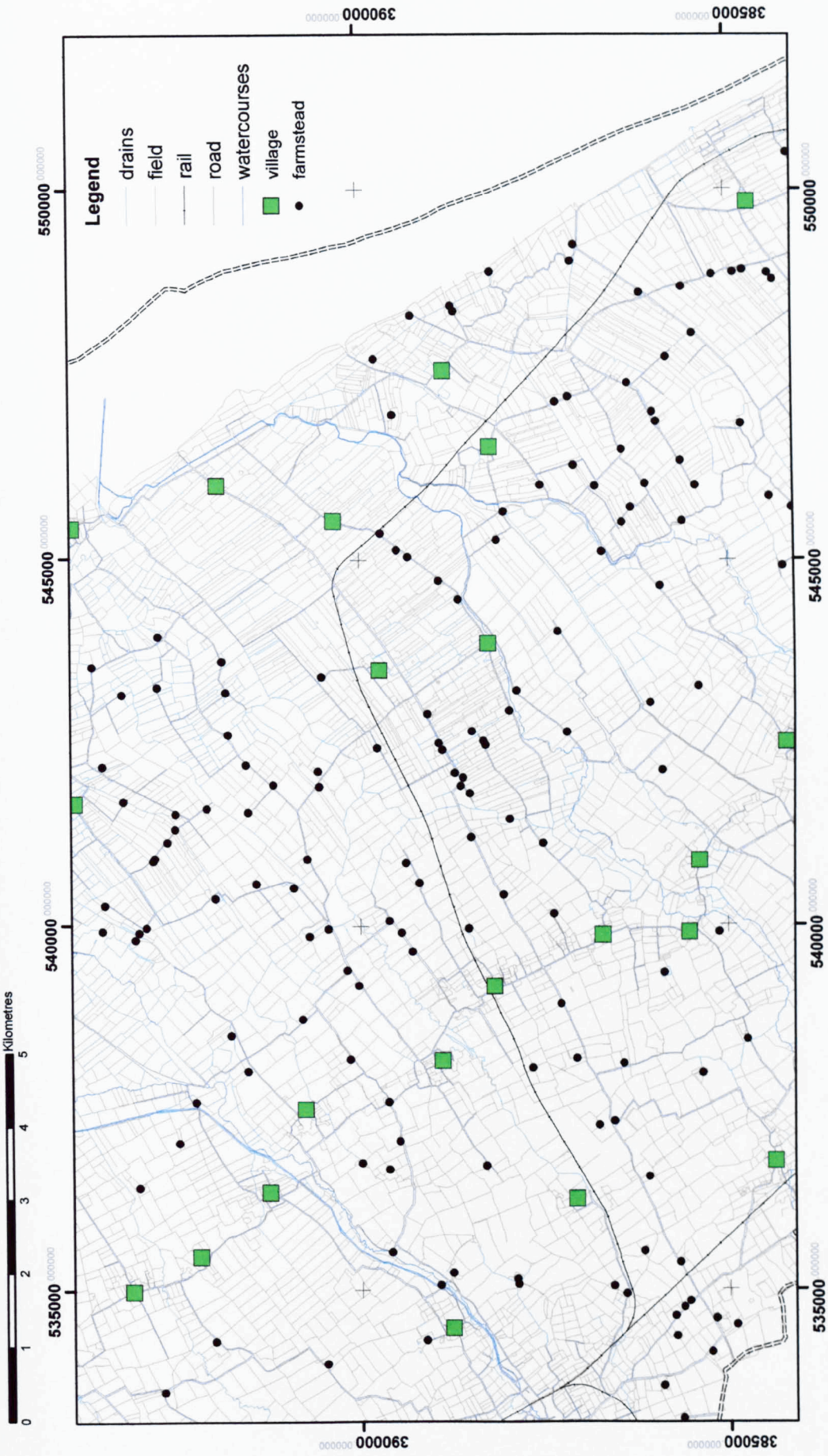


Figure 7.15: Zone Two: Nineteenth century settlement pattern

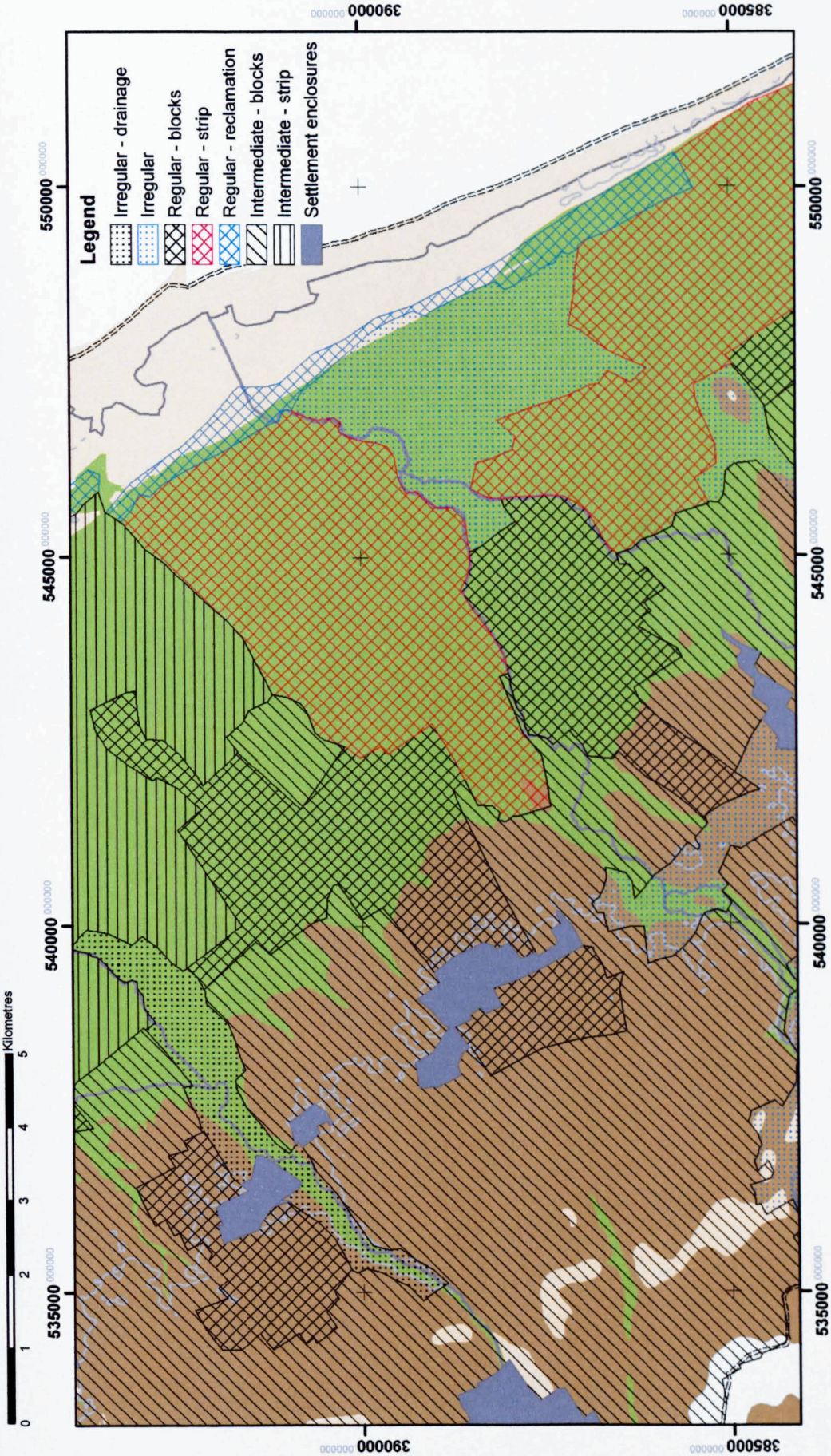


Figure 7.16: Zone Two: Major historic landscape character zones

Figure 7.17: View from Saltfleet to Skidbrooke church highlighting the flat nature and regular field shapes

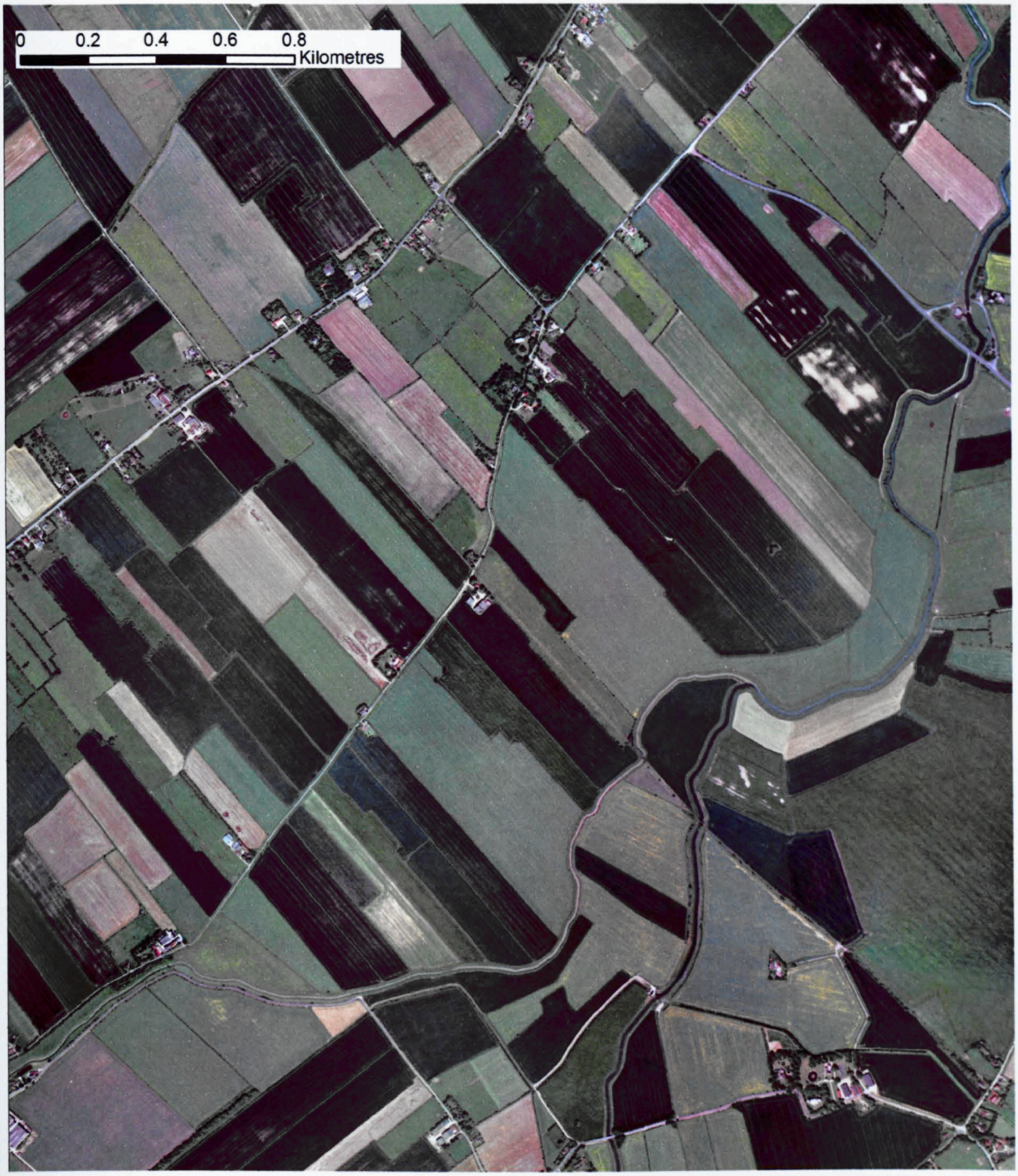


Figure 7.18: Aerial photograph of the Saltfleet area highlighting the small size of fields and the effect of the watercourses on the field pattern. © Getmapping

Figure 7.19: Fields at Saltfleetby St Peter with remains of ridge and furrow

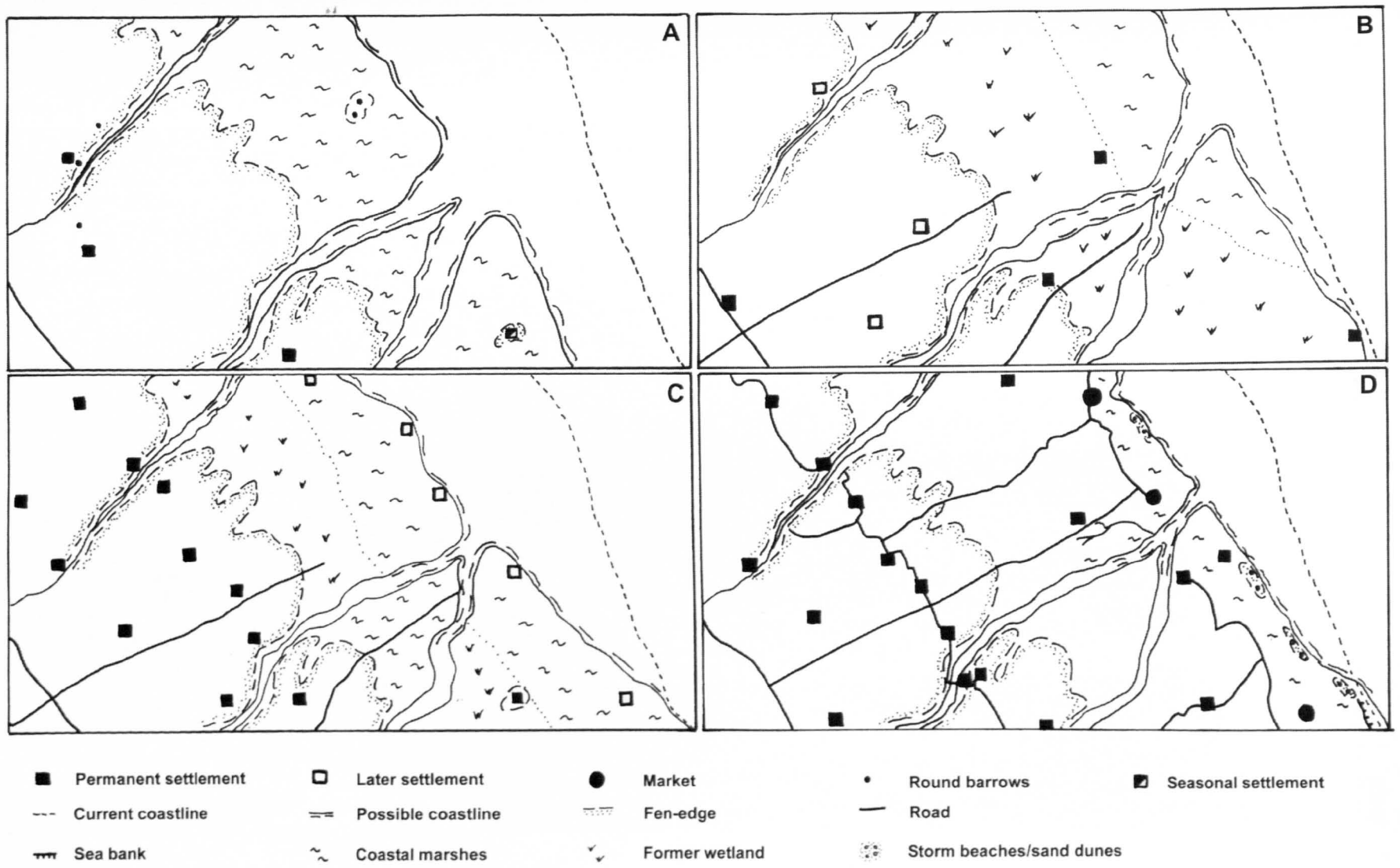


Figure 7.20: Zone Two: Schematic model of landscape evolution A: Bronze Age, B: Iron Age and Roman, C: Saxon, D: Medieval

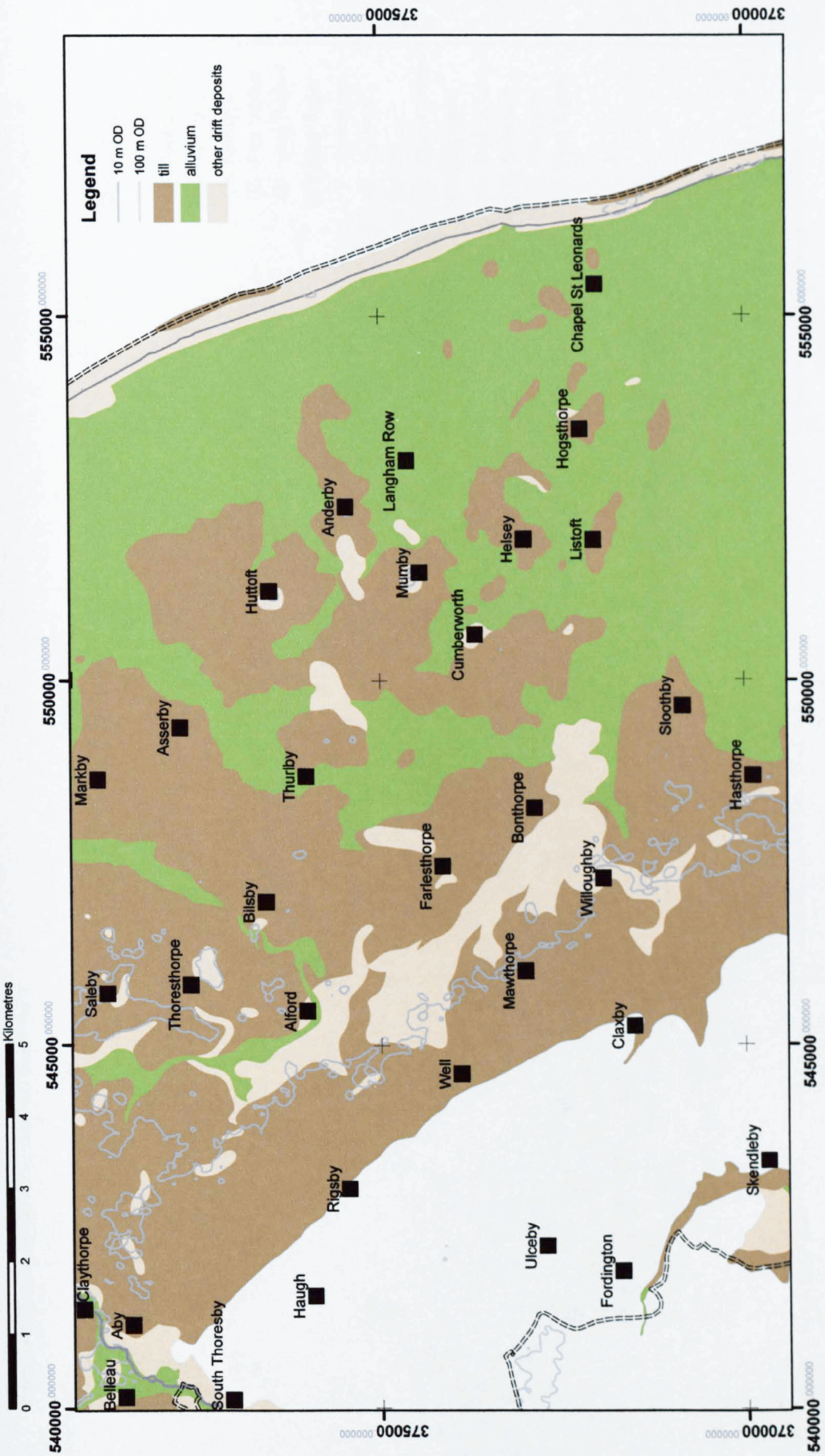


Figure 8.1: Zone Three: Drift geology and main settlements

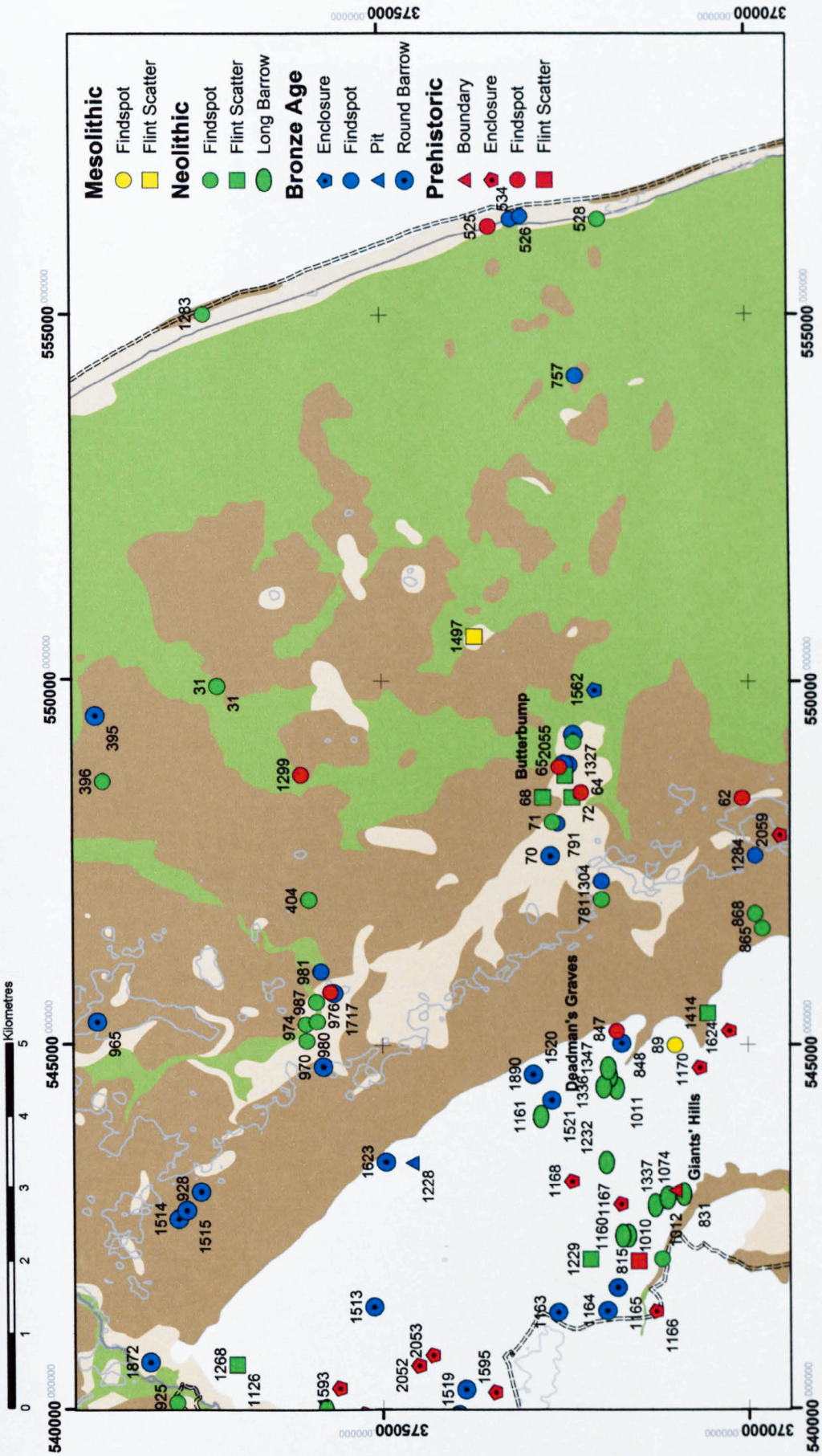


Figure 8.2: Zone Three: Prehistoric archaeology

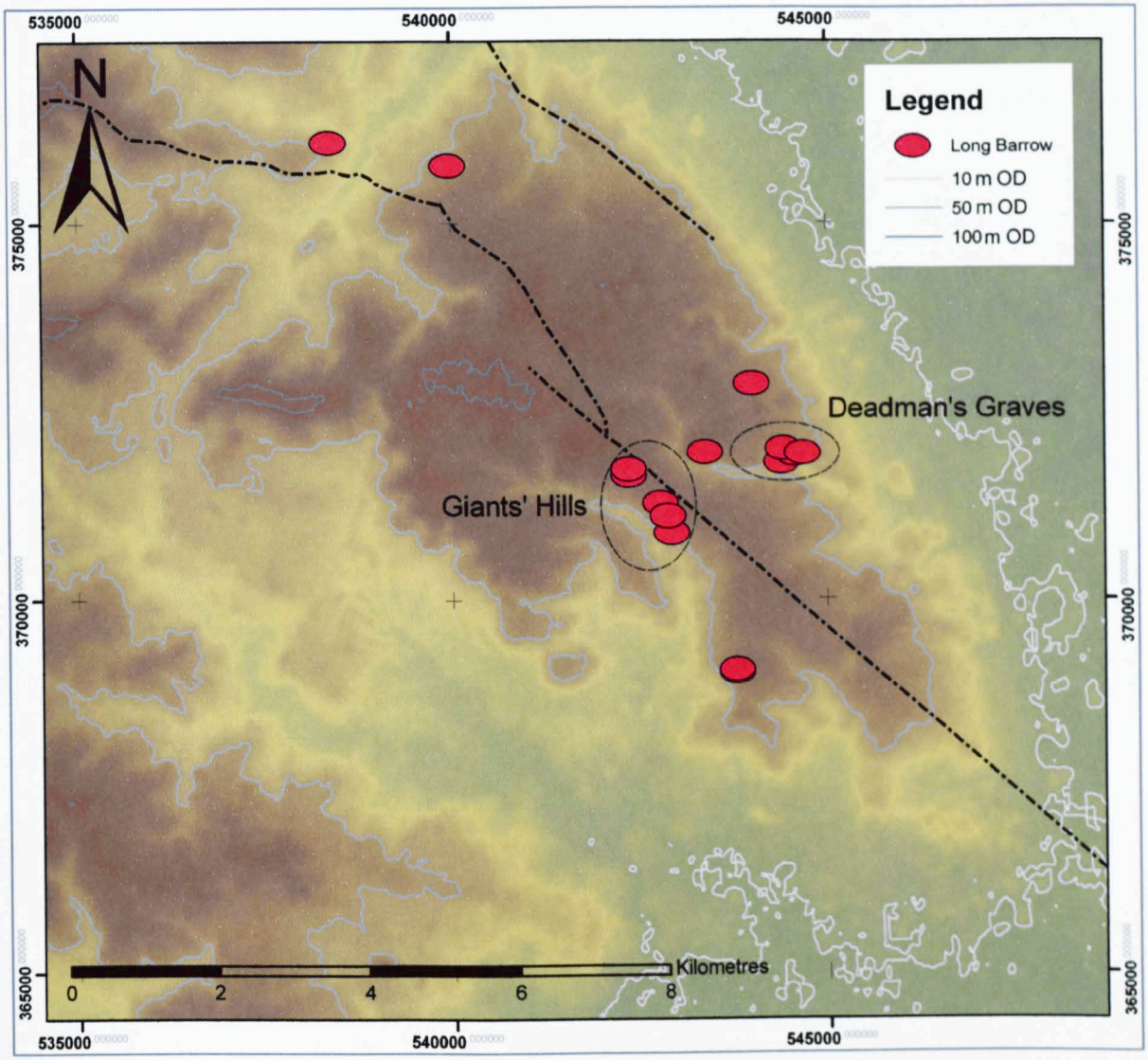


Figure 8.3: Area of Skendleby and Claxby and the long barrow clusters of Giants' Hills and Deadman's Graves

Figure 8.4: Neolithic blade-like flake from the area of Butterbump barrow cemetery. © Humber Wetlands Project, University of Hull

Figure 8.5: Bronze Age worked wood recovered from the kettle hole adjacent to Butterbump barrow cemetery. © Humber Wetlands Project, University of Hull

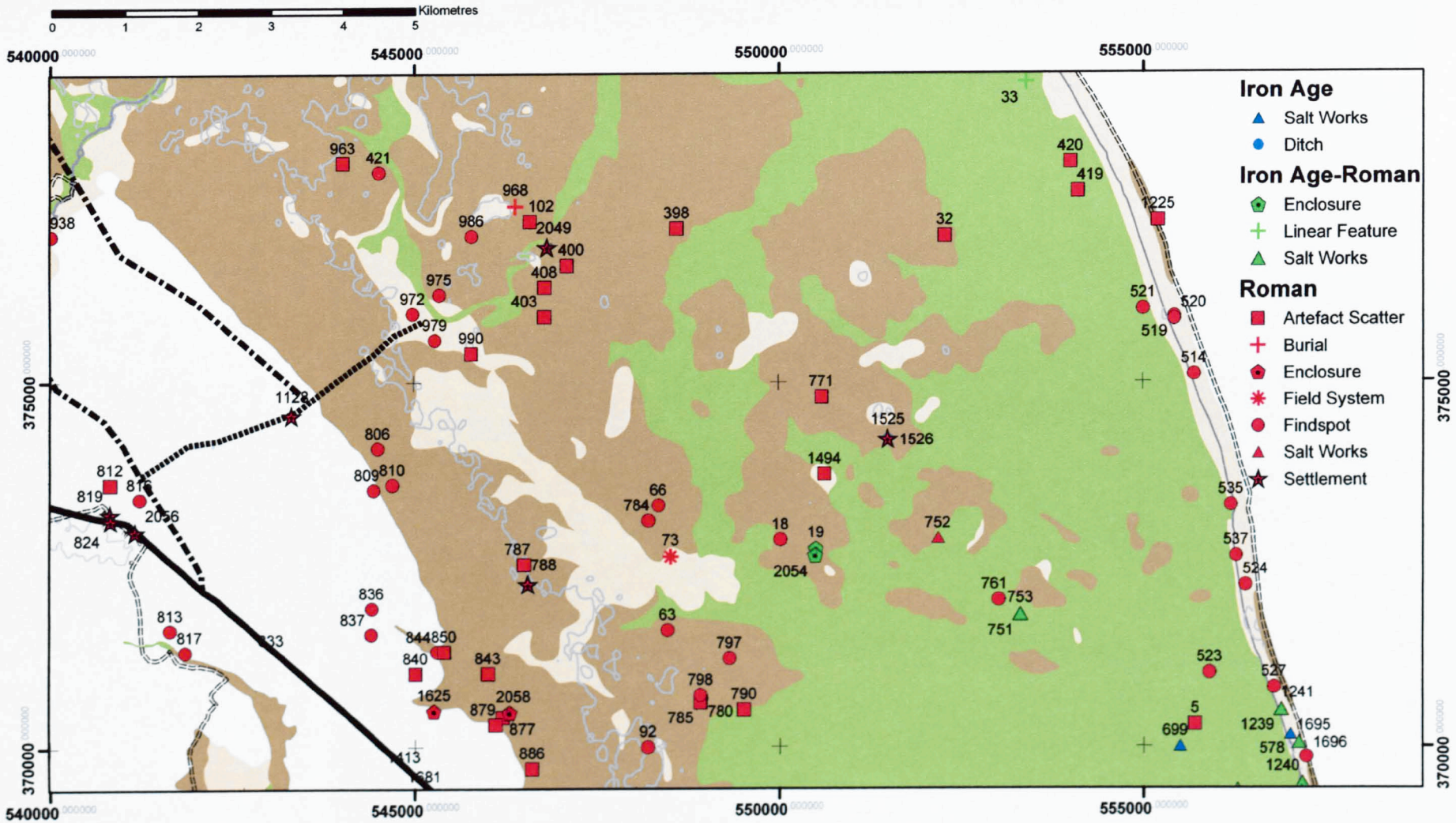


Figure 8.6: Zone Three: Later prehistoric and Roman archaeology including aerial photographic transcriptions from the NMP. Solid lines are definite Roman roads, dashed lines are projected roads

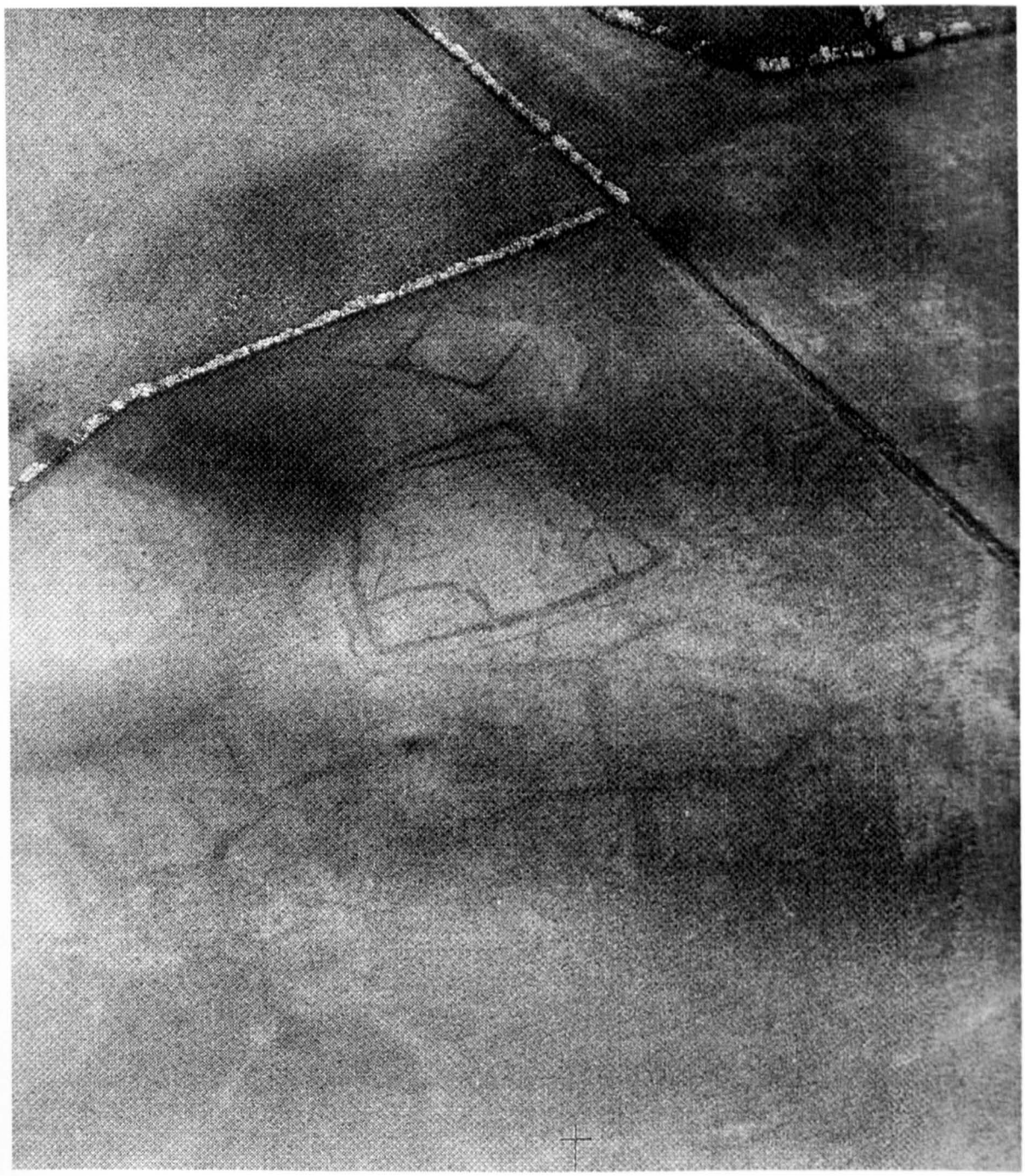


Figure 8.7: Skendleby enclosure (2057). EW 67, June 1950. Cambridge University Committee for Aerial Photography. © Crown Copyright (Jones 1998b: 78, Figure 10)

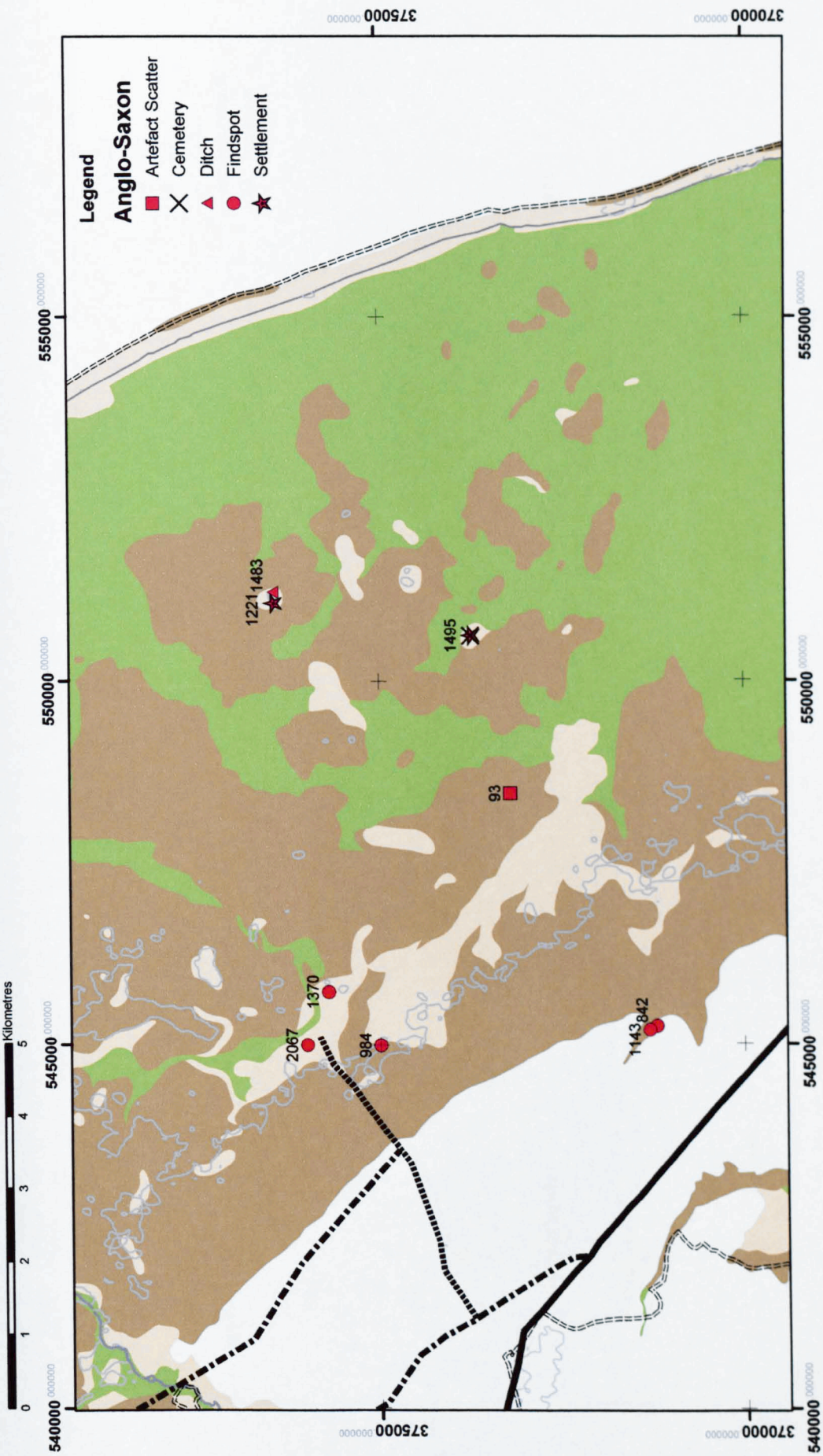


Figure 8.8: Zone Three: Saxon archaeology. Solid lines are definite Roman roads, dashed lines are projected roads

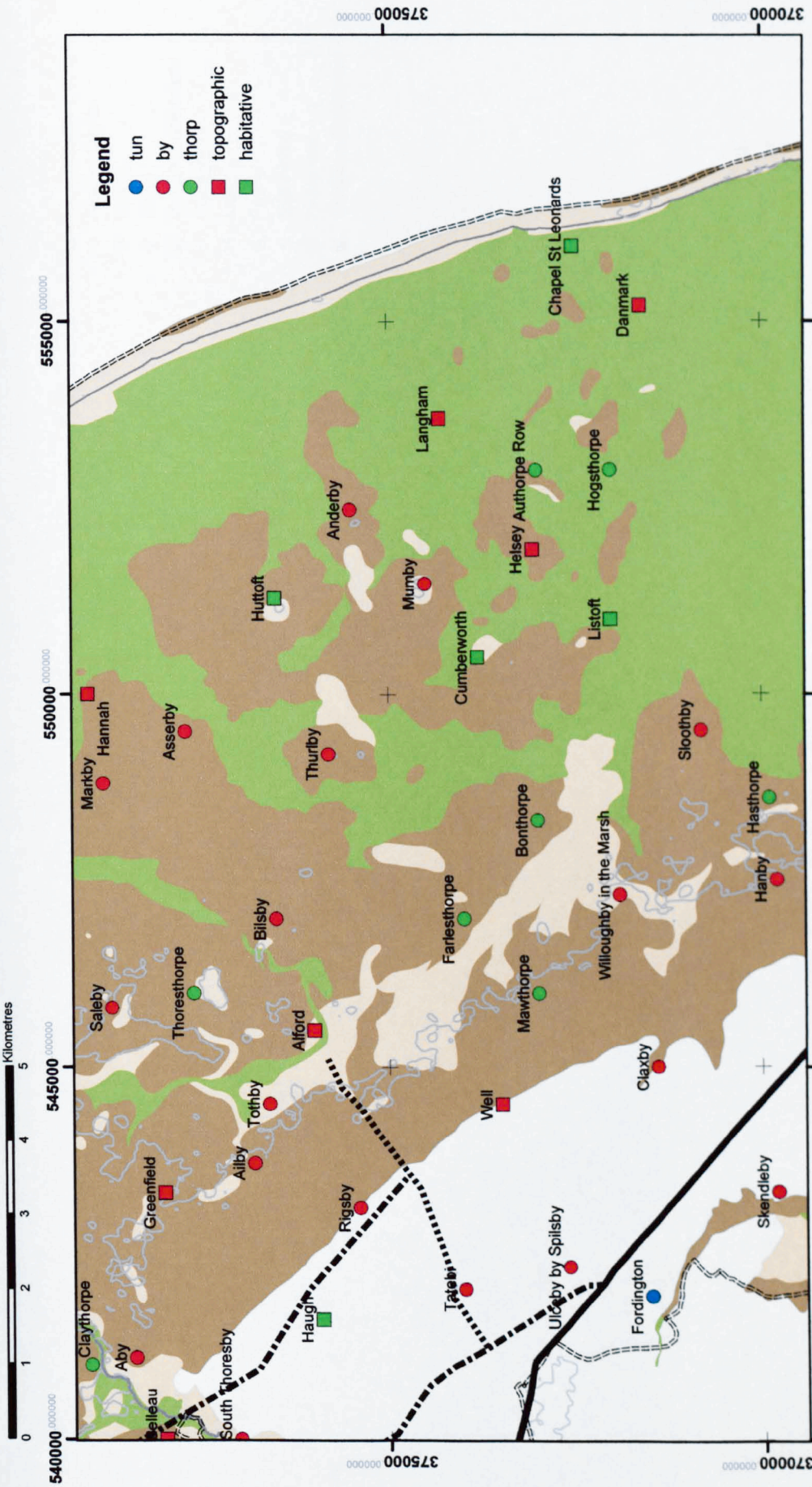


Figure 8.9: Zone Three: Place-names. Solid lines are definite Roman roads, dashed lines are projected roads

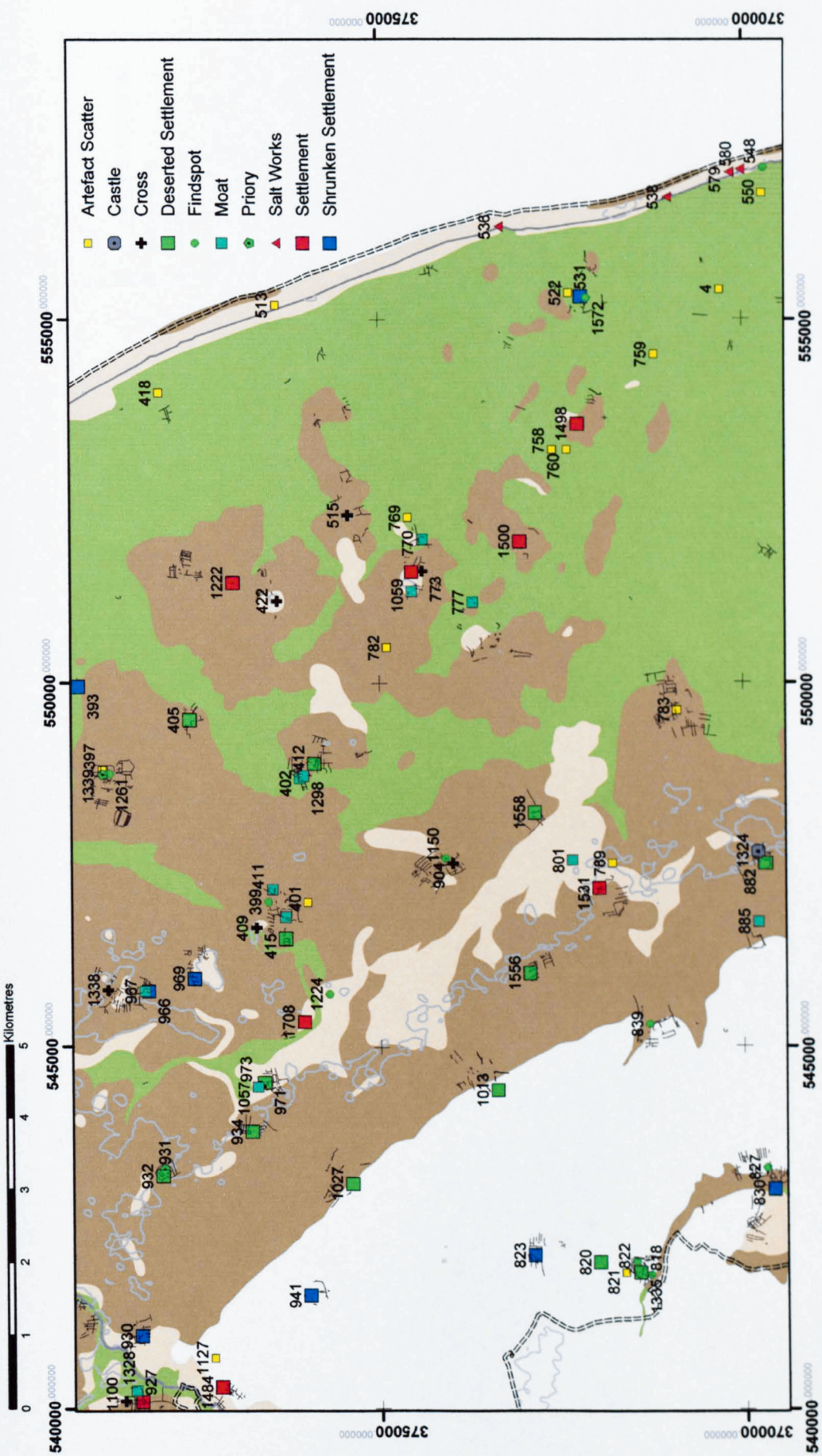


Figure 8.10: Zone Three: Medieval archaeology including aerial photographic transcriptions from the NMP

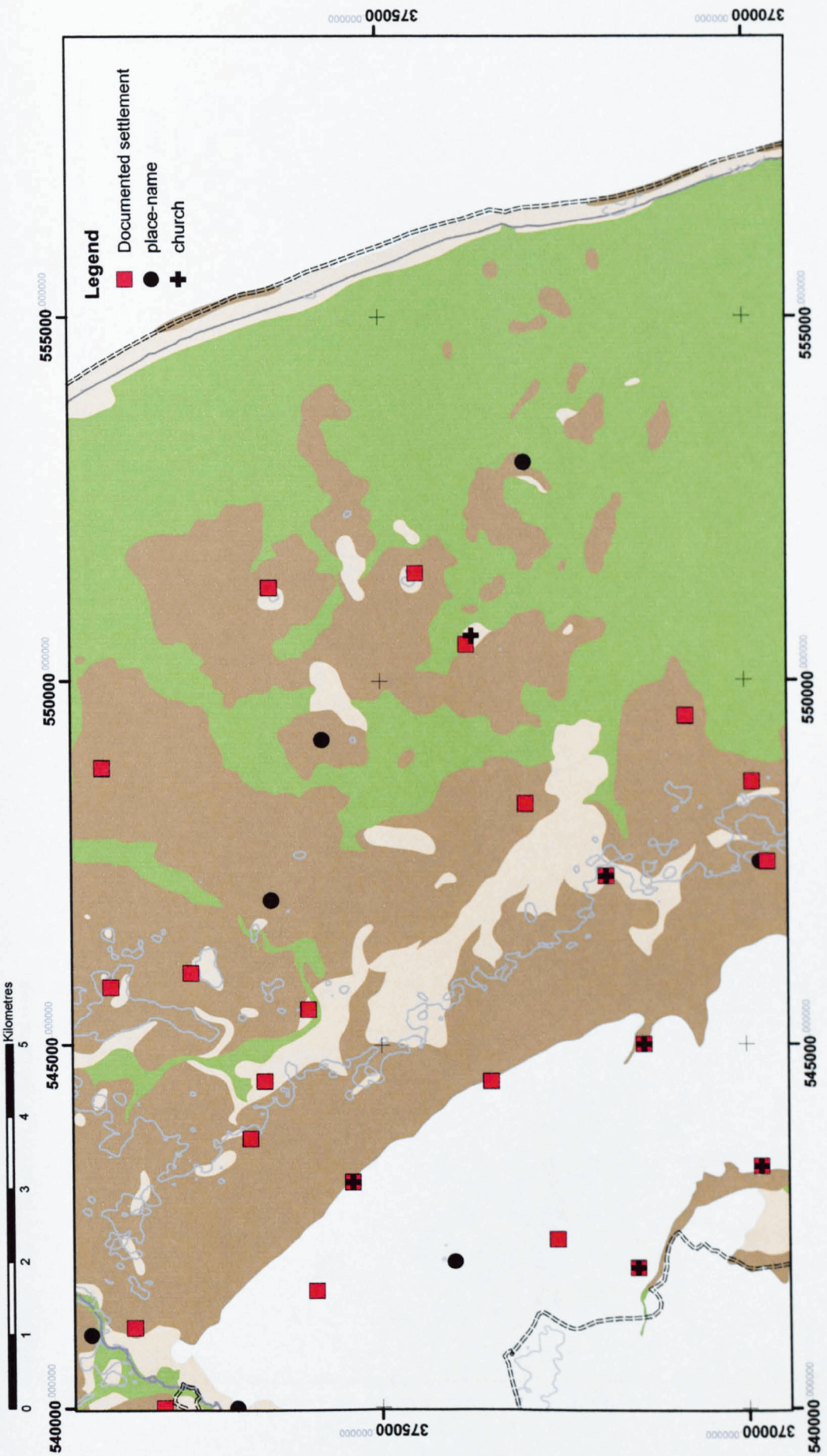


Figure 8.11: Zone Three: Composite map showing the distribution of settlement in the early twelfth century (from Domesday evidence, the Lindsey Survey and the archaeological evidence)

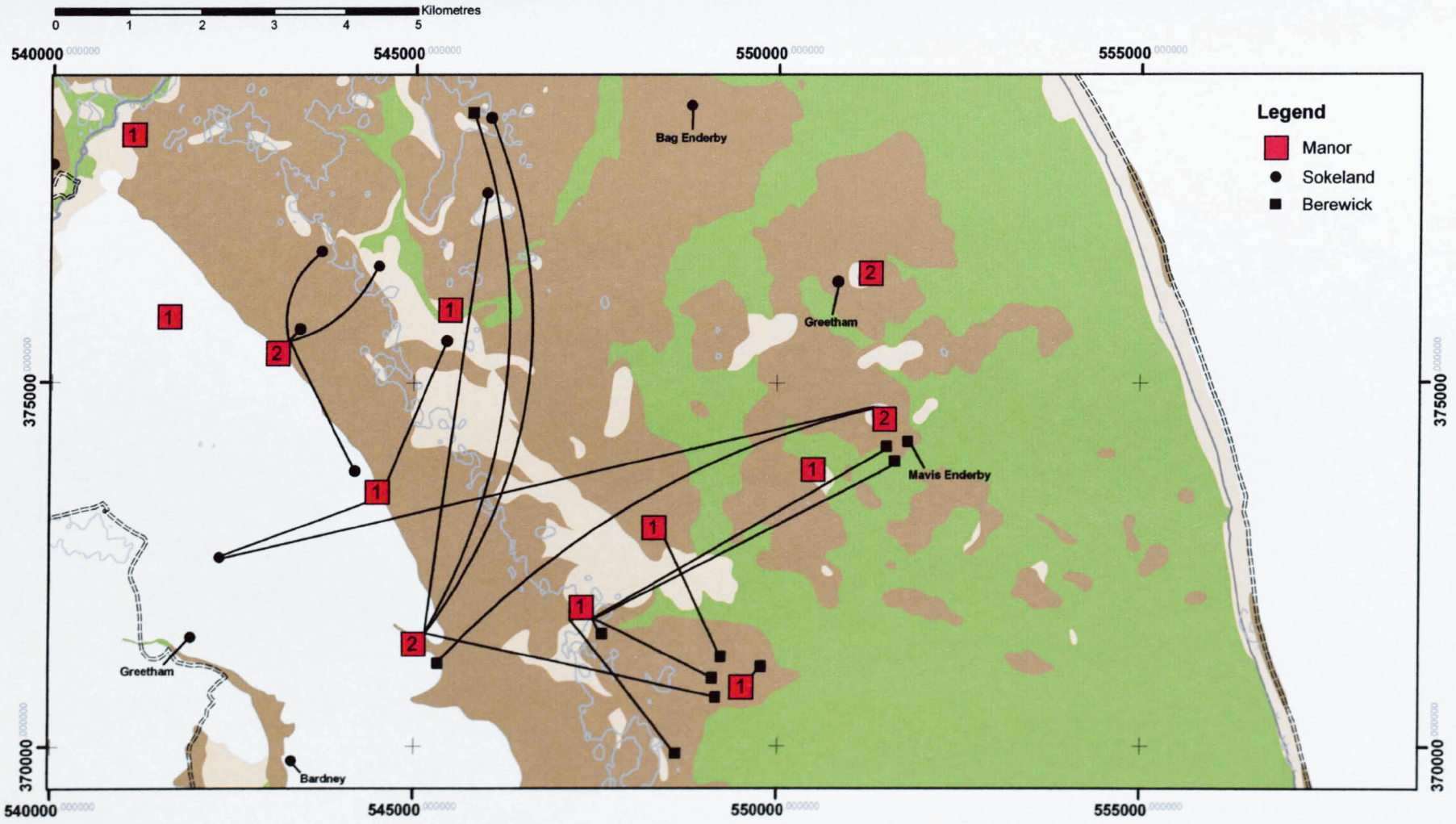


Figure 8.12: Zone Three: Domesday manor structure showing manors, sokeland and berewicks and their jurisdictions. Numbers in the squares indicate the number of manors at each vill

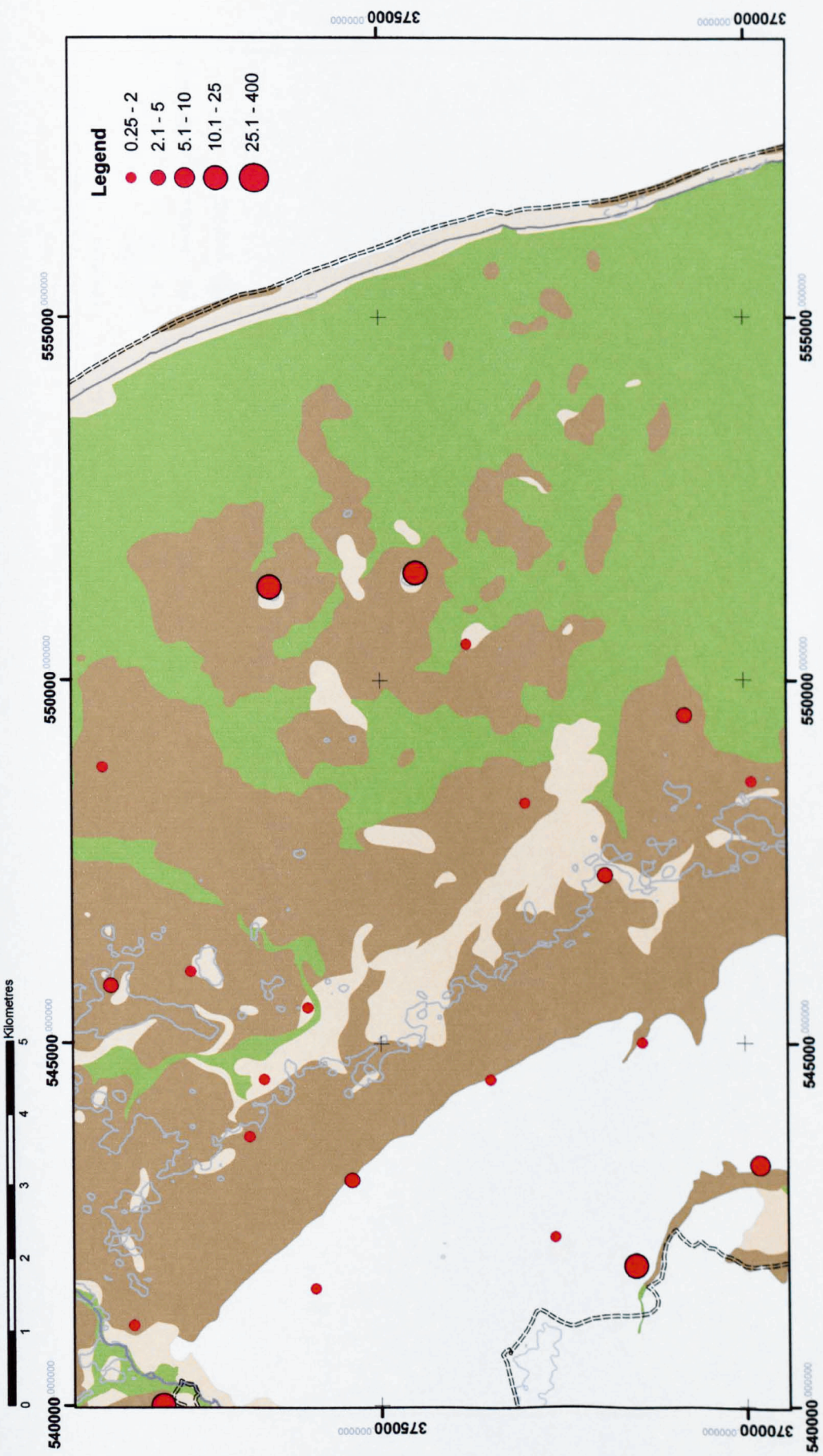


Figure 8.13: Zone Three: Domesday carucate value per vill

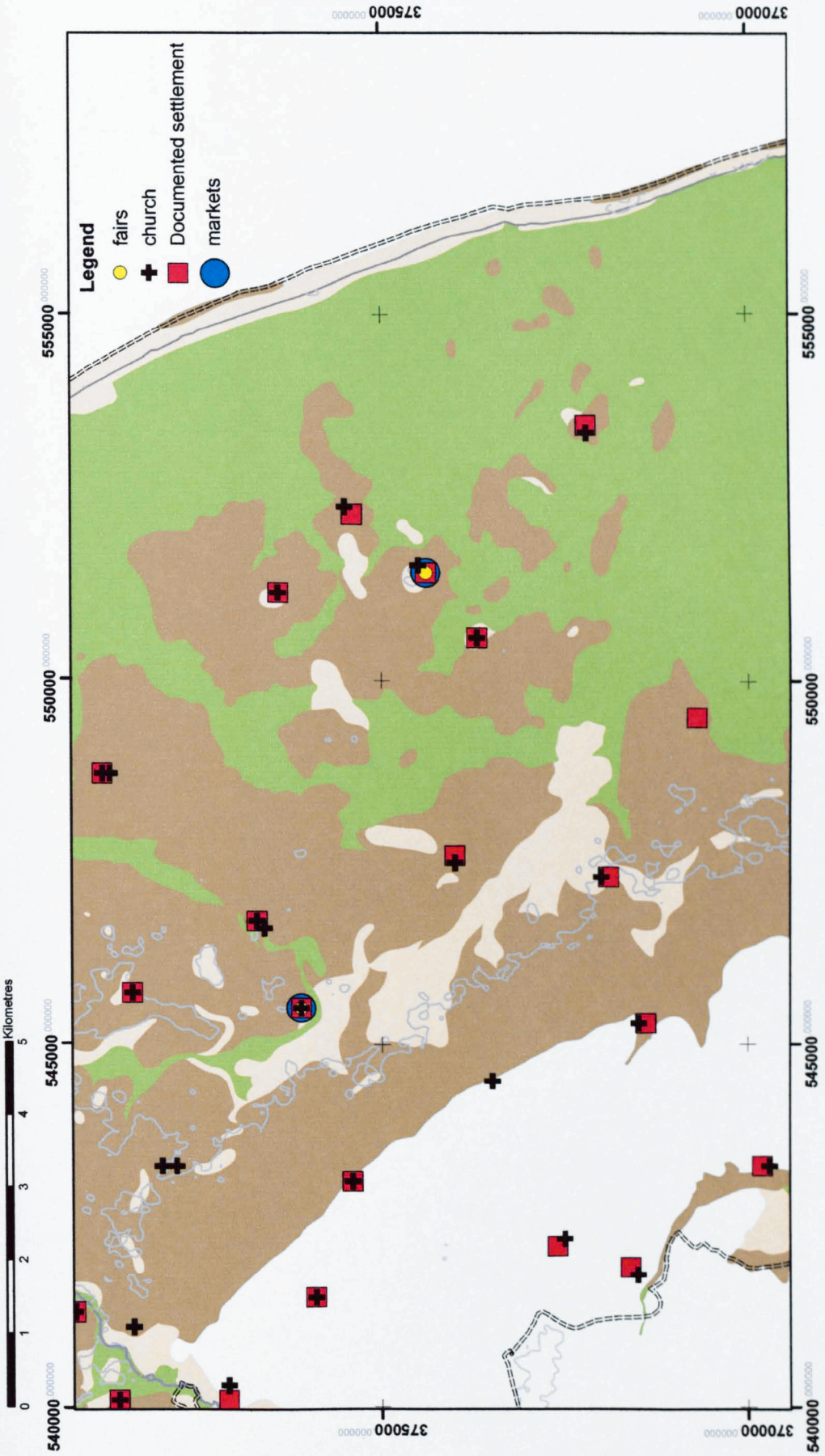


Figure 8.14: Zone Three: Composite map showing the distribution of settlement in the fourteenth century (from the Taxatio, lay subsidy of 1334 and the poll tax of 1377)

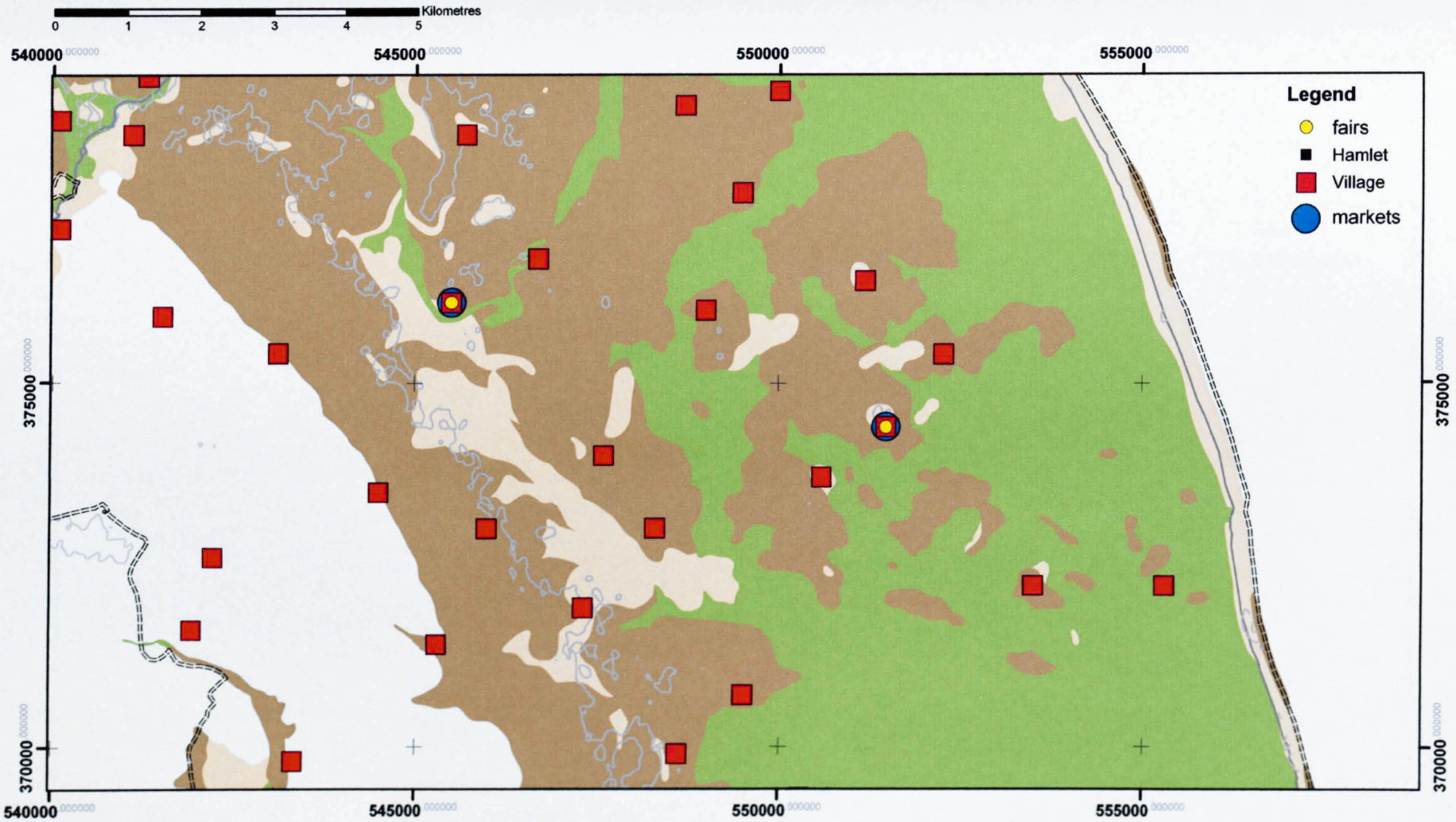


Figure 8.15: Zone Three: Composite map showing the distribution of settlement in the mid-sixteenth century (from the lay subsidies of 1524, 1525 and 1543, and the 1563 Diocesan Return)

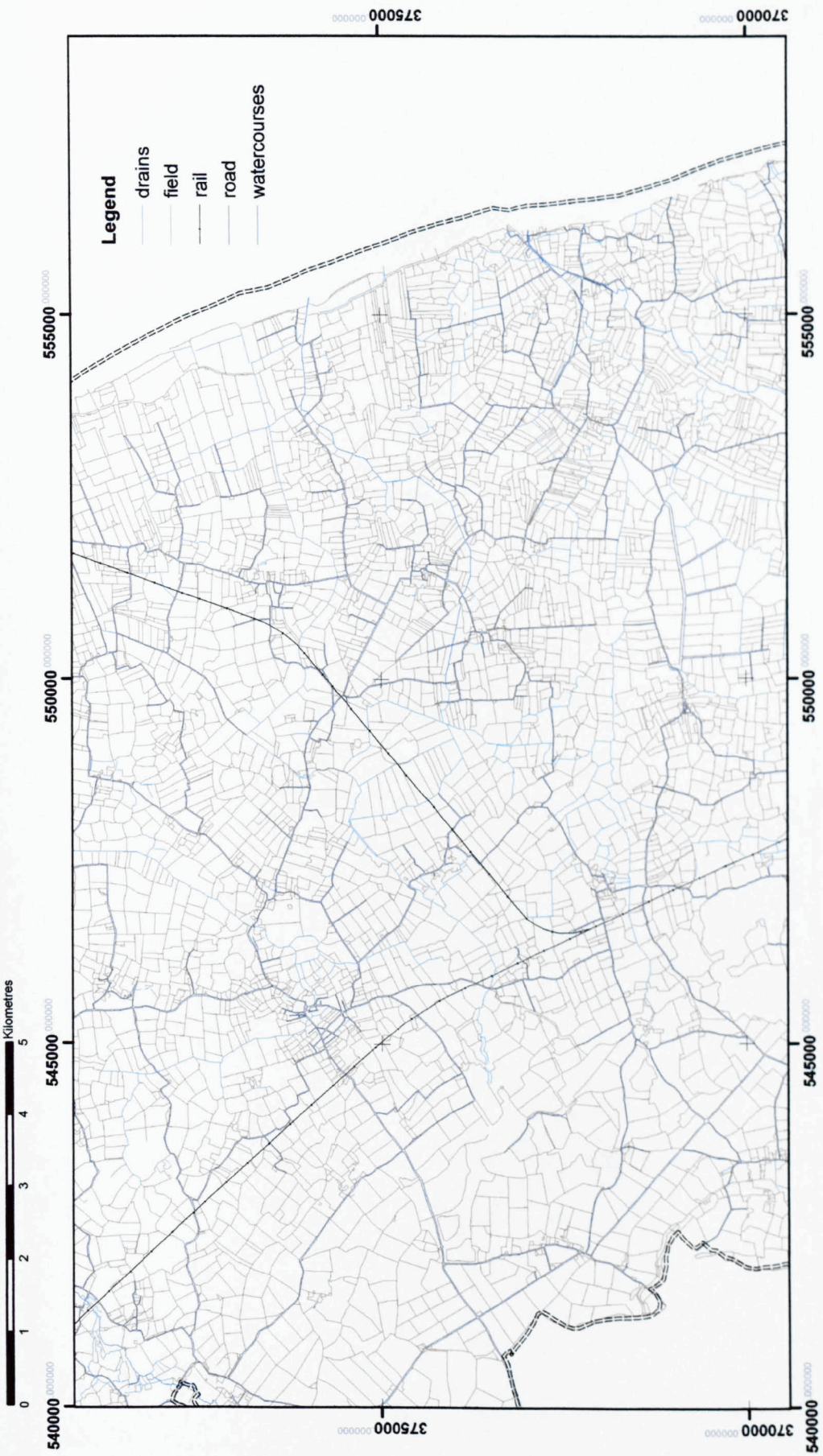


Figure 8.16: Zone Three: Nineteenth century field pattern as recorded on the Ordnance Survey second edition mapping

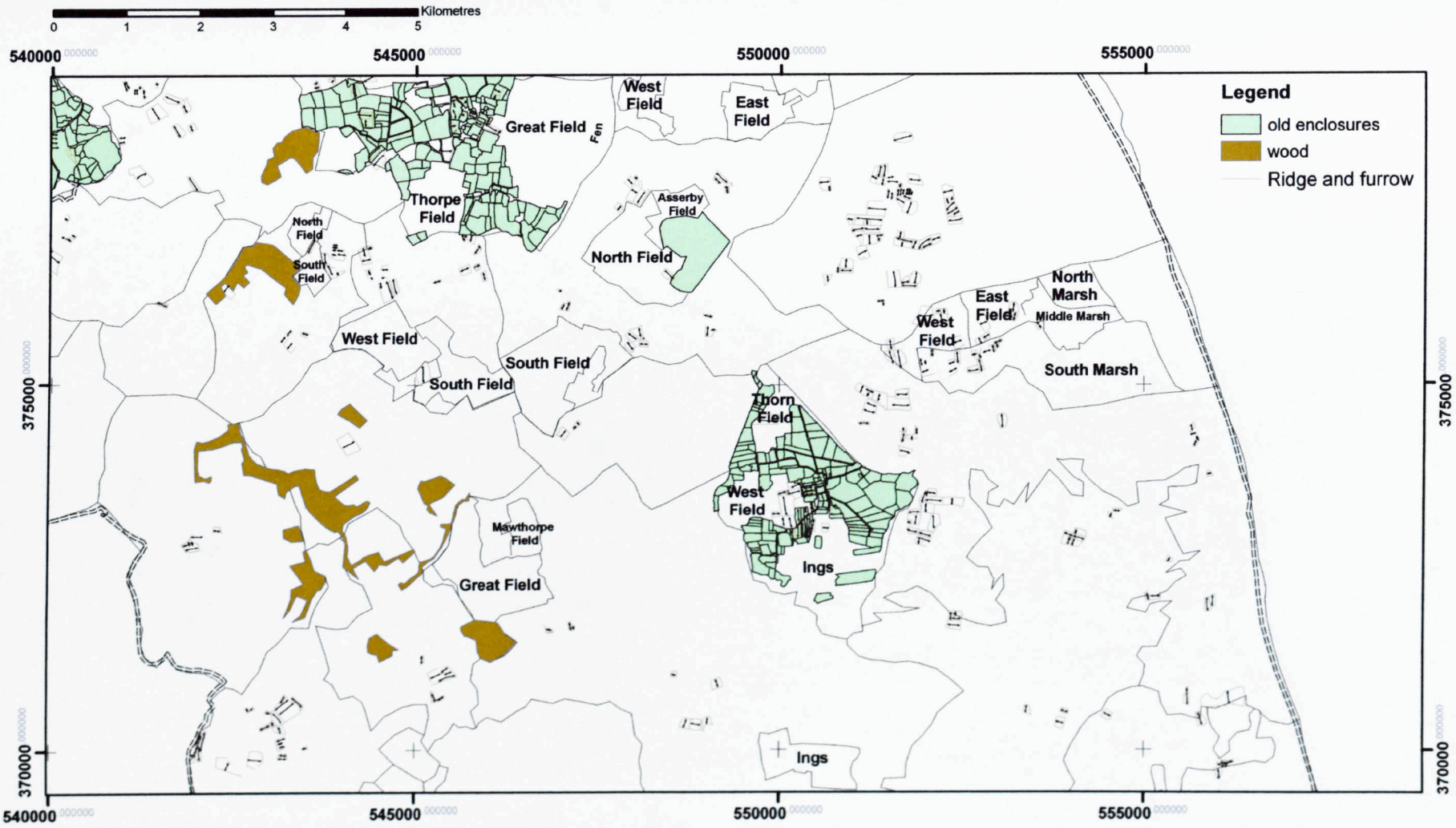


Figure 8.17: Zone Three: Reconstruction of the pre-Enclosure field systems from archival data and the work of the Russells (Russell and Russell 1983, 1987). Also marked are areas of ridge and furrow recorded by the NMP and by Palmer and Tann (2006)

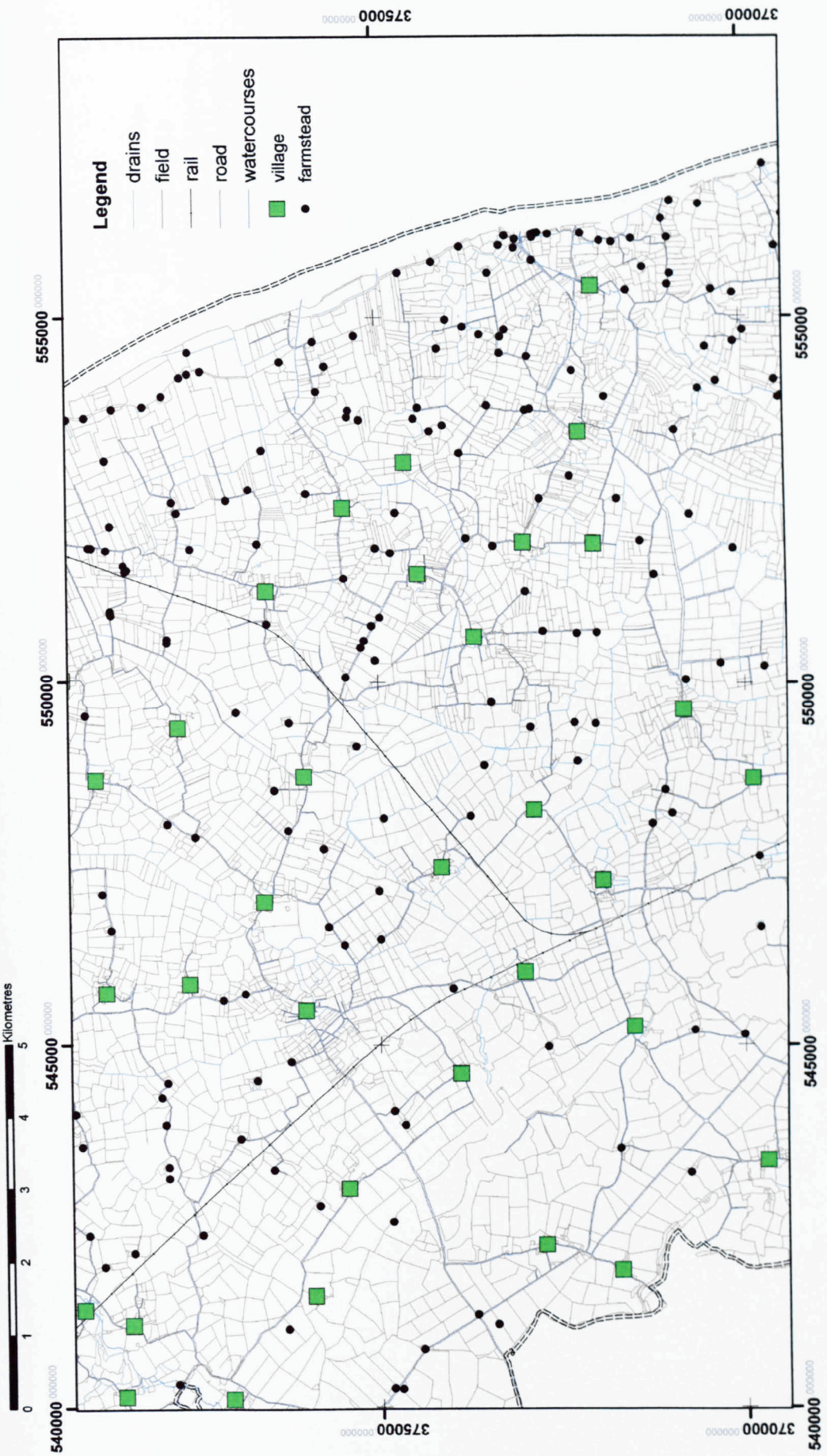


Figure 8.18: Zone Three: Nineteenth century settlement pattern

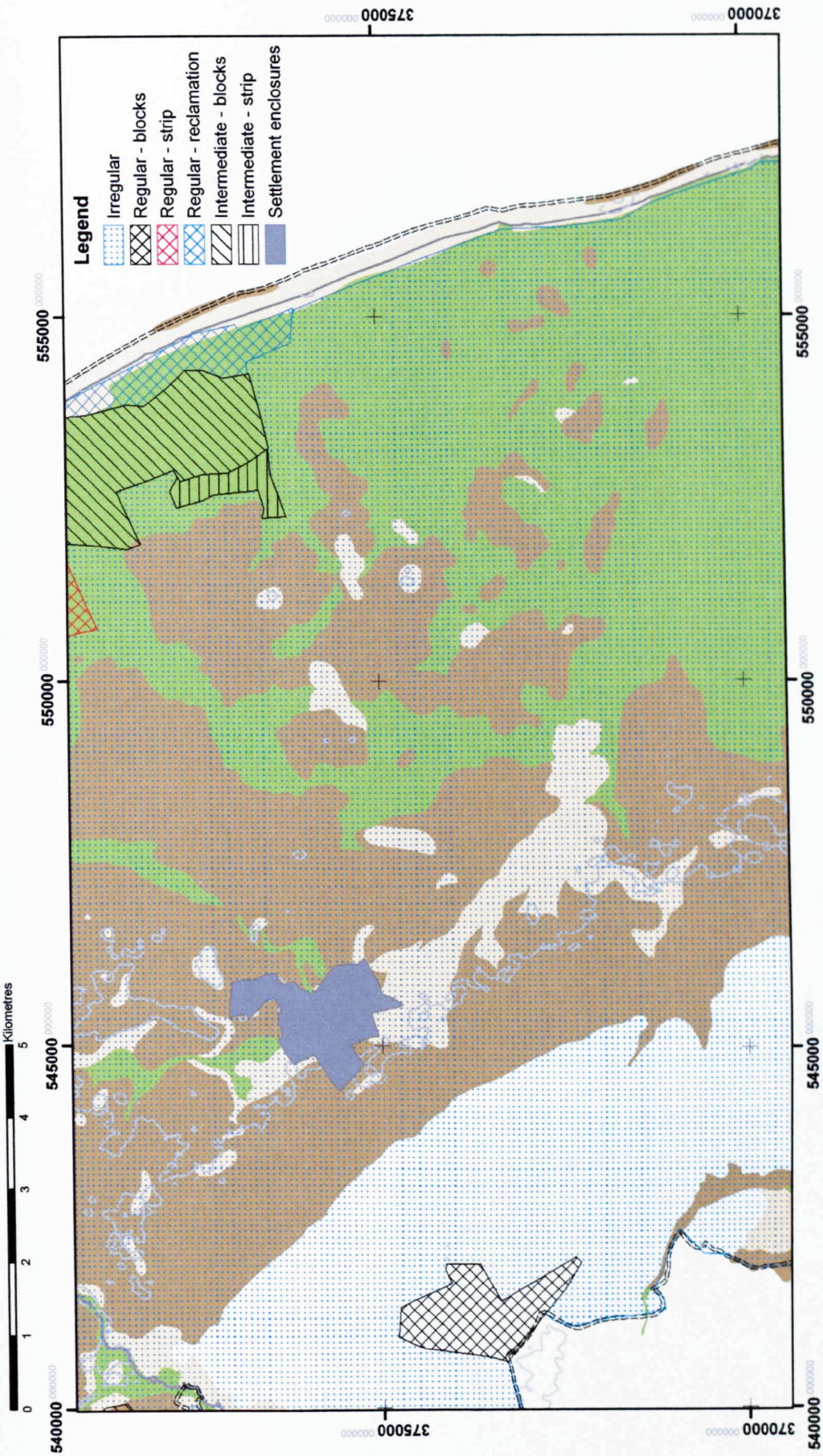


Figure 8.19: Zone Three: Major historic landscape character zones

Figure 8.20: Undulating landscape to the south of Mumby, with Main Drain in foreground

Figure 8.21: Aerial photograph of the Mumby (centre) and Huttoft (north) area showing the irregular nature of the field pattern. © Getmapping

Figure 8.22: Undulating landscape to the south of Mumby, characteristic of the zone, with outcrops of till and gravels

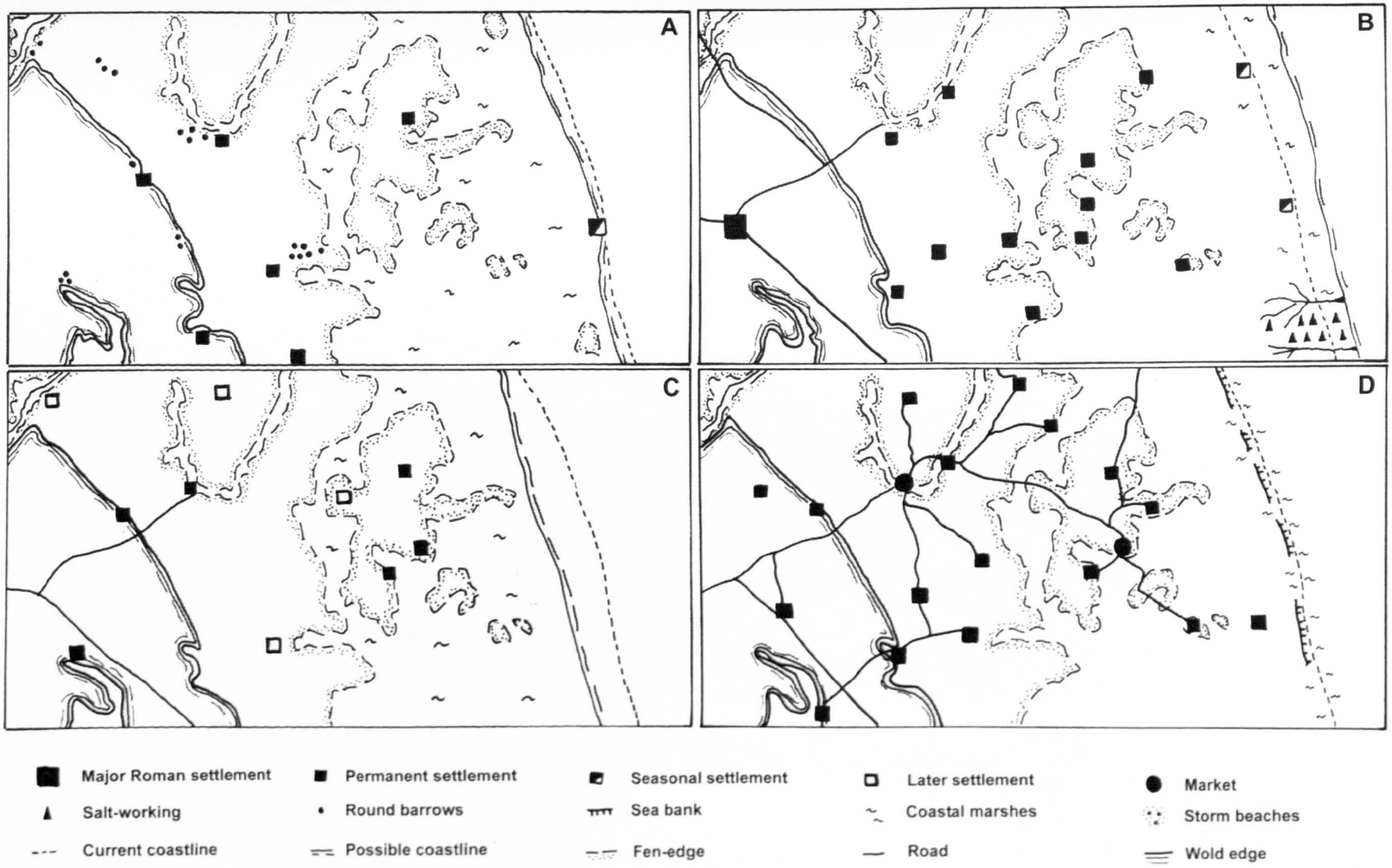


Figure 8.23: Zone Three: Schematic model of landscape evolution A: Bronze Age, B: Iron Age and Roman, C: Saxon, D: Medieval

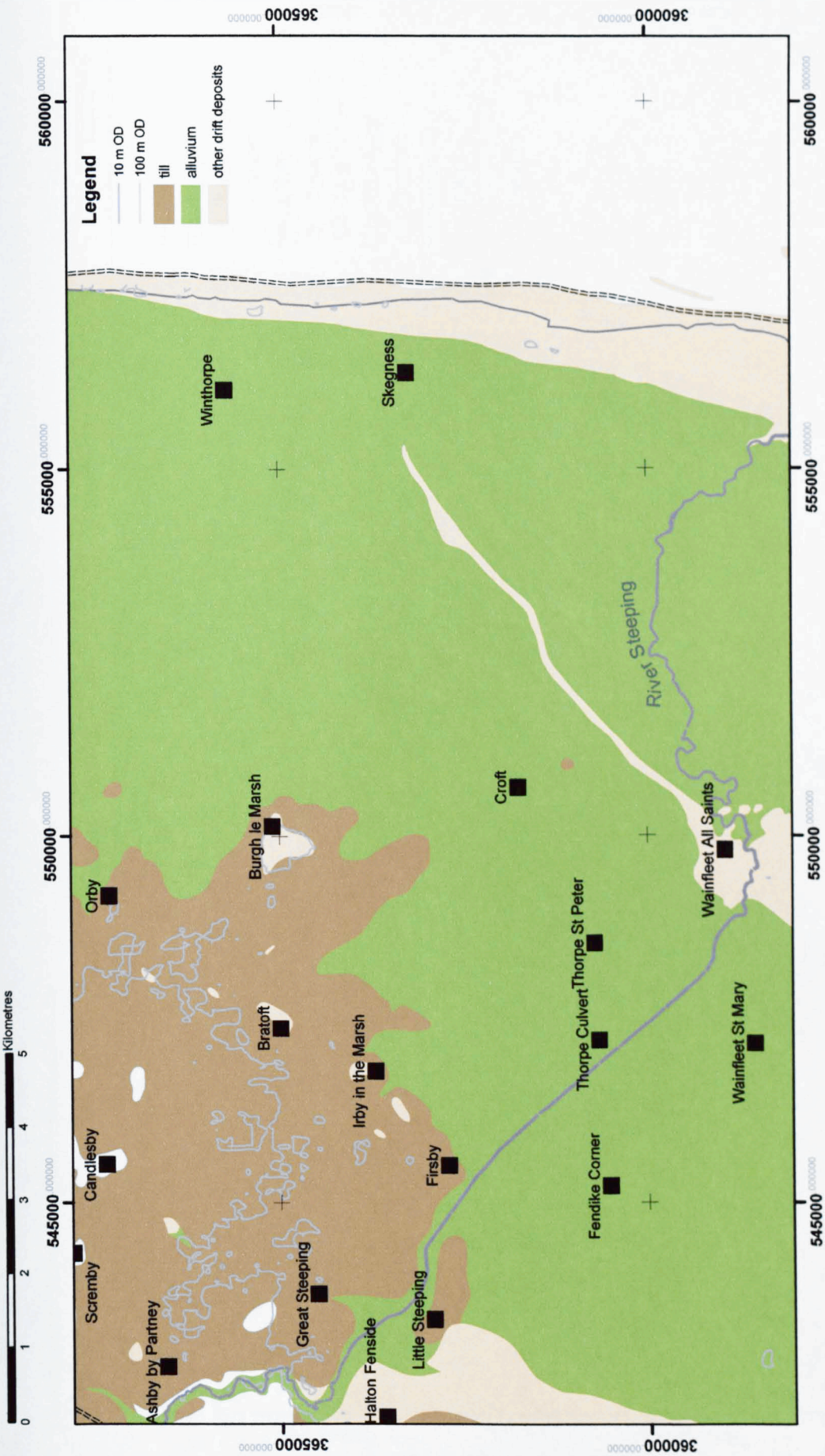


Figure 9.1: Zone Four: Drift geology and main settlements

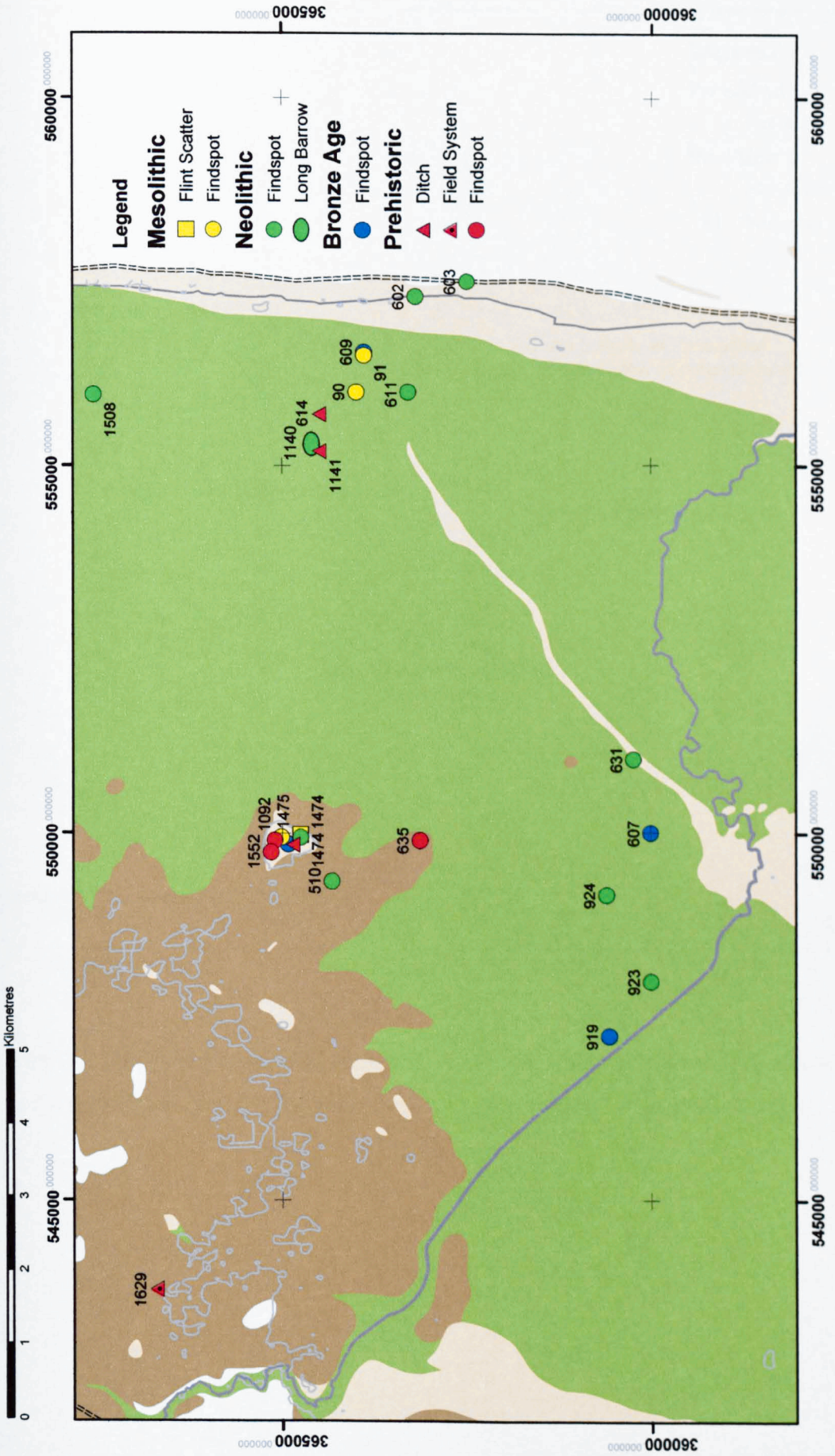


Figure 9.2: Zone Four: Prehistoric archaeology

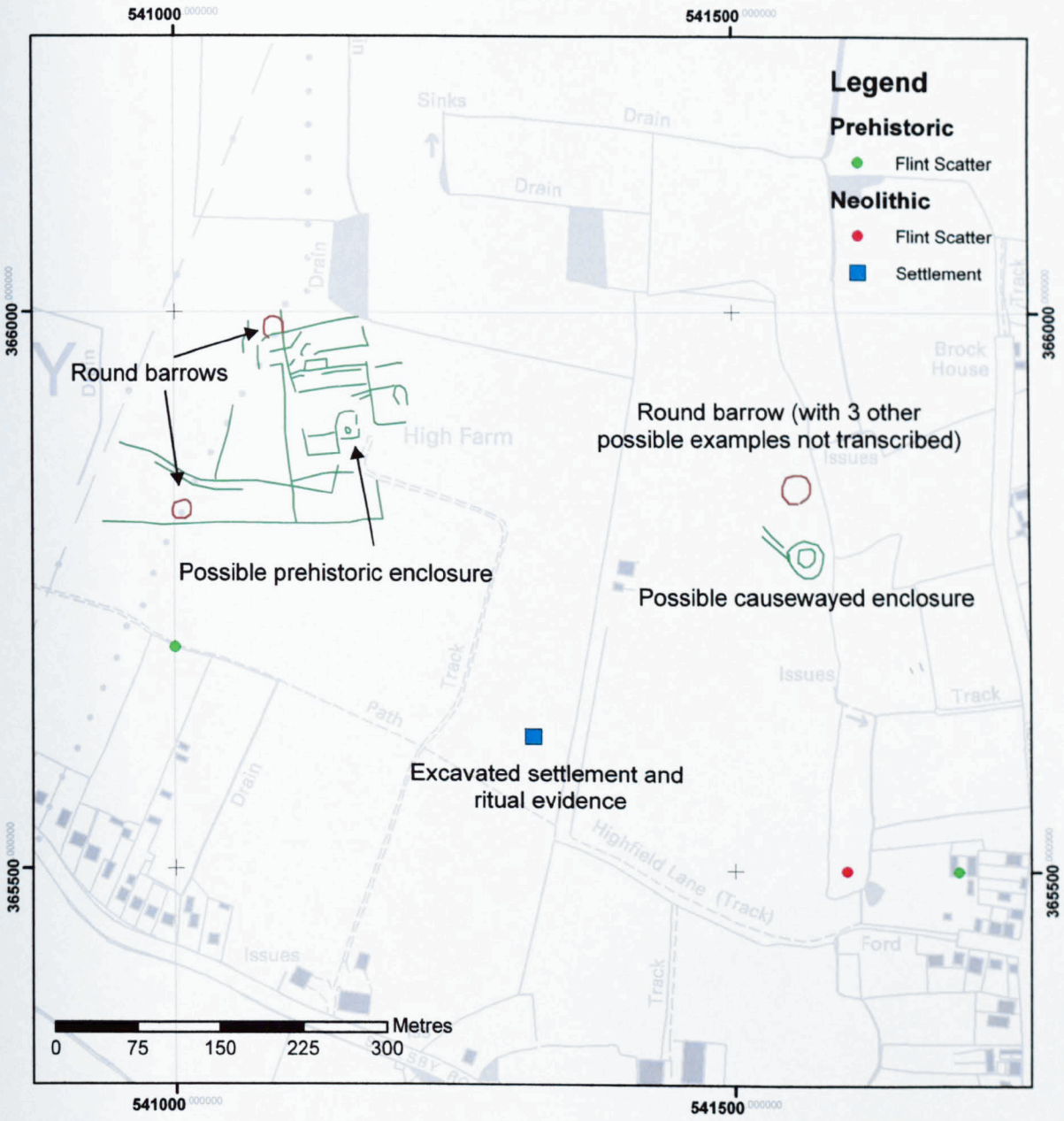


Figure 9.3: Potential ritual foci at Halton Holegate. Ordnance Survey map © Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service

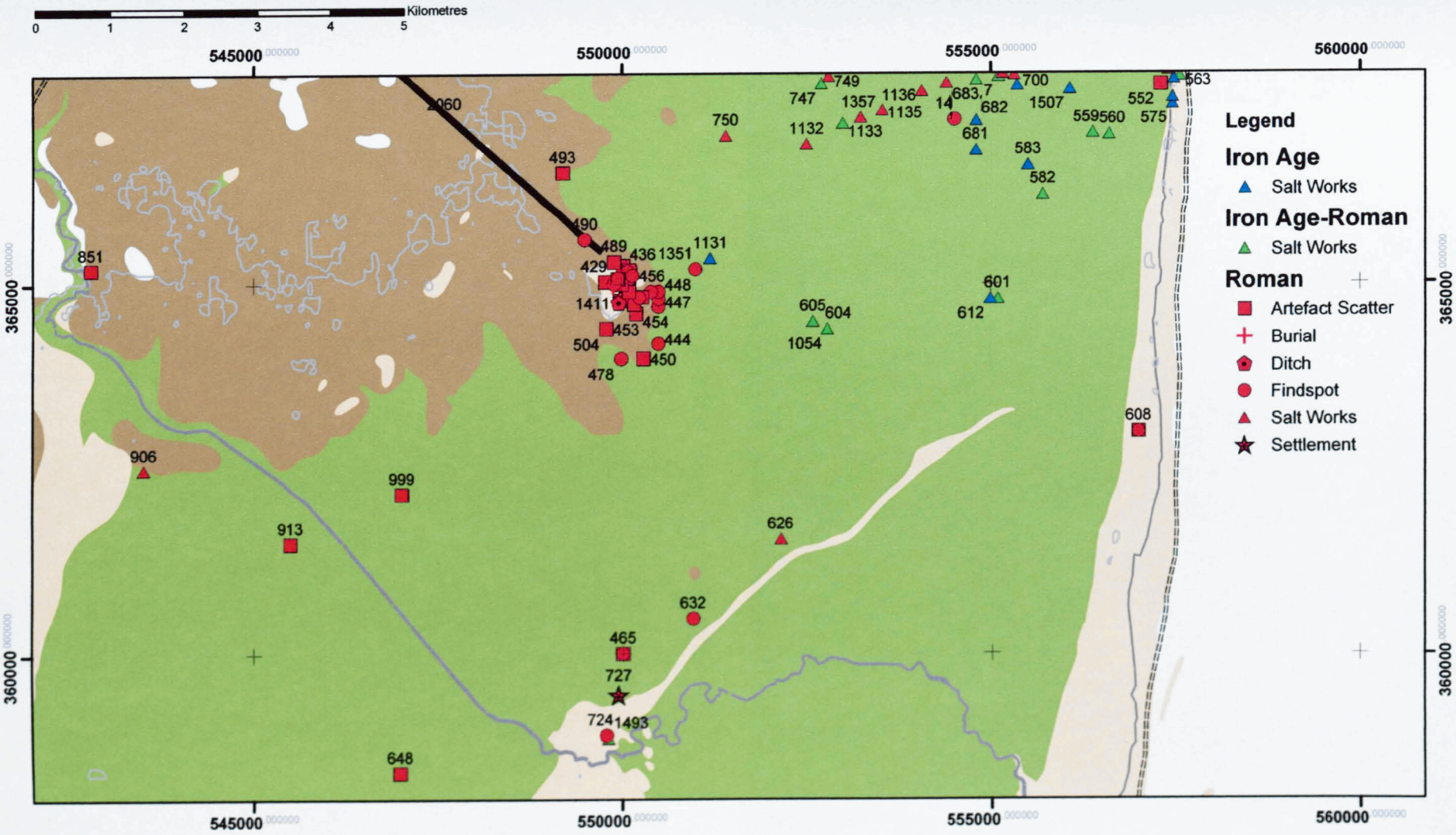


Figure 9.4: Zone Four: Later prehistoric and Roman archaeology including aerial photographic transcriptions from the NMP. Solid lines are definite Roman roads, dashed lines are projected roads

Figure 9.5: View to Burgh le Marsh from the Outmarsh

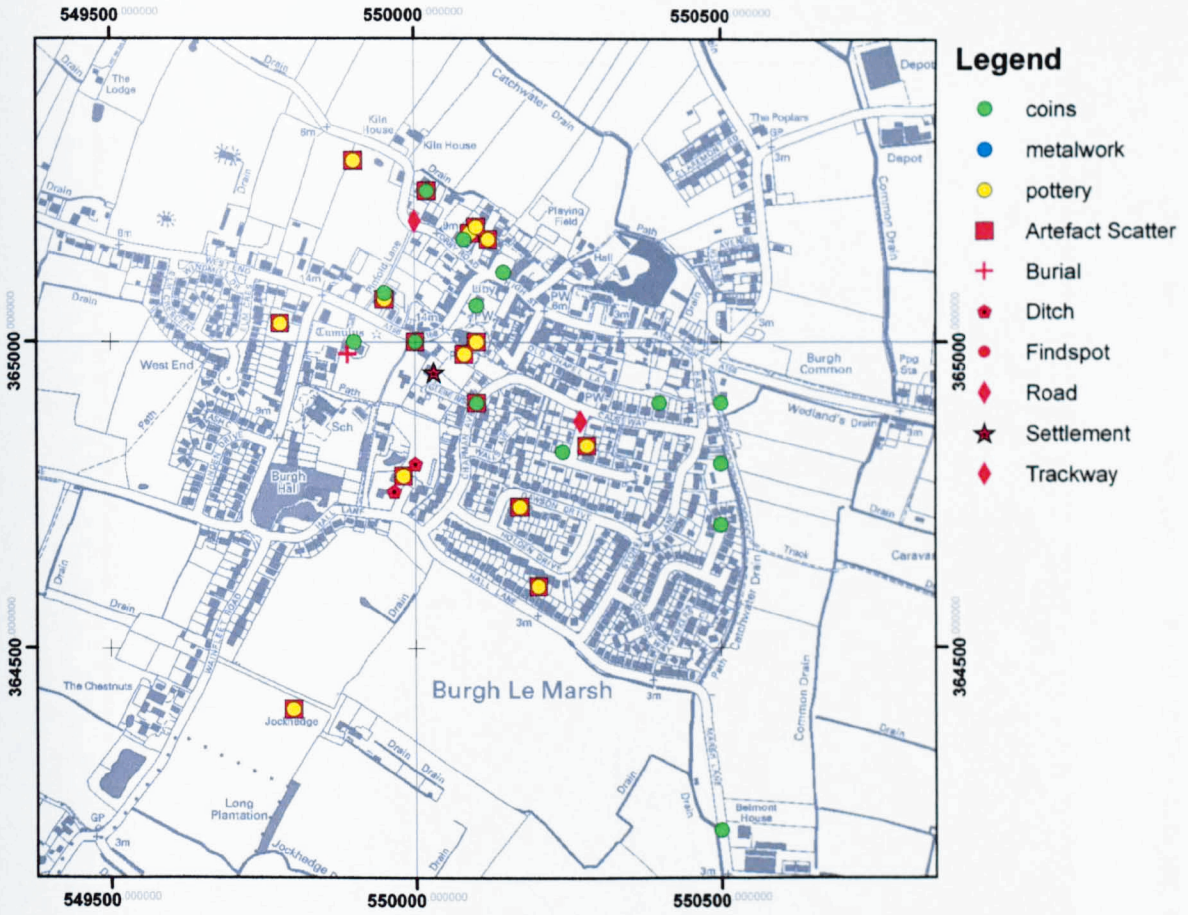


Figure 9.6: Plot of the known Roman archaeology in the Burgh le Marsh area. Ordnance Survey map © Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service

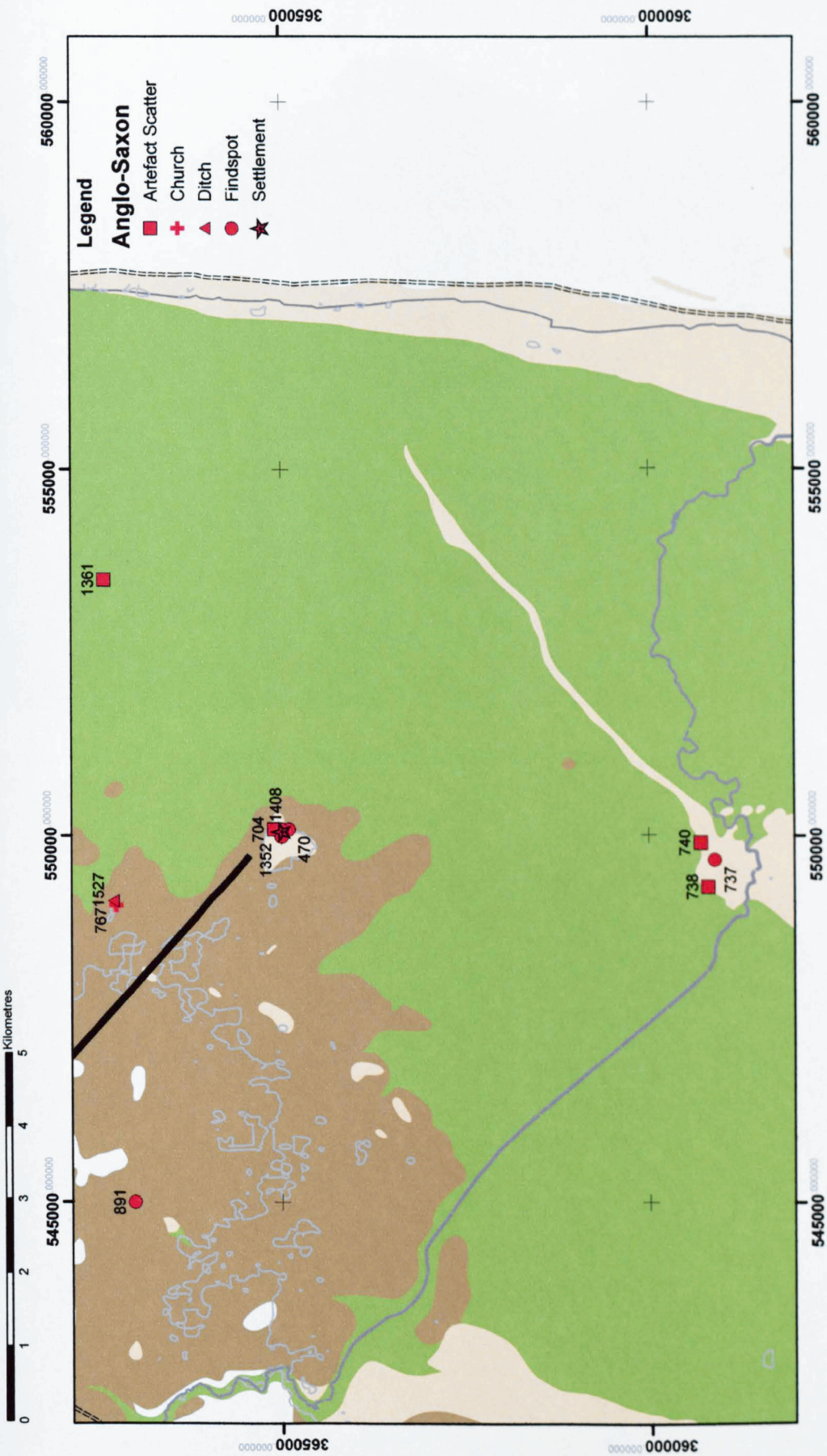
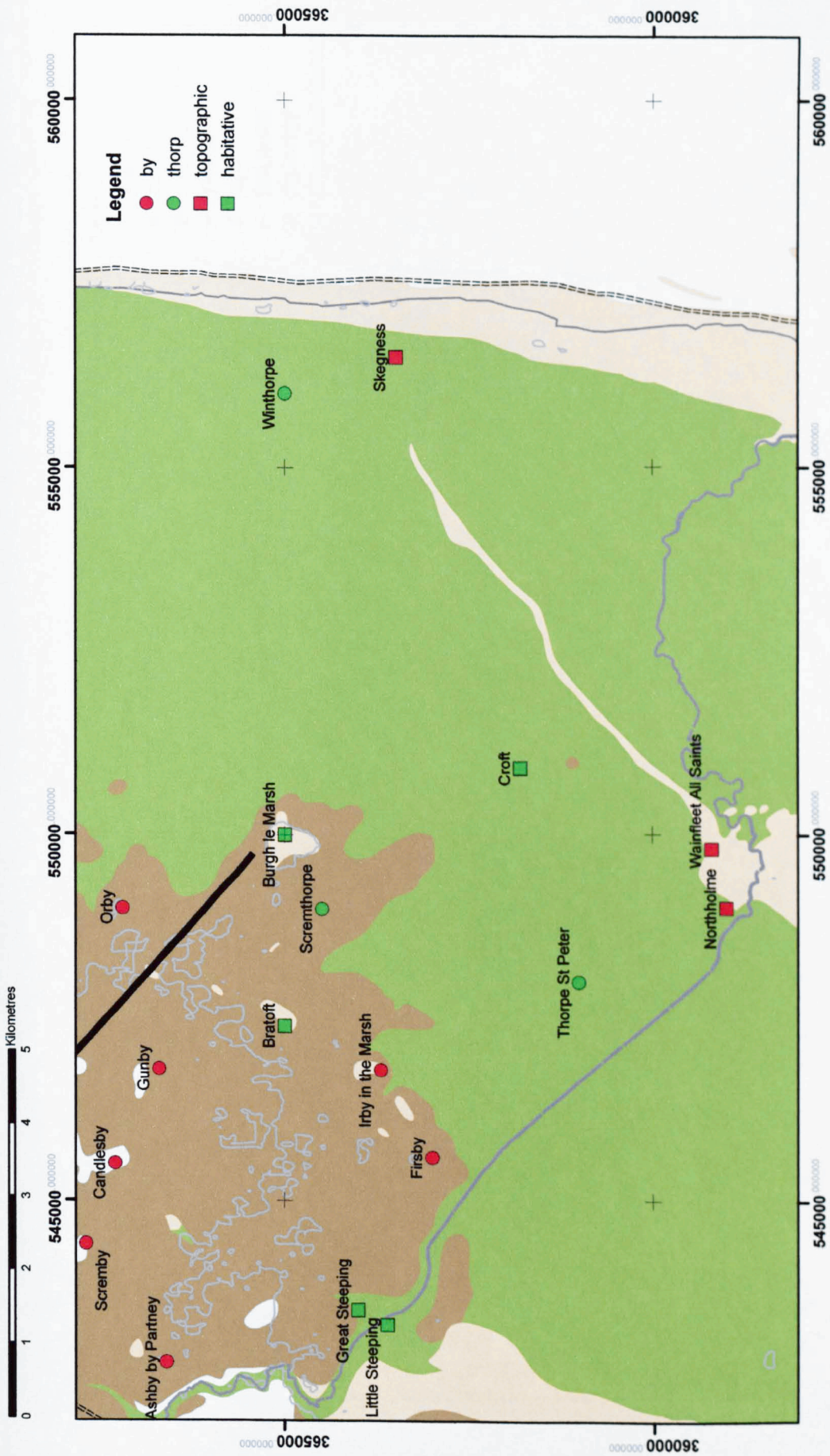


Figure 9.7: Zone Four: Saxon archaeology. Solid lines are definite Roman roads, dashed lines are projected roads

Figure 9.8: Cock Hill, Burgh le Marsh



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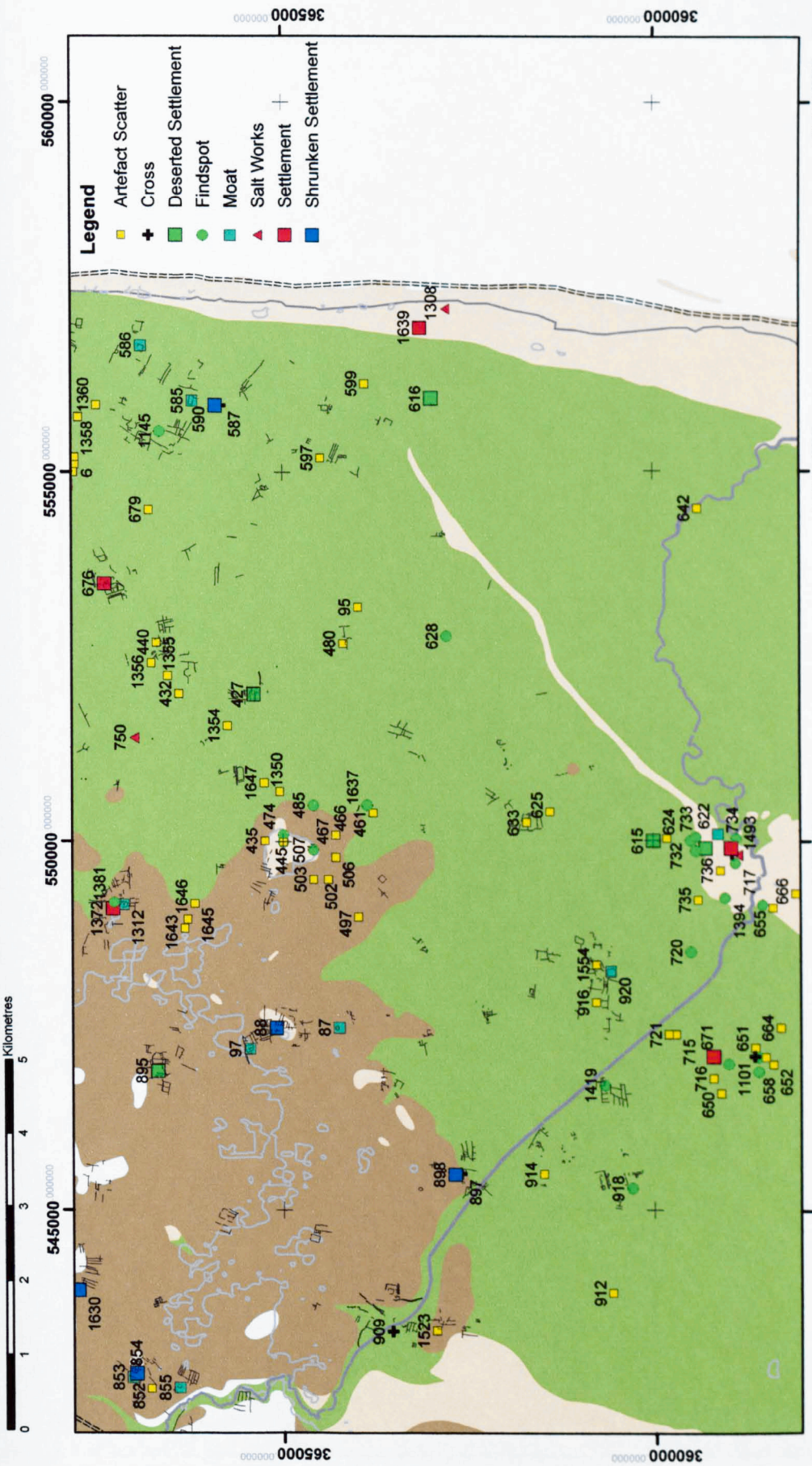
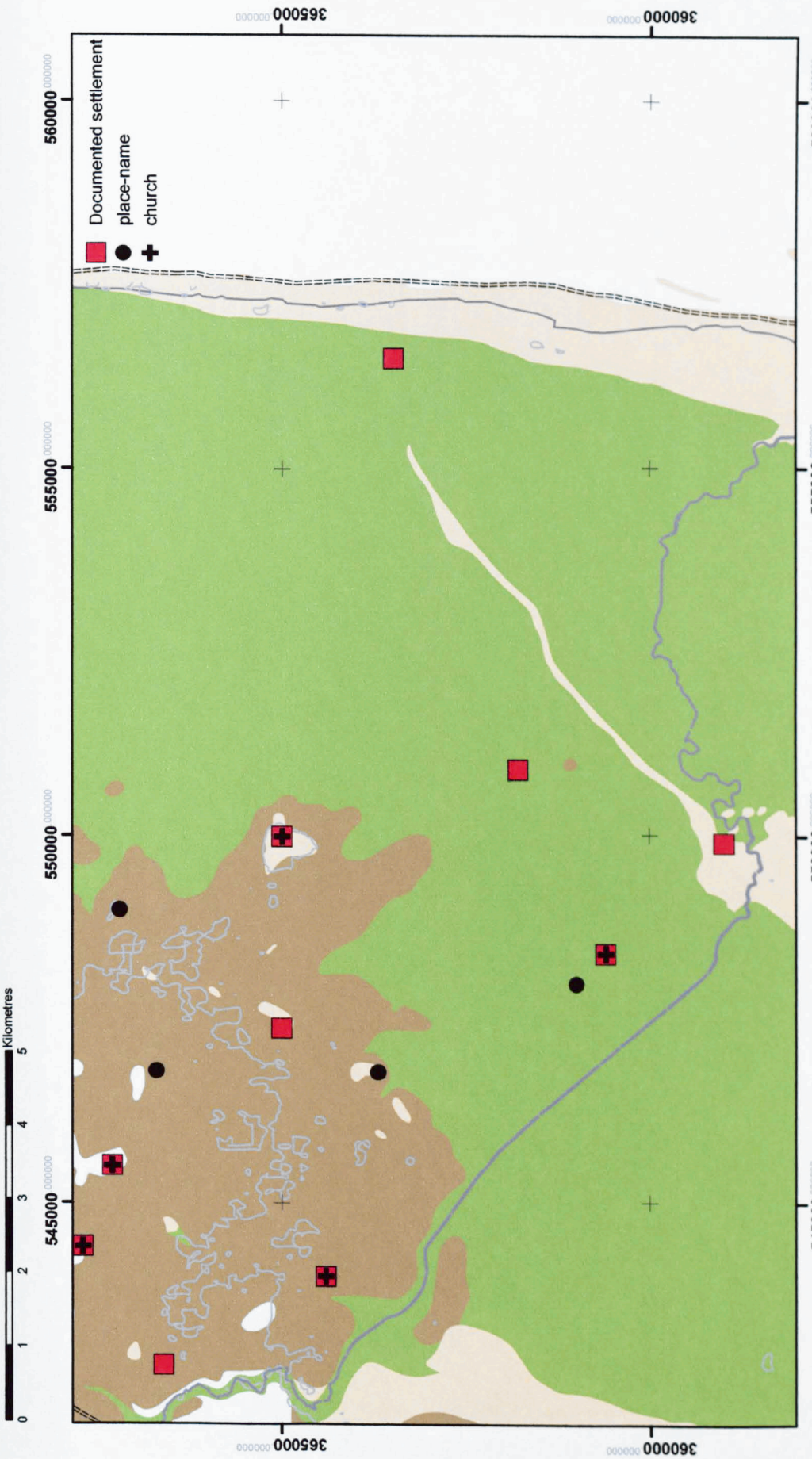


Figure 9.10: Zone Four: Medieval archaeology including aerial photographic transcriptions from the NMP



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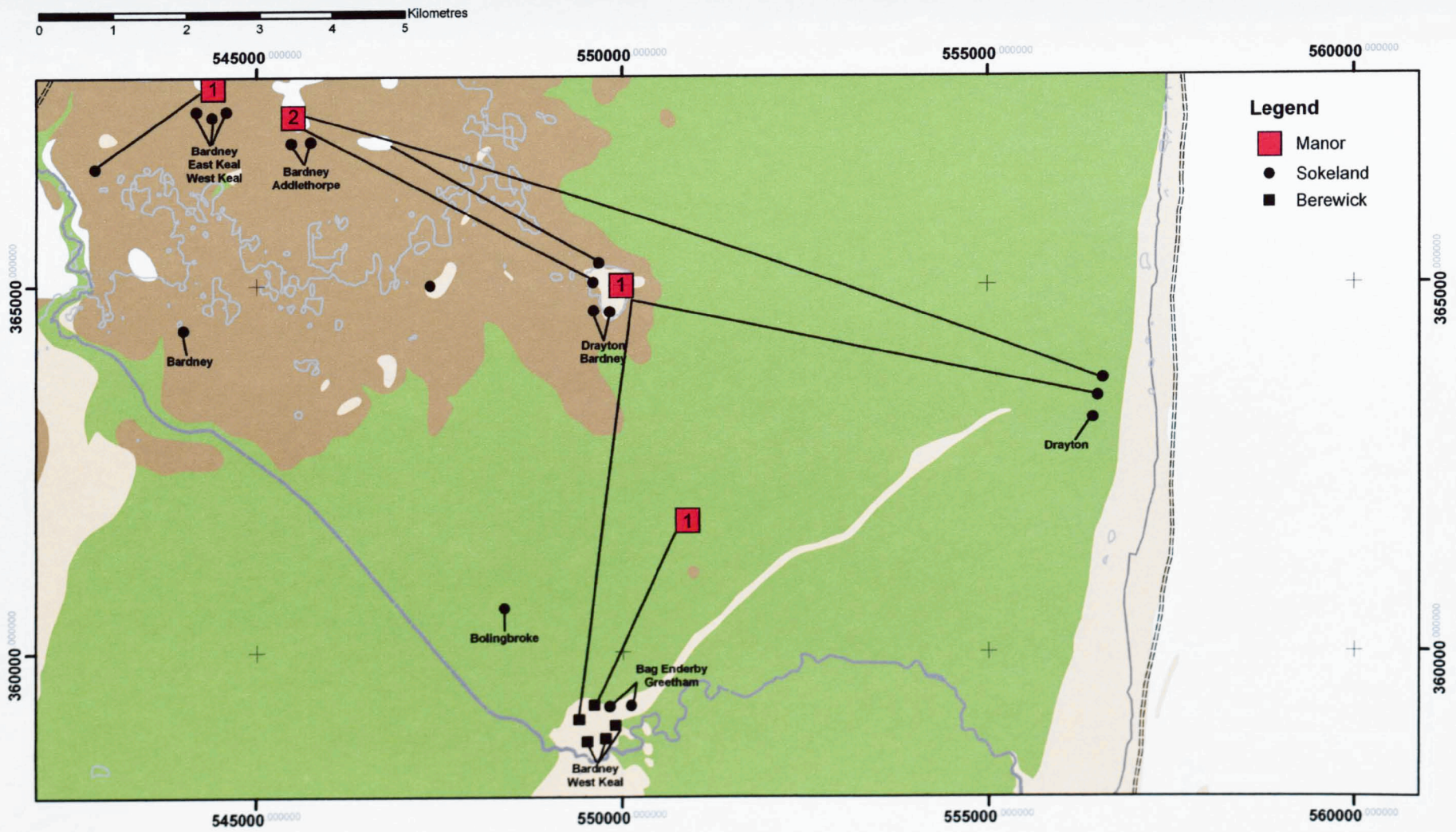

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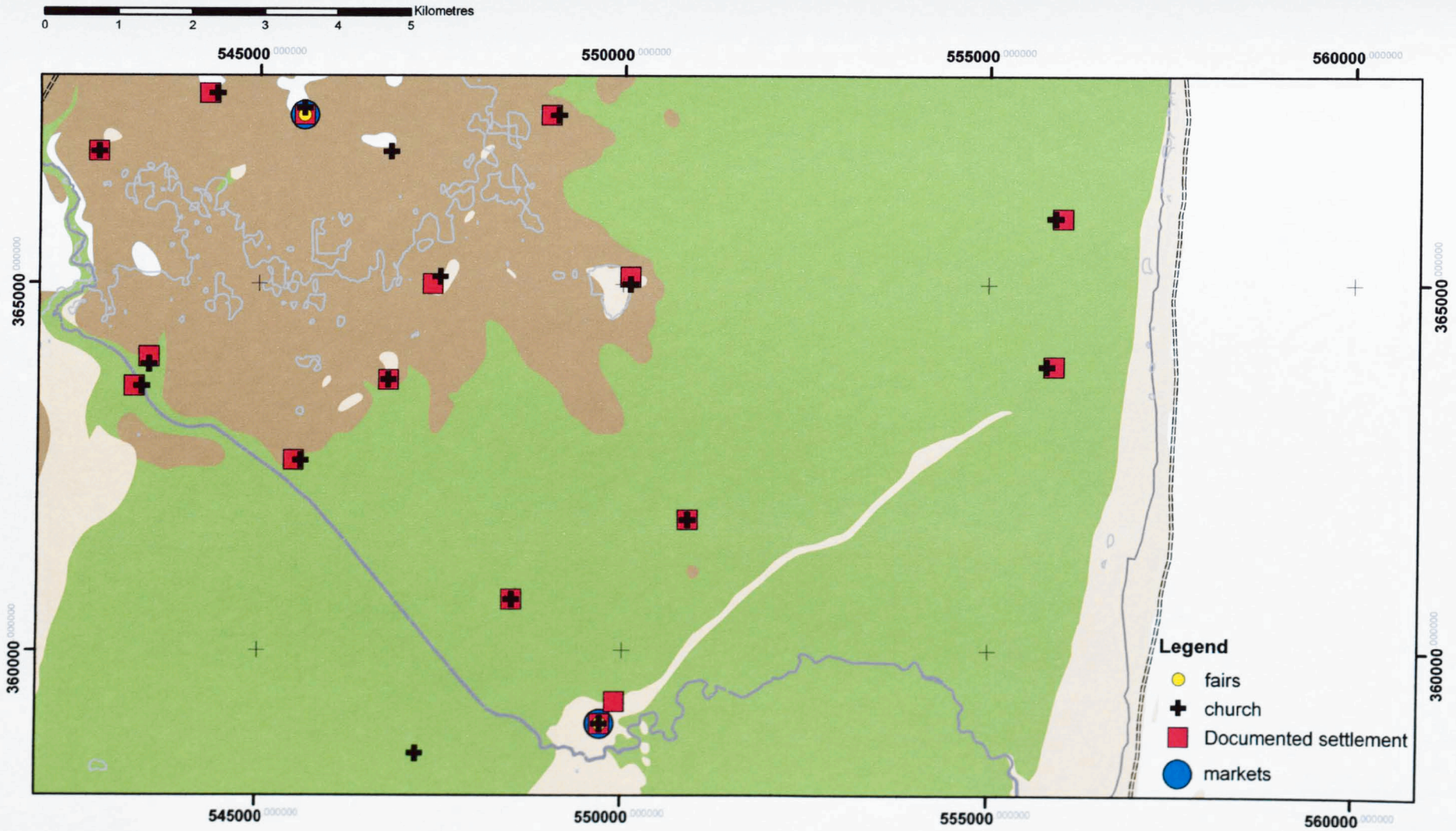

Figure 9.13: Zone Four: Composite map showing the distribution of settlement in the fourteenth century (from the Taxatio, lay subsidy of 1334 and the poll tax of 1377)

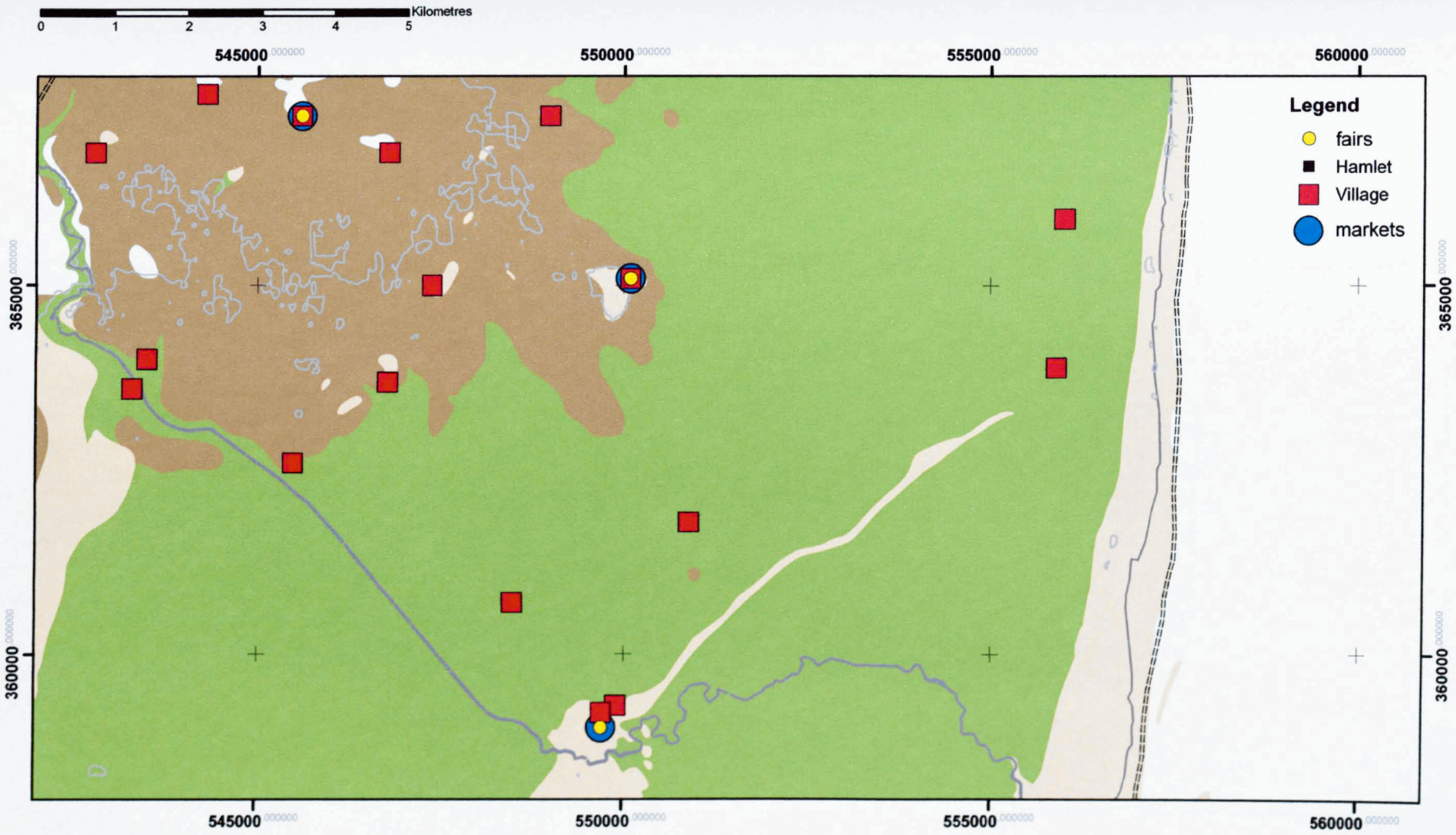

Figure 9.14: Zone Four: Composite map showing the distribution of settlement in the mid-sixteenth century (from the lay subsidies of 1524, 1525 and 1543, and the 1563 Diocesan Return)

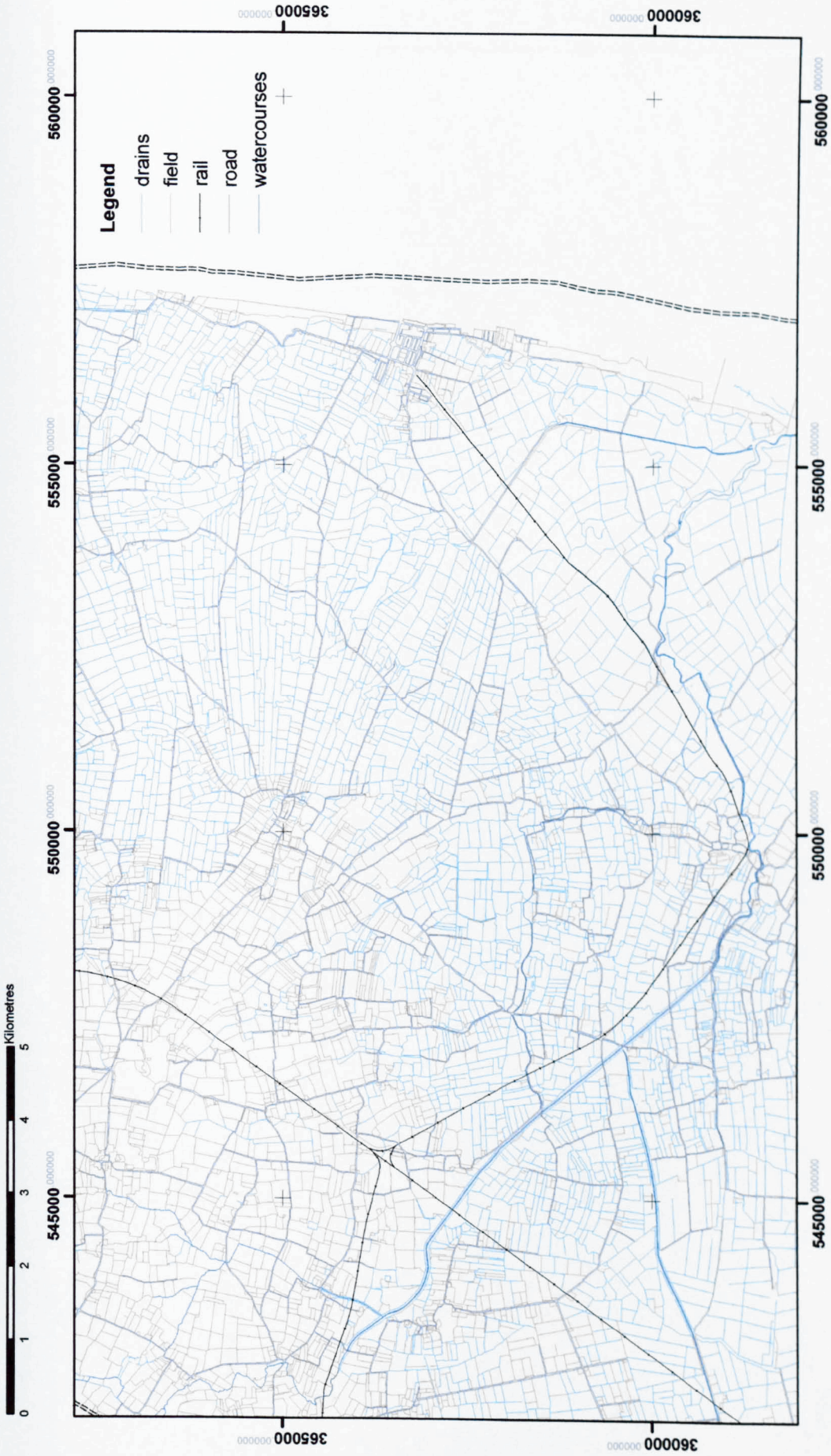

Figure 9.15: Zone Four: Nineteenth century field pattern as recorded on the Ordnance Survey second edition mapping

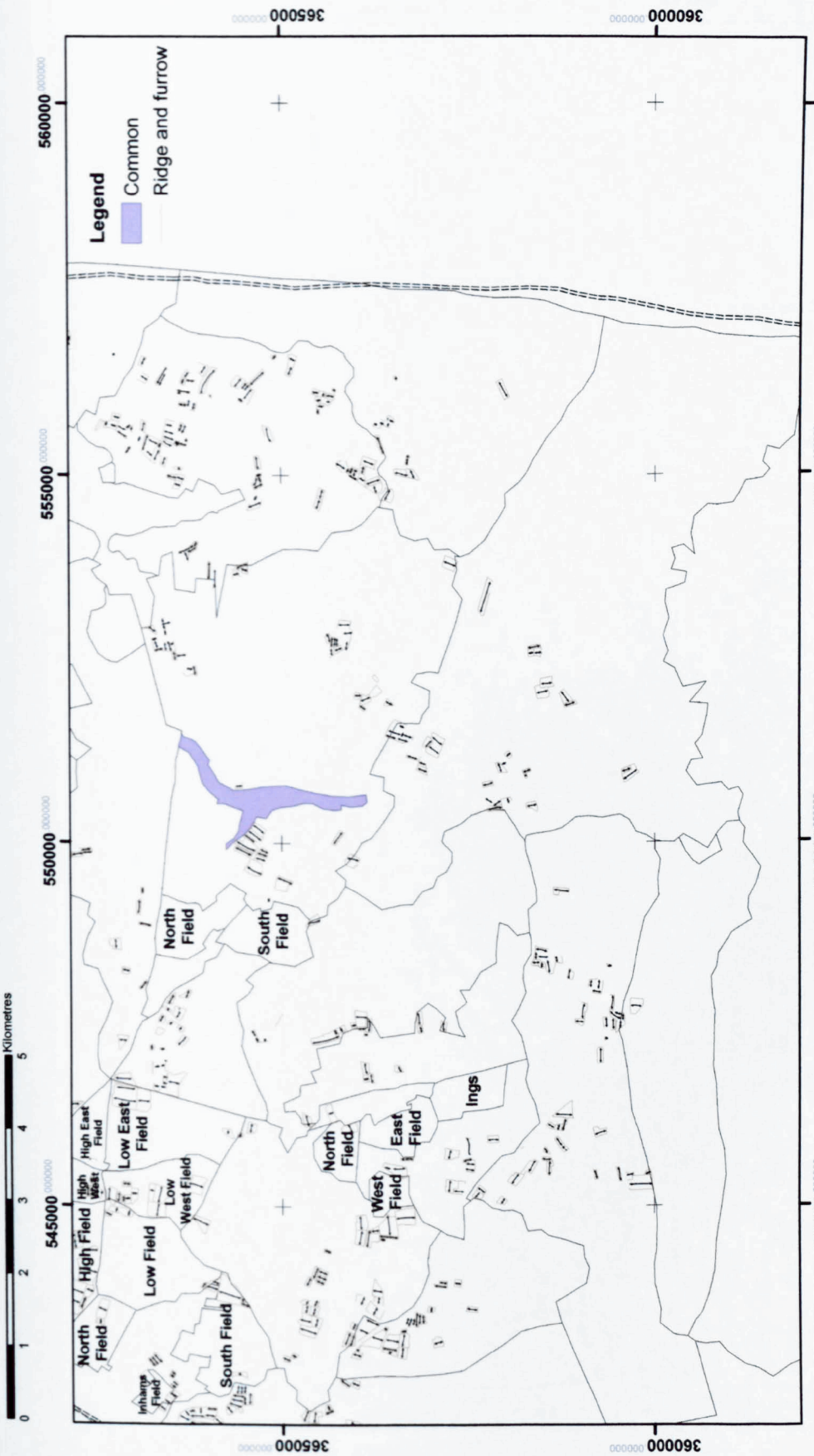

Figure 9.16: Zone Four: Reconstruction of the pre-Enclosure field systems from archival data and the work of the Russells (Russell and Russell 1983, 1987). Also marked are areas of ridge and furrow recorded by the NMP and by Palmer and Tann (2006)

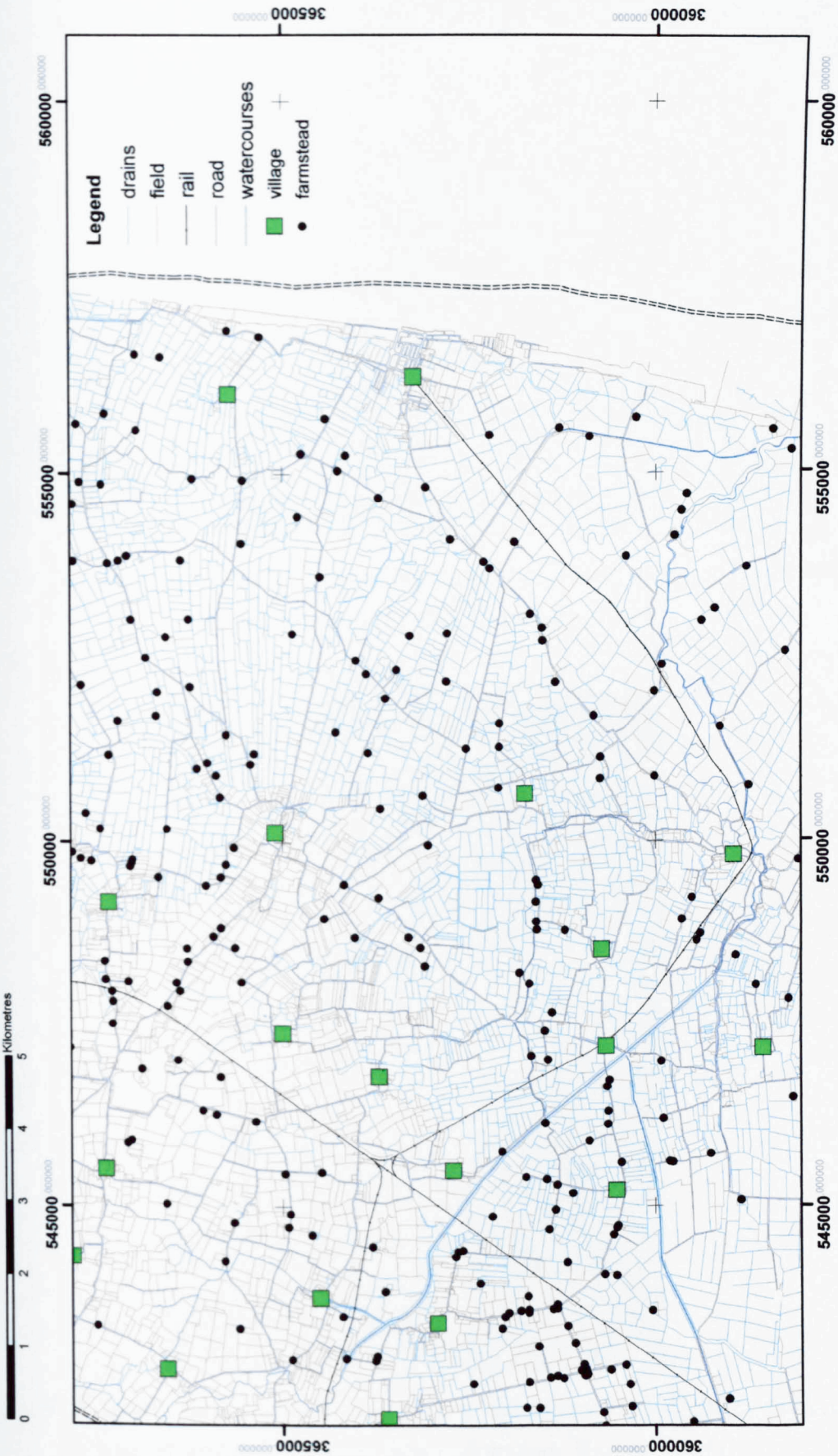

Figure 9.17: Zone Four: Nineteenth century settlement pattern

Figure 9.18: Iron Age saltern debris from the cleaning of a drain section at Ingoldmells. © Humber Wetlands Project, University of Hull

Figure 9.19: Section through an Iron Age Saltern at Ingoldmells highlighting the depth of later alluviation. © Humber Wetlands Project, University of Hull

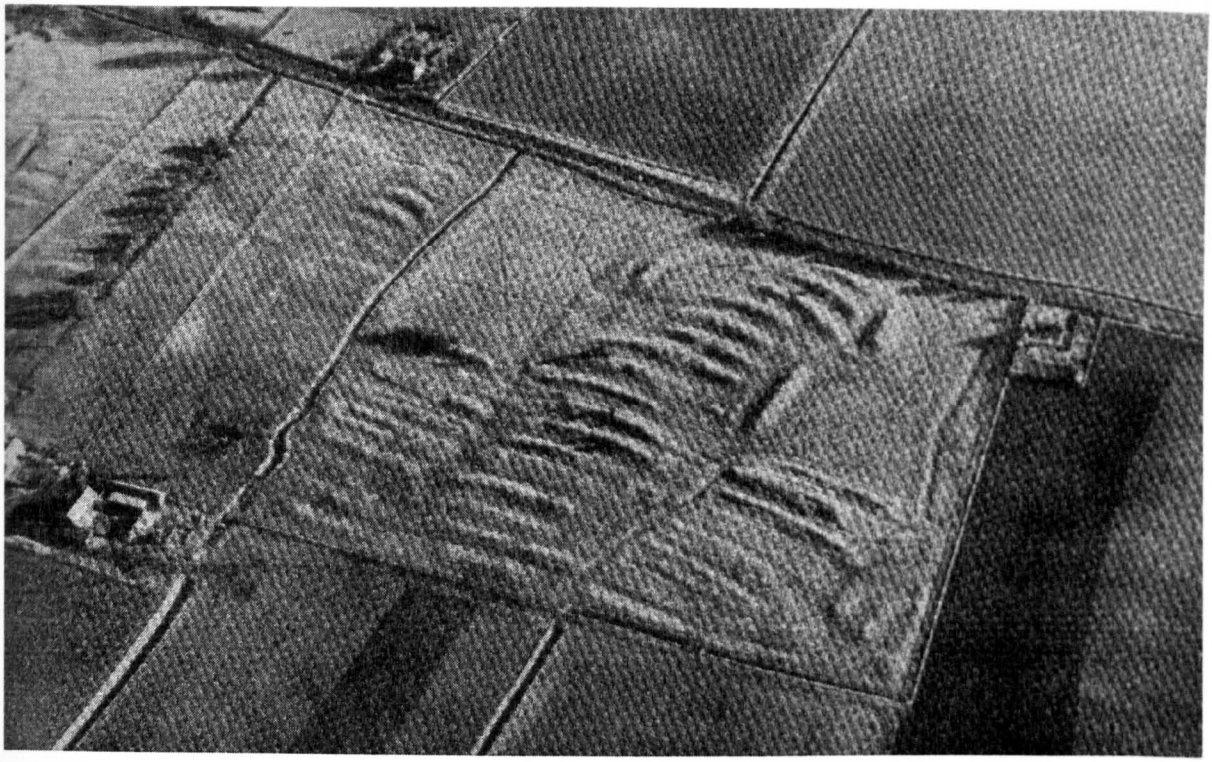

Figure 9.20: Saltern mounds at Wainfleet St Mary, showing the different linear nature to those found in the north of the region (Everson and Hayes 1984: 41, Figure 15)

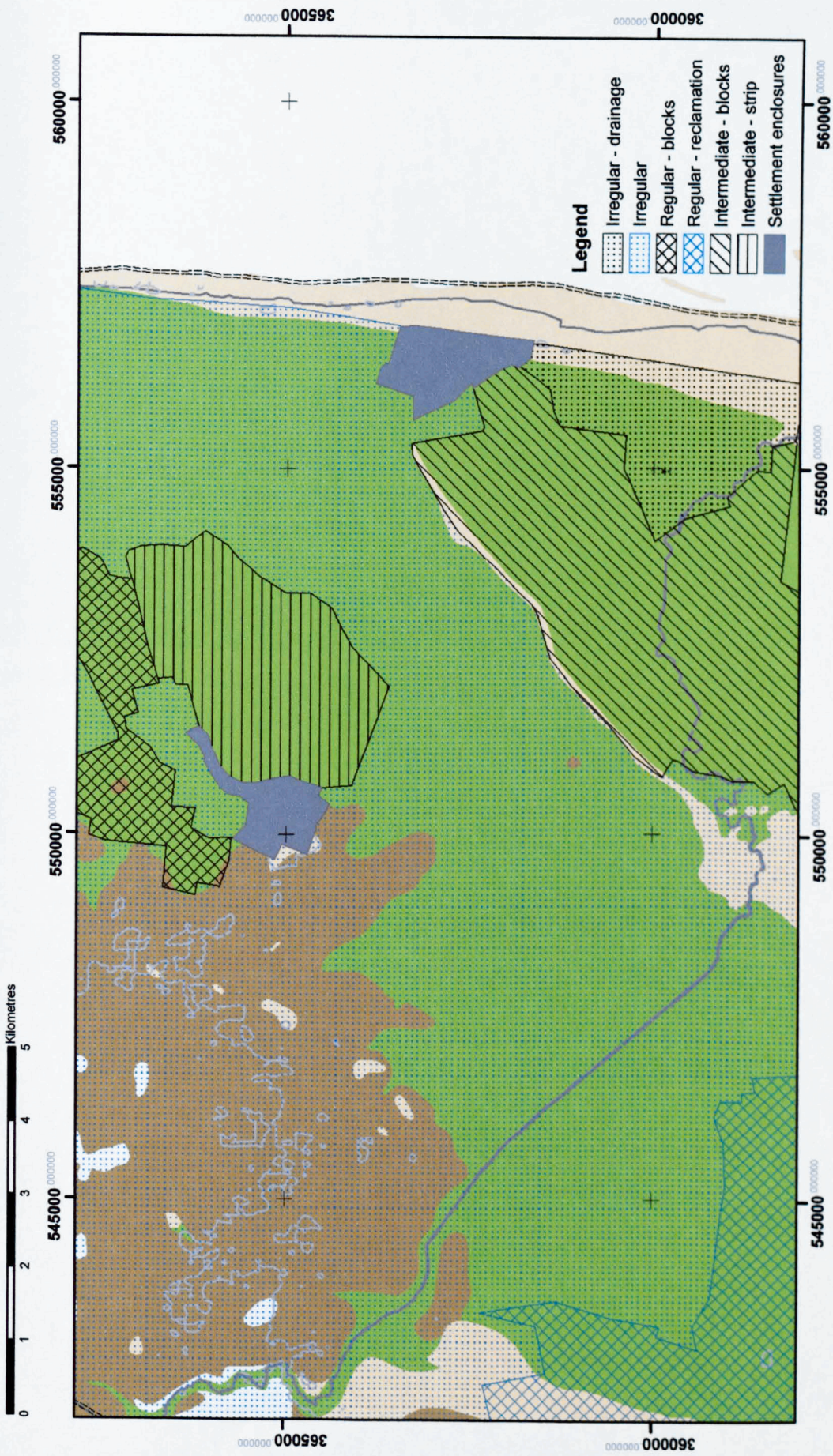

Figure 9.21: Zone Four: Major historic landscape character zones

Figure 9.22: Medieval field and drainage pattern near Ingoldmells. PLE 2938/35 (13.1.80). English Heritage. © Crown Copyright

Figure 9.23: Aerial photograph showing the area of Croft. © Google Earth

Figure 9.24: Fields to the west of Wainfleet St Mary

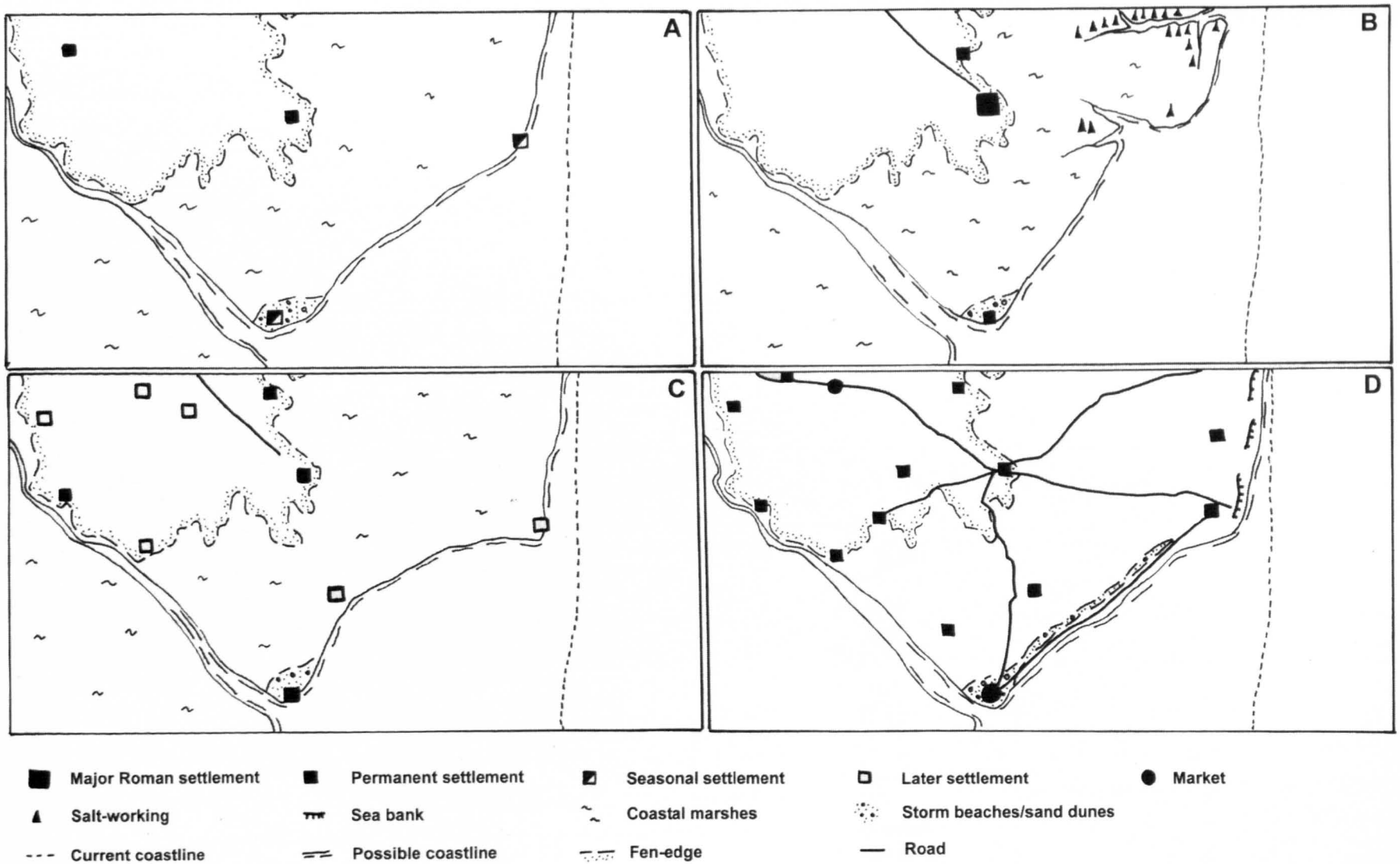

Figure 9.25: Zone Four: Schematic model of landscape evolution A: Bronze Age, B: Iron Age and Roman, C: Saxon, D: Medieval

Appendices

Appendix 1

Radiocarbon dates

All radiocarbon dates discussed within this thesis have been recalibrated using OxCal Version 3.10 © C. Bronk Ramsey 2005, obtainable from http://c14.arch.ox.ac.uk. All dates are given as calibrated dates at 95% certainty, with their full ranges, and the specific lab code for the date in the following format: 5772-5346 cal BC (Q-401). A list of all radiocarbon dates refereed to in the text is presented within this appendix. Dates are presented in chronological order of the first date within their calibrated date range. A brief description of the context of the date is given, as well as lab codes and the published source of the date.

Code	Site Name	Date	Calibration at 95%	Period	Context	Source
Q-279	Aby Grange	11205+/-120 BP	11340-10950 BC		PZII	Suggate and West 1959
SRR-6569	Withern	9800+/-50 BP	9360-9190 BC	Palaeolithic	silty peat	Schofield 2001
SRR-6568	Withern	8670+/-50 BP	7830-7580 BC	Palaeolithic	silty peat	Schofield 2001
SRR-6567	Withern	7460+/-50 BP	6430-6230 BC	Mesolithic	silty peat	Schofield 2001
AA22667	Theddlethorpe	7230+/-55 BP	6200-6010 BC	Mesolithic	sea-level index point - earliest saltmarsh conditions	Shennan *et al* . 2000
Q-401	Immingham	6681+/-130 BP	5850-5370 BC	Mesolithic	forest bed	Wright and Churchill 1965
OXA-641	Skendleby	5450+/-80 BP	4460-4050 BC	Mesolithic	façade post	Evans and Simpson 1991
OXA-642	Skendleby	5140+/-80 BP	4250-3700 BC	Early Neolithic	façade post	Evans and Simpson 1991
CAR-821	Skendleby	5100+/-80 BP	4050-3690 BC	Early Neolithic	charcoal burial area	Evans and Simpson 1991
HAR-1869	Skendleby	5090+/-80 BP	4050-3690 BC	Early Neolithic	antler	Evans and Simpson 1991
CAR-822	Skendleby	4970+/-100 BP	3980-3530 BC	Early Neolithic	charcoal burial area	Evans and Simpson 1991
CAR-819	Skendleby	4840+/-70 BP	3780-3370 BC	Early Neolithic	antler	Evans and Simpson 1991
CAR-820	Skendleby	4800+/-80 BP	3720-3370 BC	Early Neolithic	antler	Evans and Simpson 1991
OXA-640	Skendleby	4770+/-80 BP	3700-3360 BC	Early Neolithic	skull	Evans and Simpson 1991
HAR-1850	Skendleby	4700+/-80 BP	3700-3300 BC	Early Neolithic	antler	Evans and Simpson 1991
OXA-5964	Anderby Creek	4625+/-55 BP	3650-3100 BC	Early Neolithic	forest bed	Clapham 1999
OXA-5965	Wolla (Chapel St Leonards	4625+/-65 BP	3650-3100 BC	Early Neolithic	forest bed	Clapham 1999
OXA-639	Skendleby	4650+/-80 BP	3650-3100 BC	Early Neolithic	skull	Evans and Simpson 1991
SRR-6566	Withern	4635+/-45 BP	3630-3330 BC	Early Neolithic	silty peat	Schofield 2001
A-7504	Sandilands	4540+/-70 BP	3510-3010 BC	Early Neolithic	peat	Brew 1997
OXA-5966	Wolla (Chapel St Leonards	4500+/-55 BP	3370-3020 BC	Early Neolithic	forest bed	Clapham 1999
OXA-5963	Anderby Creek	4480+/-55 BP	3360-2960 BC	Early/Late Neolithic	forest bed	Clapham 1999
HAR-2255	Butterbump	4430+/-90 BP	3360-2900 BC	Early Neolithic		Greig 1982
CAR-818	Skendleby	4450+/-70 BP	3350-2920 BC	Early Neolithic	charcoal	Evans and Simpson 1991
CAR-817	Skendleby	4370+/-70 BP	3340-2880 BC	Neolithic	charcoal	Evans and Simpson 1991
OXA-132	Cleethorpes	4090+/-120 BP	2950-2250 BC	Neolithic/Early Bronze Age	forest bed	Leahy 1986
Q-685	Chapel Point	3943+/-100 BP	2900-2100 BC	Neolithic/Bronze Age	top of lower peat - transgressive	Wright and Churchill 1965, Gaunt and Tooley 1974
BM-2346	Skendleby	4120+/-45 BP	2880-2570 BC	Later Neolithic	bone	Evans and Simpson 1991
HAR-490	Butterbump	3700+/-180 BP	2650-1600 BC	Early Bronze Age	primary burial	Greig 1982
Q-2525	Midville	3825+/-70 BP	2480-2040 BC	Early Bronze Age	Transgressive overlap peat	Waller 1994
CAR-816	Skendleby	3830+/-60 BP	2470-2130 BC	Early Bronze Age	charcoal	Evans and Simpson 1991
Q-2527	Midville	3780+/-60 BP	2460-2030 BC	Early Bronze Age	wood from basal peat	Waller 1994
HAR-488	Butterbump	3460+/-130 BP	2150-1450 BC	Early Bronze Age	later burial	Greig 1982
HAR-491	Butterbump	3470+/-80 BP	2020-1600 BC	Early Bronze Age	later burial	Greig 1982
SRR-6565	Withern	3495+/-45 BP	1940-1690 BC	Early Bronze Age	wood peat	Schofield 2001
OXA-130	Cleethorpes	3390+/-100 BP	1940-1450 BC	Early Bronze Age	axe-hammer haft	Leahy 1986
Q-2807	Thorpe Culvert	3425+/-70 BP	1910-1530 BC	Early Bronze Age	regressive contact	Waller 1994
Q-686	Chapel Point	3340+/-110 BP	1910-1400 BC	Bronze Age	upper peat - regressive	Wright and Churchill 1965, Gaunt and Tooley 1974
OXA-131	Cleethorpes	3330+/-100 BP	1880-1420 BC	Early Bronze Age	axe-hammer haft	Leahy 1986
SRR-6564	Withern	3355+/-45 BP	1750-1520 BC	Early Bronze Age	wood peat	Schofield 2001
HAR-489	Butterbump	3070+/-120 BP	1650-950 BC	Bronze Age	later burial	Jordan *et al* . 1994
GU-5813	Butterbump	3220+/-50 BP	1620-1410 BC	Early Bronze Age	wood	Bayliss 2001
Q-2526	Midville	3170+/-70 BP	1620-1290 BC	Early Bronze Age	upper peat adjacent to regressive overlap	Waller 1994
GU-5814	Butterbump	3210+/-50 BP	1610-1400 BC	Early Bronze Age	wood	Bayliss 2001
GU-5815	Butterbump	3180+/-50 BP	1610-1310 BC	Early Bronze Age	wood	Bayliss 2001
GU-5816	Butterbump	3010+/-80 BP	1430-1010 BC	Later Bronze Age	wood	Bayliss 2001
Q-844	Chapel Point	2815+/-100 BP	1270-800 BC	Later Bronze Age	upper peat - transgressive	Godwin and Switsur 1966
RCD-1598	Tetney Lock	2840+/-60 BP	1210-840 BC	Later Bronze Age	upper peat	Long *et al* . 1998
Q-2806	Thorpe Culvert	2800+/-60 BP	1120-820 BC	Later Bronze Age	intercalated peat	Waller 1994

Code	Site Name	Date	Calibration at 95%	Period	Context	Source
Q-687, Q-688	Chapel Point	2630+/-110 BP	1050-400 BC	Bronze Age/Iron Age	scrobicularia clays	Wright and Churchill 1965, Gaunt and Tooley 1974
SRR-6562	Withern	2745+/-50 BP	1000-800 BC	Later Bronze Age	turfa peat	Schofield 2001
RCD-1305	Tetney	2640+/-70 BP	980-540 BC	Later Bronze Age/Iron Age	charcoal saltern	Palmer-Brown 1993
GU-5799	Ingoldmells Saltern	2670+/-50 BP	930-770 BC	Later Bronze Age	wood from saltern	Bayliss 2001
Beta-151214	Ingoldmells	2610+/-70 BP	920-510 BC	Later Bronze Age/Iron Age	regressive contact	Tann *et al*. 2000
HAR-487	Butterbump	2590+/-80 BP	910-410 BC	Late Bronze Age/Early Iron Age	barrow deposit	Jordan *et al*. 1994
GU-5798	Ingoldmells Saltern	2610+/-50 BP	900-550 BC	Later Bronze Age	wood from saltern	Bayliss 2001
SRR-6563	Withern	2615+/-50 BP	900-550 BC	Later Bronze Age/Iron Age	wood peat	Schofield 2001
Q-81	Ingoldmells	2455+/-110 BP	850-350 BC	Later Bronze Age/Iron Age	wood in upper peat?	Waller 1994
Beta-151213	Ingoldmells	2330+/-80 BP	800-150 BC	Iron Age	stake associated with salt working	Tann *et al*. 2000
HAR-3092	Hogsthorpe	2490+/-80 BP	790-410 BC	Iron Age	burnt soil and brushwood on hearth	Kirkham 2001
Q-2805	Thorpe Culvert	2460+/-80 BP	780-400 BC	Iron Age	transgressive contact	Waller 1994
SRR-6561	Withern	2070+/-50 BP	210 BC-60 AD	Iron Age/Roman	turfa peat	Schofield 2001
SRR-6560	Withern	1705+/-50 BP	210-530 AD	Roman	turfa peat	Schofield 2001
Beta-85547	Sutton on Sea	1160+/-60 BP	690-1010 AD	Anglo-Saxon	Hurdle structure	LINHER Parish file

Appendix 2

Parishes within the study area

Outlines of the parishes are shown on Figure 2.3.

1-Cleethorpes
2-New Waltham
3-Humberston
4-Tetney
5-Waltham
6-North Coates
7-Holton le Clay
8-Marshchapel
9-Brigsley
10-North Somercotes
11-Ashby cum Fenby
12-Waithe
13-Grainthorpe
14-North Thoresby
15-Grainsby
16-Fulstow
17-Ludborough
18-Skidbrooke with Saltfleet Haven
19-Covenham St Bartholomew
20-Conisholme
21-Covenham St Mary
22-South Somercotes
23-Utterby
24-Yarburgh
25-Alvingham
26-Saltfleetby St Clement
27-Brackenborough with Little Grimsby
28-Fotherby
29-North Cockerington
30-Saltfleetby All Saints
31-South Cockerington
32-Theddlethorpe All Saints
33-Saltfleetby St Peter
34-Keddington
35-Grimoldby
36-Theddlethorpe St Helen
37-Louth
38-Great Carlton
39-Mablethorpe and Sutton
40-Manby
41-Stewton
42-Gayton le Marsh
43-Legbourne
44-Little Carlton
45-Withern with Stain
46-Reston
47-Strubby with Woodthorpe
48-Maltby le Marsh
49-Muckton
50-Tothill
51-Authorpe
52-Hannah cum Hagnaby
53-Beesby with Saleby
54-Claythorpe
55-Belleau
56-Huttoft
57-Aby with Greenfield
58-Markby
59-Bilsby
60-South Thoresby
61-Alford
62-Rigsby with Ailby
63-Haugh
64-Anderby
65-Mumby
66-Well
67-Farlesthorpe
68-Cumberworth
69-Chapel St Leonards
70-Ulceby with Fordington
71-Hogsthorpe
72-Willoughby with Sloothby
73-Claxby
74-Skendleby
75-Addlethorpe
76-Welton le Marsh
77-Ingoldmells
78-Ashby with Scremby
79-Orby
80-Candlesby with Gunby
81-Skegness
82-Halton Holegate
83-Burgh le Marsh
84-Great Steeping
85-Bratoft
86-Irby in the Marsh
87-Firsby
88-Croft
89-Little Steeping
90-Thorpe St Peter
91-Eastville
92-Wainfleet All Saints
93-Wainfleet St Mary

Appendix 3

Metadata for GIS

The following is based on the format of the Archaeological Data Service which in turn is based on the Dublin Core (Gillings and Wise 1998).

Title
: Name of dataset.

Creator
: Creator of the dataset (if not created as part of the original research).

Subject
: Subject of the dataset.

Description
: Description of the content of the resource.

Type
: Form of the resource e.g. text, image.

Format
: Format of the resource e.g. JPEG, TIF, DBF and software with which it was created.

Source
: Source of the images or data.

Coverage
: Spatial and temporal extents of the dataset.

Rights
: Copyright information.

Title	Creator	Subject	Description	Type	Format	Sources	Coverage	Rights
10,000 maps	Ordnance Survey	Mapped features	10,000 maps of the study area	Image	TIFF	Ordnance Survey via Digimap	Complete study area	© Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service
1851 parishes	Great Britain Historic GIS Project	Civil parish boundaries	Parishes as in 1851	Polygons	Shapefile - ArcGIS	Great Britain Historic GIS Project via EDINA UKBORDERS	Complete study area	© Great Britain Historic GIS Project
2001parishes	Ordnance Survey	Civil parish boundaries	Parishes in 2001	Polygons	Shapefile - ArcGIS	EDINA UK BORDERS	Complete study area	© Crown copyright
25,000 maps	Ordnance Survey	Mapped features	25,000 maps of the study area	Image	TIFF	Ordnance Survey via Digimap	Complete study area	© Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service
50,000 maps	Ordnance Survey	Mapped features	50,000 maps of the study area	Image	TIFF	Ordnance Survey via Digimap	Complete study area	© Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service
Archaeology	HF	Archaeological sites and finds	Complied dataset from a variety of sources, with a unique identifier	Data	xls - Excel	LINHER, NELINHER, HWP, NMP, Jones 1998a, Cummins, Ulmschneider, Wymer, LHA.	Complete study area up until Medieval period	
Archives	HF	Archival map data	Features as contained on enclosure, tithe and estate maps (see Appendix 4)	Lines	Shapefile - ArcGIS	Lincolnshire Archives	Limited areas	
BGS	British Geological Survey	Drift deposits	Areas of drift deposits as recorded by BGS. Reclassification of a number of different names to simplify regional differences in descriptions.	Polygons	Shapefile - ArcGIS	British Geological Survey	Complete study area	©NERC. All rights reserved
Domesday	HF	Domesday data	Combined records for each vill from Morgan and Thorn 1986	Points	Shapefile converted from an Excel xls file (ArcGIS)	Morgan and Thorn 1986	Complete study area	
Historic 10,560	Ordnance Survey	Mapped features	10,560 first edition maps of the study region	Images	TIFF	Ordnance Survey via Digimap	Complete study area	© Crown copyright/database right 2005. An Ordnance Survey/EDINA supplied service
Lincs raster	HF	Digital elevation model	Elevation model of the Lincolnshire Marsh	DEM	ArcGIS		Complete study area	
Lindsey survey	HF	Lindsey Survey	Compiled records from Foster and Longley 1924	Points	Shapefile converted from an Excel xls file (ArcGIS)	Foster and Longley 1924	Complete study area	

Title	Creator	Subject	Description	Type	Format	Sources	Coverage	Rights
Markets	HF	Medieval markets	Records of markets and fairs recorded from Letters 2003	Points	Shapefile converted from an Excel xls file (ArcGIS)	Letters 2003	Complete study area	
Millenium aps	Getmapping	Modern vertical aerial photographs	Sample areas of the vertical photography taken between 1999-2001	Image	JPEG	Getmapping	Sample areas (see Figure 4.11)	© Getmapping
NMP shapes	HF	Features from NMP transcriptions	Part of the National Mapping project for Lincolnshire – total of 47 5km map squares available. Digital versions digitised	Lines	Shapefile - ArcGIS	English Heritage	Survey area (see Figure 4.13)	
Open fields	HF	Pre-Enclosure field systems	Compiled from Russell and Russell 1983, 1987 and information contained within Lincolnshire Archives. Outlines of main open fields, and early enclosures	Lines	Shapefile - ArcGIS	Russell and Russell 1983, 1987, archives	Limited areas	
Place-names	HF	Place-names	Compiled for names within the study area listing origins and components of the names	Points	Shapefile converted from an Excel xls file (ArcGIS)	Ekwall 1960, Fellows Jensen 1978, Cameron 1996, 1997a, Gelling and Cole 2000	Complete study area	
Roman roads	HF	Roman roads	Lines of confirmed and postulated Roman roads in the region	Lines	Shapefile - ArcGIS	Margary 1973, Owen 1997a	Complete study area	
Second edition	HF	Mapped features	Digitised version of the second edition OS maps. Original maps scanned and then geo-referenced using the modern 10,000 maps. Digitised lines created from these geo-referenced images	Lines	Shapefile - ArcGIS	Second edition maps see Appendix 4	Complete study area	
Settlements	HF	Villages and farmsteads	Points of villages and farmsteads recorded on the first edition OS maps recording a number of characteristics of the villages	Points	Shapefile - ArcGIS	First edition OS maps (historic 10,560)	Complete study area	
Taxes	HF	13^{th}-16^{th} tax records	Information recorded on the 1334 Lay subsidy, 1377 poll tax, Lay subsidies of 1524/25 and 1543, Diocesan return of 1563	Points	Shapefile converted from an Excel xls file (ArcGIS)	Glasscock 1975, Hodgett 1975, Sheail 1998a. 1998b, Fenwick, C. 2001, 2005	Complete study area	
Trackways	HF	Pre-Roman routeways	Proposed prehistoric trackway routes based on place-name evidence and suggested routes	Lines		Owen 1997a, Ulmschneider 2000b	Complete study area	

Appendix 4

Map dates for first and second edition Ordnance Survey maps

Sheet	First Edition	Second Edition
22NE	1890	1931
22SE	1890	1908
23SW	1890	1909
30NE	1891	1907
30NW	1890	1908
30SE	1891	1907
30SW	1891	1907
31NE	1891	1907
31NW	1889	1932
31SE	1890	1907
31SW	1890	N/A
32SW	1888	1907
39NE	1891	1907
39NW	1891	1907
39SE	1891	1907
39SW	1891	1907
40NE	1893	1907
40NW	1891	1907
40SE	1890	1907
40SW	1891	1907
41NW	1891	1907
41SE	1891	1907
41SW	1891	1907
47NE	1891	1907
48NE	1892	1907
48NW	1891	1907
48SE	1891	1907
48SW	1890	1907
49NE	1893	1907
49NW	1891	1907
49SE	1891	1907
49SW	1891	1907
56NE	1890	1907
56NW	1890	1907
56SE	1890	1907
56SW	1891	1907
57NE	1891	1907
57NW	1891	1907
57SE	1891	1907
57SW	1891	1907
58NW	1891	1907

Sheet	First Edition	Second Edition
58SW	1892	1907
65NE	1891	1907
65NW	1891	1907
65SE	1891	1907
65SW	1891	1907
66NE	1891	N/A
66NW	1892	1907
66SE	1891	1907
66SW	1891	1907
67NE	1891	1907
67SE	1891	1907
67SW	1888	1907
74NE	1891	N/A
75NE	1891	1906
75NW	1890	1907
75SE	1892	1907
75SW	1891	1946-8
76NE	1891	1907
76NW	1891	1907
76SE	1892	1906
76SW	1891	1907
83NE	1892	1906
83NW	1892	1906
83SE	1891	1907
83SW	1891	1906
84NE	1892	1907
84NW	1891	1906
84SE	1889	1906
84SW	1890	1906
90NE	1891	1906
90SE	1892	1906
91NE	1891	1906
91NW	1892	1906
91SE	1891	1906
91SW	1893	1906
92NE	1893	1906
92NW	1891	1906
92SE	1893	1906
92SW	1891	1906
100NE	1892	1906
102NW	N/A	1906

Appendix 5

Maps consulted at Lincolnshire Archives

The following are lists of maps viewed at Lincolnshire Archives. If a tick appears in the last column, relevant information was digitised. If there is no tick, this is likely to be due to little change from this map to the second edition maps which were used to create the digital base map (see section 4.2.7).

Tithe Maps

Parish	Lincolnshire Archive Reference	Date	Information added to GIS
Aby	A558	1848	
Addlethorpe	I 329	1842	
Alford	B84	1838	✓
Ashby cum Fenby	L368	1840	
Beesby	A137	1841	
Bilsby	HIG 18/1/19	1841	✓
Bilsby	I 240	1841	
Bratoft	2 CC 60/3		
Brigsley	B 646	1850	
Burgh le Marsh	2 CC 60/4	1842	
Burgh le Marsh	Parish 4/1		
Claxby	H109		
Claythorpe	B111	1840	
Cleethorpes	I322	1843	
Conisholme	B119	1839	
Croft	M449	1847	
Farlesthorpe	B114	1838	
Gayton Le Marsh	A100	1839	
Grainsby	B294	1843	
Grainthorpe	E390	1845	
Grainthorpe	HIG 18/3/4		
Great Steeping	K197	1839	
Grimoldby	H443	1846	
Haugh	C666	1850	
Holton le Clay	F176	1840	
Huttoft	G727	1858	
Ingoldmells	D335	1842	
Irby le Marsh	2 CC 60/43	1843	
Irby le Marsh	E 395	1840	
Ludborough	A654	1852	
Mablethorpe	B447	1847	
Mablethorpe	M586	1841	

Parish	Lincolnshire Archive Reference	Date	Information added to GIS
Maltby le Marsh	A95	1839	
Markby	K130	1839	
Marshchapel	E196	1841	✓
Muckton	Muckton par 4	1839	
North Coates	A233	1842	
North Cockerington	H328	1844	
Orby	A303	1843	
Saltfleet	L 83	1840	
Skegness	D551	1849	✓
Skendleby	E417	1846	
Somercoates	D105	1839	
Somercoates	K226	1841	✓
South Cockerington	C397	1845	
South Reston	South Reston 4/1	1897	
South Thoresby	I 529	1848	
Stewton	G746	1861	
Stewton	Parish Dep	1837	
Strubby	B264	1843	
Sutton	F155	1839	
Thoresby	A50	1839	
Wainfleet All Saints	B 61	1808	✓
Wainfleet St Mary	B 221	1839	✓
Willoughby	M 79	1838	
Winthorpe	H523	1846	
Withern	C77	1839	
Woodthorpe	B269	1843	

Enclosure Award Maps

Parish	Lincolnshire Archive Reference	Date	Information added to GIS
Alford	Lindsey Enclosure Award 131	1838	✓
Alvingham	Lindsey Enclosure Award 2	1822	
Anderby	Lindsey Enclosure Award 4	1807	✓
Anderby	Lindsey Enclosure Award 5	1850	
Ashby by Partney	3 BNL 1-3	1811-12	
Ashby by Partney	Lindsey Enclosure Award 7	1821	✓
Ashby by Partney	Parish 17/1	1817	✓
Bilsby	Lindsey Enclosure Award 159	1839	✓
Burgh le Marsh	Lindsey Enclosure Award 167	1839	
Candlesby	Lindsey Enclosure Award 108	1781	✓
Chapel St Leonards	Lindsey Enclosure Award 123		
Cleethorpes	Lindsey Enclosure Award 169	1846	
Conisholme	Lindsey Enclosure Award 163	1840	
Covenham St Bartholomew	Parish Plans	1797	
Cumberworth	Lindsey Enclosure Award 19	1822	✓
Farlesthorpe	Lindsey Enclosure Award 161	1831	
Firsby	Lindsey Enclosure 22	1821	✓
Fulstow	Lindsey Enclosure Award 25	1819	
Grainthorpe	Lindsey Enclosure Award 132	1840	
Grainthorpe	Lindsey Enclosure Award 175	1858	
Great Steeping	Lindsey Enclosure Award 128	1840	
Holton le Clay	Lindsey Enclosure Award 40	1766	✓
Louth	Louth St James Par 17/1	1805	
Ludborough	Lindsey Enclosure Award 52	1775	
Mablethorpe	Lindsey Enclosure 136	1840	
Maltby le Marsh	Lindsey Enclosure Award 142	1842	✓
Manby	Lindsey Enclosure Award 58	1821	
Markby	Lindsey Enclosure Award 135	1843	✓
Marshchapel	Lindsey Enclosure Award 139	1846	
Mumby	2 CC 59/23642	1811	✓
North Coates	Lindsey Enclosure Award 110	1858	✓
Orby	Lindsey Enclosure Award 146	1838	
Saleby	Parish plans 17	1805	
Saltfleet	Lindsey Enclosure Award 133	1838	
Scremby	Lindsey Enclosure Award 80	1811	✓
Somercoates	Lindsey Enclosure 118	1854	✓
Somercoates	Lindsey Enclosure 134	1842	
Strubby	Lindsey Enclosure Award 157	1843	✓
Sutton	Lindsey Enclosure Award 129	1840	
Tetney	Lindsey Enclosure Award 215	1778	
Thoresby	Lindsey Enclosure Award 137	1846	
Wainfleet St Mary	Lindsey Enclosure Award 141	1856	

Parish	Lincolnshire Archive Reference	Date	Information added to GIS
Waithe	Lindsey Enclosure Award 89	1811	
Welton le Marsh	Lindsey Enclosure Award 93	1792	
Willoughby	HIG 18/8/1	1838	
Willoughby	HIG 18/8/2	1837	
Willoughby	HIG 18/8/3		
Willoughby	Lindsey Enclosure Award 144	1838	
Withern	Lindsey Enclosure Award 127	1840	✓
Yarburgh	Lindsey Enclosure Award 100	1813	
Yarburgh	Yarburgh Parish		

Appendix 6

Domesday data

The following table of Domesday data was compiled from the Morgan and Thorn (1986) version of the Lincolnshire Domesday. This was crosschecked with Williams and Martin (1992).

The following data is presented under the name of the vill. Every record for that particular vill is listed separately, but there is also a combined record for each vill (in bold). On occasions when there is only a single record for the vill, this record is also the combined record (so appears in bold). These combined records were used to display data on the majority of the maps produced within this thesis.

Key to table:

Manor	Name of manor
No	Number of records that have been totaled for the combined record
Tenant 1086	Name of tenant in 1086
Tenant 1066	Name of tenant if known in 1066
Carucates (Cs)	Calculated into carucates to 0.25
Land for x	Calculated number of 'land for x ploughs' to 0.25
Lordship Ps	Number of ploughs belonging to the Lordship
Lordship Cs	Number of carucates in the hands of the Lordship
V	Number of villagers recorded
F	Number of freemen recorded
S_H	Number of smallholders recorded
Villagers Ps	Number of ploughs recorded as belonging to the above three
Villagers Cs	Number of carucates in the hands of the above three
Mills	Number of mills recorded to the nearest 0.25
Meadow	Area of meadow recorded in acres
Wood	Area of wood recorded in acres
wood pasture	Area of woodland pasture recorded in acres
Underwood	Area of under wood recorded in acres
salt pans	Number of salt pans recorded

salt value	Value of saltpans in shillings
Value 1066	Value of manor in 1066 in shillings
Value 1086	Value of manor in 1086 in shillings
Population	Total population recorded for manor
Tenants per C	Calculation of tenants per carucate (population/carucate)
Val per tenant	Calculation of value per tenant (value in 1086/population)
Value per C	Calculation of value per carucate (value 1086/carcuate)
Ploughs Ps	Total number of ploughs recorded for the manor (combination of Lordship ploughs and villagers ploughs)
Ploughs per C	Calculation of the number of ploughs per carucate
Land for x ploughs	Calculated number of 'land for x ploughs' to 0.25, repeated to be near calculations
Ploughs/land	Calculation of ploughs per 'land for x ploughs'
Caruc. per land	Calculation of carucates per 'land for x ploughs'

See Chapter 4 for further discussion of the Domesday data.

Manor	No	Tenant 1086	Tenant 1066	Caruca-tes (Cs)	Land for x	Lordship Ps	Lordship Cs	Villagers V	Villagers F	Villagers S_H	Villagers Ps	Villagers Cs	Mills	Meadow	Wood	wood pasture	Under wood	salt pans	salt value	Value 1066	Value 1086	Pop	Tenants per C	Val per tenant	Val per C	Ploughs Ps	Ploughs per C	land for 1x plough	Ploughs/ land	Caruc. per land
(Great) Grimsby Clee Itterby and Trunscoe	1	Bishop of Bayeux		3.25	6			1	55		6			54								56	17.23	0.00	0.00	6	1.85	6	0.00	0.54
(Great) Steeping	1	Gilbert of Ghent		11.5	11.5				61	11	10			80								72	6.26	0.00	0.00	10	0.87	11.5	-1.50	1.00
(Little) Grimsby	3			3	5.5	2		8	11		2			21				1	0.5	30	25	19	6.33	1.32	8.33	4	1.33	5.5	-1.50	0.55
(Little) Grimsby		Ivo Tallboys		1.5	2	1		5	6		1			10								11	7.33	0.00	0.00	2	1.33	2	0.00	0.75
(Little) Grimsby		William of Percy	Aelfric	1.25	3	1		3	5		1			11				1	0.5	30	25	8	6.40	3.13	20.00	2	1.60	3	-1.00	0.42
(Little) Grimsby		Bishop of Durham		0.25	0.5																	0	0.00	0.00	0.00	0	0.00	0.5	-0.50	0.50
(North) Reston and (Little) Carlton	1	William of Percy	Alsige	3	4	2	1.5	4	18	4	4	1.5	2	30		100				40	20	26	8.67	0.77	6.67	6	2.00	4	2.00	0.75
(North) Thoresby and 'Audby'	6			6.25	8	2		29	41	7	9.5			131				25	20	160	160	77	12.32	2.08	25.60	11.5	1.84	8	3.50	0.78
(North) Thoresby		Count Alan		1.25	1.75				14	2	2			16				2	2			16	12.80	0.00	0.00	2	1.60	1.75	0.25	0.71
(North) Thoresby and Audby		Bishop of Bayeux		0.25				4						20				3				4	16.00	0.00	0.00	0	0.00		0.00	0.00
(North) Thoresby and 'Audby'		Hugh son of Baldric		0.25	0.25			2						15				2	2			2	8.00	0.00	0.00	0	0.00	0.25	-0.25	1.00
(North) Thoresby and 'Audby'		Alfred of Lincoln																1				0	0.00	0.00	0.00	0	0.00		0.00	0.00
(North) Thoresby and 'Audby'		Durand Malet																1				0	0.00	0.00	0.00	0	0.00		0.00	0.00
(North) Thoresby and 'Audby'		Bishop of Bayeux	Thorfrothr	4.5	6	2		23	27	5	7.5			80				16	16	160	160	55	12.22	2.91	35.56	9.5	2.11	6	3.50	0.75
Aby	1	Bishop of Bayeux	Wulfstan and Asketill	1.75	2.75	1		12	4	2	2.5			80		27	300			60	80	18	10.29	4.44	45.71	3.5	2.00	2.75	0.75	0.64
Addlethorpe	9			12	12			45	55		13	1.5		1420						180	202.5	100	8.33	2.03	16.88	13	1.08	12	1.00	1.00
Addlethorpe		Bishop of Durham		0.75	0.75			6	1		1			120								7	9.33	0.00	0.00	1	1.33	0.75	0.25	1.00
Addlethorpe		Count Alan		0.25	0.25			2			0.25			20								2	8.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Addlethorpe		Count Alan	Alnoth	1	1				3		0.5			100						20	2.5	3	3.00	0.83	2.50	0.5	0.50	1	-0.50	1.00
Addlethorpe		Gilbert of Ghent		4.25	4.25			17	18		4			440								35	8.24	0.00	0.00	4	0.94	4.25	-0.25	1.00
Addlethorpe		Eudo son of Spirewic		0.25	0.25			1			0.25											1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Addlethorpe		Eudo son of Spirewic		1.25	1.25				1		0.75			160								1	0.80	0.00	0.00	0.75	0.60	1.25	-0.50	1.00
Addlethorpe		Eudo son of Spirewic		1	1			3			0.25			100								3	3.00	0.00	0.00	0.25	0.25	1	-0.75	1.00
Addlethorpe		Robert the Bursar	Vigleikr	3	3	3		12	32		6	1.5		400						160	200	44	14.67	4.55	66.67	9	3.00	3	6.00	1.00
Addlethorpe		Svartbrandr and other thanes		0.25	0.25			4						80								4	16.00	0.00	0.00	0	0.00	0.25	-0.25	1.00
Ailby	1	Bishop of Bayeux		0.75	1.25				3	2	1			12		12	40					5	6.67	0.00	0.00	1	1.33	1.25	-0.25	0.60
Alford	2			1.25	2.25			4	2	1	1.25			16						30	5	7	5.60	0.71	4.00	1.25	1.00	2.25	-1.00	0.56
Alford		Gilbert of Ghent		0.75	1.5			3	2	1	1			10								6	8.00	0.00	0.00	1	1.33	1.5	-0.50	0.50
Alford		William Tallboys	Thorfrothr	0.5	0.75			1			0.25			6						30	5	1	2.00	5.00	10.00	0.25	0.50	0.75	-0.50	0.67
Alvingham	4			2.5	3	1		12	19	5	3.5			74						20	30	36	14.40	0.83	12.00	4.5	1.80	3	1.50	0.83
Alvingham		King		1				7	14	5	2			40								26	26.00	0.00	0.00	2	2.00		2.00	0.00
Alvingham		Bishop of Bayeux		0.5	1				4		1			7								4	8.00	0.00	0.00	1	2.00	1	0.00	0.50
Alvingham		Alfred of Lincoln	Eadric	0.75	1.5	1		5			0.5			20						20	30	5	6.67	6.00	40.00	1.5	2.00	1.5	0.00	0.50
Alvingham		Rainer of Brimeux		0.25	0.5				1					7								1	4.00	0.00	0.00	0	0.00	0.5	-0.50	0.50
Ashby (by Partney)	1	Bishop of Durham		1	1			2						5								2	2.00	0.00	0.00	0	0.00	1	-1.00	1.00
Ashby (cum Fenby)	3			3.25	16.75	2.5		5	22	2	3	0.5	1	85			20.5			70	120	29	8.92	4.14	36.92	5.5	1.69	16.75	-11.25	0.19
Ashby (cum Fenby)		Guy of Craon	Aslakr	1.25	2.5	2		3	9		1	0.5		30			9.5			40	80	12	9.60	6.67	64.00	3	2.40	2.5	0.50	0.50
Ashby (cum Fenby)		Count Alan		0.75	12				5		1			25			5					5	6.67	0.00	0.00	1	1.33	12	-11.00	0.06
Ashby (cum Fenby)		Bishop of Bayeux	Algar	1.25	2.25	0.5		2	8	2	1		1	30			6			30	40	12	9.60	3.33	32.00	1.5	1.20	2.25	-0.75	0.56
Audby	1	Durand Malet																1				0	0.00	0.00	0.00	0	0.00		0.00	0.00
Authorpe	1	Asgautr		2	3			5	4	1	2			8								10	5.00	0.00	0.00	2	1.00	3	-1.00	0.67
Bag Enderby and Markby	1	Bishop of Bayeux		1	1			10	14	1	2			12								25	25.00	0.00	0.00	2	2.00	1	1.00	1.00
Beesby in the Marsh	2			3.75	3.75	0.5		1	21	8	5.75	0.25		90			180			10	10	30	8.00	0.33	2.67	6.25	1.67	3.75	2.50	1.00
Beesby in the Marsh		Gilbert of Ghent		3	3				20	8	5.5			90			180					28	9.33	0.00	0.00	5.5	1.83	3	2.50	1.00
Beesby in the Marsh and Maltby (le Marsh)		Jocelyn son of Lambert	Agmundr	0.75	0.75	0.5		1	1		0.25	0.25								10	10	2	2.67	5.00	13.33	0.75	1.00	0.75	0.00	1.00
Bonthorpe	1	Bishop of Durham	Thorr	1	2	1		6		4	1			9						60	60	10	10.00	6.00	60.00	2	2.00	2	0.00	0.50
Brackenborough	2			1	2	1		5	10		2.5		0.5	28						16	40	15	15.00	2.67	40.00	3.5	3.50	2	1.50	0.50
Brackenborough		Alfred of Lincoln		0.25	0.25	1		4			0.5			10								4	16.00	0.00	0.00	1.5	6.00	0.25	1.25	1.00
Brackenborough		Alfred of Lincoln	Eadric and Hoc	0.75	1.75			1	10		2		0.5	18						16	40	11	14.67	3.64	53.33	2	2.67	1.75	0.25	0.43
Bratoft	1	Svartbrandr and other thanes	Svartbrandr	0.25	0.25			2			1			60								2	8.00	0.00	0.00	1	4.00	0.25	0.75	1.00
Briglsey	3			5	9.25			10	38	2	8			40								50	10.00	0.00	0.00	8	1.60	9.25	-1.25	0.54

Manor	No	Tenant 1086	Tenant 1066	Caruca-tes (Cs)	Land for x	Lordship Ps	Lordship Cs	Villagers V	Villagers F	Villagers S_H	Villagers Ps	Villagers Cs	Mills	Meadow	Wood	wood pasture	Under wood	salt pans	salt value	Value 1066	Value 1086	Pop	Tenants per C	Val per tenant	Val per C	Ploughs Ps	Ploughs per C	land for x plough	Ploughs/ land	Caruc. per land
Briglsey		Count Alan		1.5	3				17	1	3			10								18	12.00	0.00	0.00	3	2.00	3	0.00	0.50
Brigsley		Guy of Craon		0.75	1.5				8	1	1			5								9	12.00	0.00	0.00	1	1.33	1.5	-0.50	0.50
Brigsley Waithe and Ravendale		Bishop of Bayeux		2.75	4.75			10	13		4			25								23	8.36	0.00	0.00	4	1.45	4.75	-0.75	0.58
Burgh le Marsh	5			12	12	1		18	29	10	9.75			585						40	23	57	4.75	0.40	1.92	10.75	0.90	12	-1.25	1.00
Burgh le Marsh		Count Alan		1.5	1.5			2	3	3	1.5											8	5.33	0.00	0.00	1.5	1.00	1.5	0.00	1.00
Burgh le Marsh		Gilbert of Ghent		8	8			11	21	3	6			500								35	4.38	0.00	0.00	6	0.75	8	-2.00	1.00
Burgh le Marsh		Eudo son of Spirewic	Godwine, Toki and Godric	1.25	1.25	1		5	3	4	1			85						40	23	12	9.60	1.92	18.40	2	1.60	1.25	0.75	1.00
Burgh le Marsh		Eudo son of Spirewic		1	1				1		1											1	1.00	0.00	0.00	1	1.00	1	0.00	1.00
Burgh le Marsh		Eudo son of Spirewic	Svartbrandr	0.25	0.25				1		0.25											1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Candlesby	4			5.75	7.75	6		6	23	17	5	1								128	171	46	8.00	3.72	29.74	11	1.91	7.75	3.25	0.74
Candlesby		Count Alan		0.25	0.5			2			0.5											2	8.00	0.00	0.00	0.5	2.00	0.5	0.00	0.50
Candlesby		Gilbert of Ghent		1	1				13	6	2											19	19.00	0.00	0.00	2	2.00	1	1.00	1.00
Candlesby		Eudo son of Spirewic	Grimketill and Klakkr	4.25	5.5	5.5		4	10	11	2.5	1								108	161	25	5.88	6.44	37.88	8	1.88	5.5	2.50	0.77
Candlesby		Svartbrandr and other thanes	Svartbrandr	0.25	0.75	0.5														20	10	0	0.00	0.00	40.00	0.5	2.00	0.75	-0.25	0.33
Claxby	3			2	3.25	4		11	1		2.5	0.5	1				980			320	340	13	6.50	26.15	170.00	6.5	3.25	3.25	3.25	0.62
Claxby		Count Alan		0.25			0.25															0	0.00	0.00	0.00	0	0.00		0.00	0.00
Claxby		Gilbert of Ghent	Tonni	0.75	1.5	2		6			1						860			160	160	6	8.00	26.67	213.33	3	4.00	1.5	1.50	0.50
Claxby		Hugh son of Baldric	Dena	1	1.75	2		5	1		1.5	0.5	1				120			160	180	7	7.00	25.71	180.00	3.5	3.50	1.75	1.75	0.57
Clee	3			1	2	0.5		2	4	1	0.5			81						30	30	7	7.00	4.29	30.00	1	1.00	2	-1.00	0.50
Clee		Ivo Tallboys		0.25	0.5	0.5								16						20	10	0	0.00	0.00	40.00	0.5	2.00	0.5	0.00	0.50
Clee		Bishop of Bayeux		0.25	0.5			2	4	1	0.5			25								7	28.00	0.00	0.00	0.5	2.00	0.5	0.00	0.50
Clee		Bishop of Bayeux	Algar	0.5	1									40						10	20	0	0.00	0.00	40.00	0	0.00	1	-1.00	0.50
Cockerington	6			6.75	12	4		12	36	8	5	1.25	1.75	210			138			124	133	57	8.44	2.33	19.70	9	1.33	12	-3.00	0.56
Cockerington		Bishop of Durham		0.25	0.25			1			0.25											1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Cockerington		Bishop of Bayeux	Asketill and Wulfgrim	3.25	6	2		7	27	4	3		0.25	80			60			60	60	38	11.69	1.58	18.46	5	1.54	6	-1.00	0.54
Cockerington		Kolsveinn	Alnoth	0.25	0.25	0.5														3	3	0	0.00	0.00	12.00	0.5	2.00	0.25	0.25	1.00
Cockerington		Rainer of Brimeux		0.25	0.25						0.25											1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Cockerington		Rainer of Brimeux		1.75	3.5	1		2	8	4	1	1	1	60			20			40	40	14	8.00	2.86	22.86	2	1.14	3.5	-1.50	0.50
Cockerington		Alfred of Lincoln	Eadric and Maccus	1	1.75	0.5		2	1		0.5	0.25	0.5	70			58			21	30	3	3.00	10.00	30.00	1	1.00	1.75	-0.75	0.57
Covenham	2			6	7.75	5.5		30	23		7			210				7	5	170	160	53	8.83	3.02	26.67	12.5	2.08	7.75	4.75	0.77
Covenham		Bishop of Durham	Esbjorn	2.5	3.75	2.5		12	6		1.5			60				2	3	60	80	18	7.20	4.44	32.00	4	1.60	3.75	0.25	0.67
Covenham		William of Percy	Alsige, Ketill and Thorfrothr	3.5	4	3		18	17		5.5			150				5	2	110	80	35	10.00	2.29	22.86	8.5	2.43	4	4.50	0.88
Croft	1	Gilbert of Ghent	Othenkarl	2.25	2.25	2		3	9	3	3			120				1	0.5	20	80	15	6.67	5.33	35.56	5	2.22	2.25	2.75	1.00
Cumberworth	1	Rainer of Brimeux	Jaulfr	0.75		1		9			1			20						50	50	9	12.00	5.56	66.67	2	2.67		2.00	0.00
Driby	1	Gilbert of Ghent	Siward	5.5	5	4		3	7	5	3	2	1	60						120	100	15	2.73	6.67	18.18	7	1.27	5	2.00	1.10
Fenby	1	Count Alan		3	6				15	2	3.5			40								17	5.67	0.00	0.00	3.5	1.17	6	-2.50	0.50
Fordington Ashby (by Partney) Bratoft and Langene	1	Earl Hugh		18	18.5			26	49	22	18			620								97	5.39	0.00	0.00	18	1.00	18.5	-0.50	0.97
Fotherby	3			11.75	13.25	1		6	34	2	7			166				4	2	90	23	42	3.57	0.55	1.96	8	0.68	13.25	-5.25	0.89
Fotherby		Bishop of Durham	Sumarlithi and Arnketill	1	2.75			6	1		1			42						80	20	7	7.00	2.86	20.00	1	1.00	2.75	-1.75	0.36
Fotherby		William of Percy	Esbjorn	0.5	1.5									4						10	3	0	0.00	0.00	6.00	0	0.00	1.5	-1.50	0.33
Fotherby and Thorganby		Roger of Tosny		10.25	9	1			33	2	6			120				4	2			35	3.41	0.00	0.00	7	0.68	9	-2.00	1.14
Fulstow	4			6	10.5	5		41	5	20	5	1.25		420				25	16	220	220	66	11.00	3.33	36.67	10	1.67	10.5	-0.50	0.57
Fulstow		Bishop of Durham	Halfdan and Aelmer	1.25	2.5	1		16		10	0.5			60				11	2	60	80	26	20.80	3.08	64.00	1.5	1.20	2.5	-1.00	0.50
Fulstow		Count Alan	Rothulfr and Esbjorn	2.25	3.5	2		14	2	7	2			260				8	8	40	80	23	10.22	3.48	35.56	4	1.78	3.5	0.50	0.64
Fulstow		Earl Hugh	Godric	0.75	1.5	1		7		1	1			100						20	40	8	10.67	5.00	53.33	2	2.67	1.5	0.50	0.50
Fulstow		Robert the Bursar	Asketill	1.75	3	1		4	3	2	1.5	1.25						6	6	100	20	9	5.14	2.22	11.43	2.5	1.43	3	-0.50	0.58

Manor	No	Tenant 1086	Tenant 1066	Caruca-tes (Cs)	Land for x	Lordship Ps	Lordship Cs	Villagers V	Villagers F	Villagers S_H	Villagers Ps	Villagers Cs	Mills	Meadow	Wood	wood pasture	Under wood	salt pans	salt value	Value 1066	Value 1086	Pop	Tenants per C	Val per tenant	Val per C	Ploughs Ps	Ploughs per C	land for x plough	Ploughs/ land	Caruc. per land
Grainsby	1	Count Alan	Spillir, Aethelstan and Leofsige	3	5	1.5		12	13	4	3.5			51						70	80	29	9.67	2.76	26.67	5	1.67	5	0.00	0.60
Grainthorpe	3			3	0.5			12	16		4.25			100				6	6			28	9.33	0.00	0.00	4.25	1.42	0.5	3.75	6.00
Grainthorpe		King		2				6	13		2							6	6			19	9.50	0.00	0.00	2	1.00		2.00	0.00
Grainthorpe		Bishop of Durham		0.5				6			1.25			50								6	12.00	0.00	0.00	1.25	2.50		1.25	0.00
Grainthorpe		William of Percy		0.5	0.5				3		1			50								3	6.00	0.00	0.00	1	2.00	0.5	0.50	1.00
Grimoldby	2			4.25					6	5	3			100								11	2.59	0.00	0.00	3	0.71		3.00	0.00
Grimoldby		King		4					6	5	3			100								11	2.75	0.00	0.00	3	0.75		3.00	0.00
Grimoldby		Alfred of Lincoln		0.25																		0	0.00	0.00	0.00	0	0.00		0.00	0.00
Halton (Holegate) and (Little) Steeping	2			9.5	12	2		4	58		9		4	200						10	10	62	6.53	0.16	1.05	11	1.16	12	-1.00	0.79
Halton (Holegate) and (Little) Steeping		Count Alan	Aelfric	0.5	3	1								80						10	10	0	0.00	0.00	20.00	1	2.00	3	-2.00	0.17
Halton (Holegate) and (Little) Steeping		Ivo Tallboys		9	9	1		4	58		9		4	120								62	6.89	0.00	0.00	10	1.11	9	1.00	1.00
Hasthorpe	1	Gilbert of Ghent		1	2	1		2	4	2	0.75	0.5										8	8.00	0.00	0.00	1.75	1.75	2	-0.25	0.50
Haugh and Calceby	1	Bishop of Durham	Halfdan	0.25	0.5	0.5				1										10	10	1	4.00	10.00	40.00	0.5	2.00	0.5	0.00	0.50
Healing Clee and Thrunscoe	1	Archbishop of York		0.75	1.25			3	5		1			25								8	10.67	0.00	0.00	1	1.33	1.25	-0.25	0.60
Holton (le Clay)	4			4.75	7.25	0.75		11	14	3	5.25		1	32						73	108	28	5.89	3.86	22.74	6	1.26	7.25	-1.25	0.66
Holton (le Clay)		Rainer of Brimeux	Jaulfr	1	1.25	0.75		4		1	0.75			13						30	20	5	5.00	4.00	20.00	1.5	1.50	1.25	0.25	0.80
Holton (le Clay)		Count Alan	Thorgautr	0.75				2			0.75			5						3	8	2	2.67	4.00	10.67	0.75	1.00		0.75	0.00
Holton (le Clay)		Ivo Tallboys		2	4				14		3										40	14	7.00	2.86	20.00	3	1.50	4	-1.00	0.50
Holton (le Clay)		Ivo Tallboys	Esbjorn	1	2			5		2	0.75		1	14						40	40	7	7.00	5.71	40.00	0.75	0.75	2	-1.25	0.50
Humberston	1	Ivo Tallboys		6	12				67		18			200								67	11.17	0.00	0.00	18	3.00	12	6.00	0.50
Huttoft	3			18.5	20.5	1		20	69	23	16			860						15.5	15.5	112	6.05	0.14	0.84	17	0.92	20.5	-3.50	0.90
Huttoft		Alfred of Lincoln	Stjupi	0.25	0.25	0.5		1						40						10	10	1	4.00	10.00	40.00	0.5	2.00	0.25	0.25	1.00
Huttoft		Alfred of Lincoln	Siward	0.25	0.25	0.5								40						5.5	5.5	0	0.00	0.00	22.00	0.5	2.00	0.25	0.25	1.00
Huttoft Thurlby Sutton (le Marsh) Trusthorpe Bilsby and Markby		Earl Hugh		18	20			19	69	23	16			780								111	6.17	0.00	0.00	16	0.89	20	-4.00	0.90
Itterby	3			1.5	2.5	0.25		3	5		1.75			14						20	16	8	5.33	2.00	10.67	2	1.33	2.5	-0.50	0.60
Itterby		Bishop of Bayeux		1	1.5			2	5		1.5											7	7.00	0.00	0.00	1.5	1.50	1.5	0.00	0.67
Itterby		Drogo de la Beuvriere		0.25	0.25			1			0.25											1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Itterby		Waldin the Artificer	Eilafr	0.25	0.75	0.25								14						20	16	0	0.00	0.00	64.00	0.25	1.00	0.75	-0.50	0.33
Keddington	2			2	2	2		12	22		4.75	0.25	5.5	18						60	85	35	17.50	2.43	42.50	6.75	3.38	2	4.75	1.00
Keddington		Bishop of Durham	Harold and Arnthorr	1.25	1.5	1		12	15		4		3.5	12						40	60	27	21.60	2.22	48.00	5	4.00	1.5	3.50	0.83
Keddington		Rainer of Brimeux	Jaulfr	0.75	1	1			7		0.75	0.25	2	6						20	25	8	10.67	3.13	33.33	1.75	2.33	1	0.75	0.75
Legbourne	2			11	13.5			18	39	30	17			60	80		142			30	20	87	7.91	0.23	1.82	17	1.55	13.5	3.50	0.81
Legbourne		Earl Hugh		10	12			18	31	19	16			40	80							68	6.80	0.00	0.00	16	1.60	12	4.00	0.83
Legbourne		Roger of Poitou	Ambi	1	1.5				8	11	1			20			142			30	20	19	19.00	1.05	20.00	1	1.00	1.5	-0.50	0.67
Louth	1	Bishop of Lincoln	Bishop of Lincoln	12	12	3		2	40		15		13	21	400					240	440	124	10.33	3.55	36.67	18	1.50	12	6.00	1.00
Ludborough	1	Roger of Tosny		8	12	3			38		5			200								38	4.75	0.00	0.00	8	1.00	12	-4.00	0.67
Mablethorpe	2			1	2.25			9			2			40								9	9.00	0.00	0.00	2	2.00	2.25	-0.25	0.44
Mablethorpe		Gilbert of Ghent		0.5	1			4			1			20								4	8.00	0.00	0.00	1	2.00	1	0.00	0.50
Mablethorpe		Rainer of Brimeux		0.5	1.25			5			1			20								5	10.00	0.00	0.00	1	2.00	1.25	-0.25	0.40
Maltby le Marsh	2			3.5	3.75			4	17		3			80			5			10	10	21	6.00	0.48	2.86	3	0.86	3.75	-0.75	0.93
Maltby le Marsh		Count Alan	Broklauss	0.75	0.75			4	3		1			20						10	10	7	9.33	1.43	13.33	1	1.33	0.75	0.25	1.00
Maltby le Marsh		Gilbert of Ghent		2.75	3				14		2			60			5					14	5.09	0.00	0.00	2	0.73	3	-1.00	0.92
Manby	1	King		3					20		4											20	6.67	0.00	0.00	4	1.33		4.00	0.00
Markby	1	Jocelyn son of Lambert		0.25					1		0.25											1	4.00	0.00	0.00	0.25	1.00		0.25	0.00
Muckton	1	Asgautr	Thorfrothr	1.5	3	1		5	2	2	1.5			7			4.25			30	20	9	6.00	2.22	13.33	2.5	1.67	3	-0.50	0.50
Mumby	5			12.5	18	6		64	4	29	8.75			630						200	320	95	7.60	3.37	25.60	14.75	1.18	18	-3.25	0.69
Mumby		Count Alan	Earnwine	3	4	3		16		8	1.5			200								24	8.00	0.00	0.00	4.5	1.50	4	0.50	0.75

Manor	No	Tenant 1086	Tenant 1066	Caruca-tes (Cs)	Land for x	Lordship Ps	Lordship Cs	Villagers V	Villagers F	Villagers S_H	Villagers Ps	Villagers Cs	Mills	Meadow	Wood	wood pasture	Under wood	salt pans	salt value	Value 1066	Value 1086	Pop	Tenants per C	Val per tenant	Val per C	Ploughs Ps	Ploughs per C	land for 1x plough	Ploughs/ land	Caruc. per land
Mumby		Count Alan	Ormketill, Sigfrothr, Aelfric, Sveinn, Svafi and Holmketill	8	11.75	3		40	4	12	5.75			310						200	320	56	7.00	5.71	40.00	8.75	1.09	11.75	-3.00	0.68
Mumby		Gilbert of Ghent		0.25	0.5			1			0.25											1	4.00	0.00	0.00	0.25	1.00	0.5	-0.25	0.50
Mumby		Gilbert of Ghent		0.5	0.75			6		8	1			110								14	28.00	0.00	0.00	1	2.00	0.75	0.25	0.67
Mumby		Eudo son of Spirewic		0.75	1			1		1	0.25			10								2	2.67	0.00	0.00	0.25	0.33	1	-0.75	0.75
Partney (Great) Steeping Skegness and Burgh (le Marsh)	1	Robert the Bursar		2.5	2.5			2	5		0.5			30								7	2.80	0.00	0.00	0.5	0.20	2.5	-2.00	1.00
Rigsby	3			4	6.75	2		10	7	8	2.25			20	12	210	18			200	160	26	6.50	6.15	40.00	4.25	1.06	6.75	-2.50	0.59
Rigsby		Bishop of Bayeux	Thorulfr and Authbjorn	1.25	2	1		5		3	0.5					120	60			60	60	8	6.40	7.50	48.00	1.5	1.20	2	-0.50	0.63
Rigsby		Archbishop of York	halfdan	0.75	1.25	1		3		4	0.25					90	60			60	60	8	10.67	7.50	80.00	1.25	1.67	1.25	0.00	0.60
Rigsby Ailby Tatebi		Archbishop of York		2	3.5			2	7	1	1.5			20	12		20			80	40	10	5.00	4.00	20.00	1.5	0.75	3.5	-2.00	0.57
Saleby	2			2.5	2.5			4	2		2.25			10			30					6	2.40	0.00	0.00	2.25	0.90	2.5	-0.25	1.00
Saleby		Gilbert of Ghent		0.5	0.5			2			0.25			10			30					2	4.00	0.00	0.00	0.25	0.50	0.5	-0.25	1.00
Saleby		Hugh son of Baldric		2	2			2	2		2											4	2.00	0.00	0.00	2	1.00	2	0.00	1.00
Saltfleetby	6			3.25	1.25			1	43	9	4.5			120								53	16.31	0.00	0.00	4.5	1.38	1.25	3.25	2.60
Saltfleetby		King	?	2					40	9	4			120								49	24.50	0.00	0.00	4	2.00		4.00	0.00
Saltfleetby		Bishop of Durham		0.25	0.25			1	3		0.5											4	16.00	0.00	0.00	0.5	2.00	0.25	0.25	1.00
Saltfleetby		Bishop of Durham		0.25																		0	0.00	0.00	0.00	0	0.00		0.00	0.00
Saltfleetby		Alfred of Lincoln		0.25	0.25																	0	0.00	0.00	0.00	0	0.00	0.25	-0.25	1.00
Saltfleetby		Rainer of Brimeux		0.25	0.25																	0	0.00	0.00	0.00	0	0.00	0.25	-0.25	1.00
Saltfleetby and Skidbrooke		William Blunt		0.25	0.5																	0	0.00	0.00	0.00	0	0.00	0.5	-0.50	0.50
Scremby	4			6	5.25	1		5	15	8	6			100						40	20	28	4.67	0.71	3.33	7	1.17	5.25	1.75	1.14
Scremby		Bishop of Durham	Fenkell	1	1	1		4			0.75									40	20	4	4.00	5.00	20.00	1.75	1.75	1	0.75	1.00
Scremby		Bishop of Durham		0.25																		0	0.00	0.00	0.00	0	0.00		0.00	0.00
Scremby		Gilbert of Ghent		4.5	4				15	8	5			100								23	5.11	0.00	0.00	5	1.11	4	1.00	1.13
Scremby		Eudo son of Spirewic		0.25	0.25			1			0.25											1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Skegness	3			1	1			2			0.5			120								4	4.00	0.00	0.00	0.5	0.50	1	-0.50	1.00
Skegness		Count Alan		0.5	0.5					1				60								1	2.00	0.00	0.00	0	0.00	0.5	-0.50	1.00
Skegness		Eudo son of Spirewic		0.25	0.25						0.25			30								1	4.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Skegness		Eudo son of Spirewic		0.25	0.25			2			0.25			30								2	8.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Skendleby	1	Gilbert of Ghent		6	6	3			28	9	9		2	40								37	6.17	0.00	0.00	12	2.00	6	6.00	1.00
Skidbrooke	2			4	1.25	2		3	24		8.5			69								33	8.25	0.00	0.00	10.5	2.63	1.25	9.25	3.20
Skidbrooke		King		3				3	24		8.5			60								27	9.00	0.00	0.00	8.5	2.83		8.50	0.00
Skidbrooke		Bishop of Durham		1	1.25	2								9								6	6.00	0.00	0.00	2	2.00	1.25	0.75	0.80
Sloothby	5			3	5.25			26		9	3.5			99						20	6	35	11.67	0.17	2.00	3.5	1.17	5.25	-1.75	0.57
Sloothby		Bishop of Durham		0.5	1			6		2	0.5			20								8	16.00	0.00	0.00	0.5	1.00	1	-0.50	0.50
Sloothby		Ivo Tallboys		1	1.5			8		3	1			15								11	11.00	0.00	0.00	1	1.00	1.5	-0.50	0.67
Sloothby		Gilbert of Ghent		0.5	0.75			2			0.5											2	4.00	0.00	0.00	0.5	1.00	0.75	-0.25	0.67
Sloothby		Gilbert of Ghent		0.5	1			6		1	1			60								7	14.00	0.00	0.00	1	2.00	1	0.00	0.50
Sloothby		Hugh son of Baldric	Dena	0.5	1			4		3	0.5			4						20	6	7	14.00	0.86	12.00	0.5	1.00	1	-0.50	0.50
Somercotes	3			4	0.5			7	33	8	6.5			80								49	12.25	0.00	0.00	6.5	1.63	0.5	6.00	8.00
Somercotes		King		3				7	30	8	6			80								45	15.00	0.00	0.00	6	2.00		6.00	0.00
Somercotes		Roger of Poitou		0.25	0.5				3		0.25											3	12.00	0.00	0.00	0.25	1.00	0.5	-0.25	0.50
Somercotes		Rainer of Brimeux	3 men	0.75							0.25											1	1.33	0.00	0.00	0.25	0.33		0.25	0.00
Spilsby Eresby and Thorpe (St Peter)	2			8	9	1		5	17	1	3		2	12						20	20	23	2.88	0.87	2.50	4	0.50	9	-5.00	0.89
Spilsby Eresby and Thorpe (St Peter)		Bishop of Durham	Alnoth	6	6	1		5	5	1	1		2	12						20	20	11	1.83	1.82	3.33	2	0.33	6	-4.00	1.00

Manor	No	Tenant 1086	Tenant 1066	Caruca-tes (Cs)	Land for x	Lordship Ps	Lordship Cs	Villagers V	Villagers F	Villagers S_H	Villagers Ps	Villagers Cs	Mills	Meadow	Wood	wood pasture	Under wood	salt pans	salt value	Value 1066	Value 1086	Pop	Tenants per C	Val per tenant	Val per C	Ploughs Ps	Ploughs per C	land for 1x plough	Ploughs/ land	Caruc. per land
Spilsby Eresby and Thorpe (St Peter)		Bishop of Durham		2	3				12		2											12	6.00	0.00	0.00	2	1.00	3	-1.00	0.67
Stewton	2			2.25	4	3		8	10	1	1	0.5		3		260				40	75	19	8.44	3.95	33.33	4	1.78	4	0.00	0.56
Stewton		Bishop of Bayeux	Asketill	0.5	0.75	1				1				3		60				20	15	1	2.00	15.00	30.00	1	2.00	0.75	0.25	0.67
Stewton		Alfred of Lincoln	Aelmer	1.75	3.25	2		8	10		1	0.5				200				20	60	18	10.29	3.33	34.29	3	1.71	3.25	-0.25	0.54
Strubby	4			2.75	3	2.5		6	12	0	3.75			50								18	6.55	0.00	0.00	6.25	2.27	3	3.25	0.92
Strubby		Bishop of Bayeux		1.25		2.5		4	5		2											9	7.20	0.00	0.00	4.5	3.60		4.50	0.00
Strubby		Count Alan		0.25	0.75				2		0.5			10								2	8.00	0.00	0.00	0.5	2.00	0.75	-0.25	0.33
Strubby		Gilbert of Ghent		0.25	0.75			2			0.5			10								2	8.00	0.00	0.00	0.5	2.00	0.75	-0.25	0.33
Strubby and Maltby le Marsh		Hugh son of Baldric		1	1.5				5		0.75			30								5	5.00	0.00	0.00	0.75	0.75	1.5	-0.75	0.67
Sutterby Dalby and Dexthorpe		Earl Hugh		15	16	1		8	47	11	11			80								66	4.40	0.00	0.00	12	0.80	16	-4.00	0.94
Sutton (le Marsh)	5			2.5	3.25	1		16	12	8	2.75			194						40	45	36	14.40	1.25	18.00	3.75	1.50	3.25	0.50	0.77
Sutton (le Marsh)		Eudo son of Spirewic		0.75	1			2	4	2	0.75			80								8	10.67	0.00	0.00	0.75	1.00	1	-0.25	0.75
Sutton (le Marsh)		Svartbrandr and other thanes	Siric	0.75	1	1		6	4	6	1			50						40	40	16	21.33	2.50	53.33	2	2.67	1	1.00	0.75
Sutton (le Marsh)		Svartbrandr and other thanes	Siward	0.25	0.25				4		0.5			4							5	4	16.00	1.25	20.00	0.5	2.00	0.25	0.25	1.00
Sutton (le Marsh)		Count Alan		0.25				2						20								2	8.00	0.00	0.00	0	0.00		0.00	0.00
Sutton (le Marsh), Trusthorpe and Addlethorpe		Archbishop of York		0.5	1			6			0.5			40								6	12.00	0.00	0.00	0.5	1.00	1	-0.50	0.50
Swaby Belleau (South) Thoresby Claythorpe and Tothill	1	Earl Hugh		12	18			22	46	38	31		6	20		600						106	8.83	0.00	0.00	31	2.58	18	13.00	0.67
Tetney	1	Ivo Tallboys	Thorgils and Sveinn	4	8	6		25	12	7	6		1	140				13	12	200	400	44	11.00	9.09	100.00	12	3.00	8	4.00	0.50
Theddlethorpe	3			1.5	1.5			1	13	1	1			94								15	10.00	0.00	0.00	1	0.67	1.5	-0.50	1.00
Theddlethorpe		Count Alan		0.5	0.5				5	1	0.5			30								6	12.00	0.00	0.00	0.5	1.00	0.5	0.00	1.00
Theddlethorpe		Alfred of Lincoln		0.5	0.5			1	4		0.25			40								5	10.00	0.00	0.00	0.25	0.50	0.5	-0.25	1.00
Theddlethorpe		Svartbrandr and other thanes	Siric	0.5	0.5				4		0.25			24								4	8.00	0.00	0.00	0.25	0.50	0.5	-0.25	1.00
Thoresthorpe	1	Hugh son of Baldric		2	2				5	2	2.5			40			40					7	3.50	0.00	0.00	2.5	1.25	2	0.50	1.00
Thorpe St Peter	1	Ivo Tallboys		2.75	2.75			8	18		3			280								26	9.45	0.00	0.00	3	1.09	2.75	0.25	1.00
Thrunscoe	2			1	1.75	1		6	3		0.75			12						20	20	9	9.00	2.22	20.00	1.75	1.75	1.75	0.00	0.57
Thrunscoe		Ivo Tallboys	Grimketill	0.75	1.25	1		5			0.25			12						20	20	5	6.67	4.00	26.67	1.25	1.67	1.25	0.00	0.60
Thrunscoe		Bishop of Bayeux		0.25	0.5			1	3		0.5											4	16.00	0.00	0.00	0.5	2.00	0.5	0.00	0.50
Tothby	1	Bishop of Bayeux		0.5	1.25				3		0.5			20	12							3	6.00	0.00	0.00	0.5	1.00	1.25	-0.75	0.40
Ulceby	2			0.5	1.5				1		1											1	2.00	0.00	0.00	1	2.00	1.5	-0.50	0.33
Ulceby		Gilbert of Ghent		0.25	0.5				1		1											1	4.00	0.00	0.00	1	4.00	0.5	0.50	0.50
Ulceby		Rainer of Brimeux		0.25	1																	0	0.00	0.00	0.00	0	0.00	1	-1.00	0.25
Wainfleet	7			22.5	22			56	83	37	21			1107			80	31	15.5			176	7.82	0.00	0.00	21	0.93	22	-1.00	1.02
Wainfleet		Bishop of Durham	3 brothers	1	1			10		1	1.25			83				2	0.5			11	11.00	0.00	0.00	1.25	1.25	1	0.25	1.00
Wainfleet		Gilbert of Ghent		0.25				6			0.25							6	3			6	24.00	0.00	0.00	0.25	1.00		0.25	0.00
Wainfleet		Jocelyn son of Lambert		0.25	0.25			2			0.25			20				1	0.5			2	8.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Wainfleet		Eudo son of Spirewic		0.25	0.25			2		1	0.5											3	12.00	0.00	0.00	0.5	2.00	0.25	0.25	1.00
Wainfleet		Eudo son of Spirewic		0.25	0.25			3			0.25			4				2	1.5			3	12.00	0.00	0.00	0.25	1.00	0.25	0.00	1.00
Wainfleet		Gilbert of Ghent		0.25																		0	0.00	0.00	0.00	0	0.00		0.00	0.00
Wainfleet Haugh Calceby Theddlethorpe and Mablethorpe		Earl Hugh		20.25	20.25			33	83	35	18.5			1000			80	20	10			151	7.46	0.00	0.00	18.5	0.91	20.25	-1.75	1.00
Waithe	3			2.5	2.5			4	19		3			35								23	9.20	0.00	0.00	3	1.20	2.5	0.50	1.00
Waithe		Count Alan		1.5	1.5				12		1.5			20								12	8.00	0.00	0.00	1.5	1.00	1.5	0.00	1.00
Waithe		Ivo Tallboys		0.25	0.25			4	1		0.5			5								5	20.00	0.00	0.00	0.5	2.00	0.25	0.25	1.00
Waithe		Guy of Craon		0.75	0.75				6		1			10								6	8.00	0.00	0.00	1	1.33	0.75	0.25	1.00
Waltham	1	Count Alan	Ralph the Constable	6	12	4		12	18	1	9.5			68						400	900	32	5.33	28.13	150.00	13.5	2.25	12	1.50	0.50
Well	2			1.25	3.5	2		14	5		1	0.25	1	1.5	22					160	140	19	15.20	7.37	112.00	3	2.40	3.5	-0.50	0.36
Well		Bishop of Bayeux		0.25	0.5			2	1													3	12.00	0.00	0.00	0	0.00	0.5	-0.50	0.50

Manor	No	Tenant 1086	Tenant 1066	Caruca-tes (Cs)	Land for x	Lordship Ps	Lordship Cs	Villagers V	Villagers F	Villagers S_H	Villagers Ps	Villagers Cs	Mills	Meadow	Wood	wood pasture	Under wood	salt pans	salt value	Value 1066	Value 1086	Pop	Tenants per C	Val per tenant	Val per C	Ploughs Ps	Ploughs per C	land for x plough	Ploughs/ land	Caruc. per land
Well		Gilbert of Ghent	Tonni	1	3	2		12	4		1	0.25	1	1.5	22					160	140	16	16.00	8.75	140.00	3	3.00	3	0.00	0.33
Welton (le Marsh) and Boothby	3			5.5	7	0.5		2	21	5	7		1									28	5.09	0.00	0.00	7.5	1.36	7	0.50	0.79
Welton (le Marsh) and Boothby		Ivo Tallboys		2.25	3			2	7	5	4		1									14	6.22	0.00	0.00	4	1.78	3	1.00	0.75
Welton (le Marsh) and Boothby		Gilbert of Ghent		1	1																	0	0.00	0.00	0.00	0	0.00	1	-1.00	1.00
Welton (le Marsh) and Boothby		Jocelyn son of Lambert		2.25	3	0.5			14		3											14	6.22	0.00	0.00	3.5	1.56	3	0.50	0.75
Willoughby	2			2.5	4.75	2			4		2	0.5		40		120	60			100	170	4	1.60	42.50	68.00	4	1.60	4.75	-0.75	0.53
Willoughby		Gilbert of Ghent	Tonni	2	4	2			4		2	0.5		40		120	60			80	160	4	2.00	40.00	80.00	4	2.00	4	0.00	0.50
Willoughby		Gilbert of Ghent		0.5	0.75															20	10	0	0.00	0.00	20.00	0	0.00	0.75	-0.75	0.67
Withern	3			11.75	11.5	2		25	45		11.5		1	208			152					71	6.04	0.00	0.00	13.5	1.15	11.5	2.00	1.02
Withern		Hugh son of Baldric		0.75	1			2	8		2			12			60					10	13.33	0.00	0.00	2	2.67	1	1.00	0.75
Withern		Gilbert of Ghent		3.5	4	2		13	20		3		1	180								34	9.71	0.00	0.00	5	1.43	4	1.00	0.88
Withern Aby Haugh and Calceby		Earl Hugh		7.5	6.5			10	17		6.5			16			92					27	3.60	0.00	0.00	6.5	0.87	6.5	0.00	1.15
Woodthorpe	1	Hugh son of Baldric		2.5	5				19	9	4						3.25					28	11.20	0.00	0.00	4	1.60	5	-1.00	0.50
Yarburgh	1	King		2.75																		0	0.00	0.00	0.00	0	0.00		0.00	0.00

Appendix 7

Lindsey Survey

The following table of Lindsey Survey data was compiled from Foster and Longley (1924).

The following data is presented under the name of the vill. Every record for that particular vill is listed separately, but there is also a combined record for each vill (in bold). On occasions when there is only a single record for the vill, this record is also the combined record (so appears in bold). These combined records were the ones that were used to display data on the majority of the maps produced within this thesis. Unlike the Domesday Book, the amount of information recorded in the Lindsey Survey is limited to landholder and carucate value.

Key to table:

Manor	Name of manor
No	Number of records that have been totaled for the combined record
Landholder	Name of landholder
Carucates (Cs)	Calculated into carucates to 0.25

See Chapter 4 for further discussion of the Lindsey Survey.

Manor	No	Landholder	Carucate
(North) Reston and (Little) Carlton	1	Alan de Percy	2.5
(North) Thoresby	1	Hugh de Laval	4.5
Aby	1	Earl Richard	0.5
Addlethorpe	1	Hugh de Vallo	0.25
Alford	1	Robert de Brus	0.5
Alvingham	3		2
Alvingham		Count of Brittany	1.25
Alvingham		Hugh de Vallo	0.5
Alvingham		Ralf de Criol	0.25
Ashby by Partney	1	Earl Richard	5
Ashby cum Fenby	3		3.25
Ashby cum Fenby		Count of Brittany	0.75
Ashby cum Fenby		Alan of Craon	1.25
Ashby cum Fenby		Hugh de Laval	1.25
Autby	1	Count of Brittany	1.25
Authorpe	2		2.75
Authorpe		Hugh son of Eudo	0.75
Authorpe		Ansgot of Burwell	2
Bonthorpe	1	Bishop Ranulf	1.5
Bratoft and Irby in the Marsh	1	Earl Richard	11
Briglsey	3		3
Briglsey		Count of Brittany	1.5
Briglsey		Hugh de Laval	0.75
Briglsey and Waithe		Alan of Craon	0.75
Burgh le Marsh	1	Count of Brittany	3
Castle Carlton and Great Carlton	1	Ansgot of Burwell	4
Clee and Thrunscoe	1	Hugh de Vallo	1.5
Cockerington	4		5.5
Cockerington		Bishop of Durham	0.25
Cockerington		Alan of Lincoln	0.5

Manor	No	Landholder	Carucate
Cockerington		Hugh de Vallo	3
Cockerington		Ralf de Criol	1.75
Coveham	2		5
Coveham		Monks of Covenham	3
Coveham		Alan de Percy	2
Croft	1	Roger de Ganto	2.5
Dalby and Fordington	1	Earl Richard	11
Fenby	1	Count of Brittany	3
Fotherby	3		6
Fotherby		Robert de Insula	4.5
Fotherby		Bishop of Durham	1
Fotherby		Alan de Percy	0.5
Friskney and Wainfleet	1	Earl Richard	8.75
Fulstow	3		4.75
Fulstow		Picot de Laceles	2.25
Fulstow		Earl Richard	0.75
Fulstow		Roger Marmion	1.75
Grainsby	1	Count of Brittany	3
Grainthorpe	1	Count of Brittany	2
Great Carlton and Somercotes	1	Robert de Haia	0.75
Grimoldby	2		4.25
Grimoldby		Count of Brittany	3.25
Grimoldby		Alan of Lincoln	1
Hanby	1	Ranulf Mischin	2
Holton (le Clay)	1	Ralf de Criol	1
Humberston	1	Ranulf Mischin	12
Huttoft	3		9.25
Huttfoft		Earl Richard	8
Huttfoft		Ketelbern of Keal	0.5
Huttfoft		Alan of Lincoln	0.75
Ingoldmells	1	Hugh de Vallo	0.75

Manor	No	Landholder	Carucate
Keddington	2		2.5
Keddington		Ralf de Criol	0.5
Keddington and Calcethorpe		Bishop of Durham	2
Legbourne	1	Earl Richard	10
Louth	1	Bishop of Lincoln	12
Ludborough	1	Robert de Insula	8
Ludney	3		1.5
Ludney		Monks of Covenham	1
Ludney		Alan de Percy	0.5
Mablethorpe/Cumberworth/Sutton le Marsh/Ulceby	1	Randulf of Criol	1.75
Maltby le Marsh	1	Gilbert son of Gocelin	0.5
Manby	1	Count of Brittany	3
Markby	1	Gilbert son of Gocelin	0.5
Muckton	1	Ansgot of Burwell	1.5
Mumby	1	Count of Brittany	9
Newton le Wold and Autby	1	Walbert	0.25
Rigsby	2		6
Rigsby		Archbishop of York	3.75
Rigsby		Count of Brittany	2.25
Rothwell and North Cotes	1	Manasiet Arsic	0.5
Saltfleetby	5		4.25
Saltfleetby		Count of Brittany	3
Saltfleetby		Bishop of Durham	0.25
Saltfleetby		Hugh de Vallo	0.5
Saltfleetby		Ralf de Criol	0.25
Saltfleetby and Skidbrooke		William Mischin	0.25
Skidbrooke	3		3.5
Skidbrooke		Count of Brittany	3
Skidbrooke		Bishop of Durham	0.25
Skidbrooke		Ralf Paganel	0.25

Manor	No	Landholder	Carucate
Somercotes	6		4.25
Somercotes		Count of Brittany	3
Somercotes		Ansgot of Burwell	0.25
Somercotes		Hugh de Vallo	0.25
Somercotes		Ralf de Criol	0.25
Somercotes		Ralf Paganel	0.25
Somercotes		Ralf Paganel	0.25
Stewton	1	Alan of Lincoln	2
Sutton in the Marsh/Markby/Theddlethorpe	1	Ketelbern of Keal	2.5
Swaby	1	Earl Richard	12
Tetney/ Humberston/ Thrunscoe and Waithe	1	Ranulf Mischin	15.5
Theddlethorpe	1	Earl Richard	10.8
Thorpe St Peter	1	Count of Brittany	0.5
Thrunscoe	1	Ranulf Mischin	1
Ulceby	2		2.75
Ulceby		Earl Richard	2.5
Ulceby		Bishop Ranulf	0.25
Waithe	3		3.25
Waithe		Count of Brittany	1.5
Waithe		Hugh de Laval	0.75
Waithe		Ranulf Mischin	1
Waltham	1	Count of Brittany	6
Welton le Marsh	3		52.5
Welton le Marsh		Gilbert son of Gocelin	2
Welton le Marsh		Walter de Ganto	48.5
Welton le Marsh		Ranulf Mischin	2
Withern and Stain	1	Earl Richard	1.5
Yarburgh	1	Count of Brittany	2.75

Manor	No	Landholder	Carucate
Unknown		Ketelbern of Keal	1
Unknown		Bishop of Durham	4.5
Unknown		Hugh son of Randulf	7.25
Unknown		Robert of Haia	0.5
Unknown		Hugh son of Eudo	4.75
Unknown		Walter de Ganto	18.5
Unknown		Alan of Craon	10
Unknown		Count of Mortain	2
Unknown		Manasiet Arsic	3
Unknown		Hugh son of Randulf	1.25
Unknown		Richard of Lincoln	0.25

Appendix 8

Lay subsidies and poll taxes

The following table displays the data for the 1334 lay subsidy (compiled from Glasscock 1975), 1377 poll tax (compiled from Fenwick, C. 2001, 2005), and the lay subsidies from 1524, 1525 and 1543 (compiled from Sheail 1998b). All amounts paid are given in pence. The final column notes the number of households recorded in the 1563 Diocesan return (Hodgett 1975).

Key to notes in table:

a: assessed with another settlement

b: no record

c: assessed as a single settlement

d: Thoresthorpe not included

e: now with Saltfleet Haven

f: now with Aby

g: Thurlby and Asserby now named as members

h: now with Belleau

i: now assessed as separate settlements

j: Little Grimsby & Wragholme named as members

k. Now only Great Carlton

l: Stewton assessed separately

m: now with Addlethorpe

n: now with Louth Park

o: now with Cawthorpe

p: now with Wytham

q: now with Stain

r: now with Strubby and Woodthorpe

s: South Reston now assessed separately

t: now with Boothby

u: Bonthorpe not included

v: Stain now assessed with Mablethorpe

x: Now includes Hagnaby and Hannah

y: Little Grimsby assessed separately

z: Greenfield not included

Place	1334	1377 poll tax		1524 lay subsidy			1525 lay subsidy			1543	1563
	total paid	no. taxed	total paid	no. taxed	total paid	per head	no. taxed	total paid	per head	no. taxed	households
Aby and Greenfield	[a]	[a]		10	88	8.80	[b]			14	[z] 14
Addlethorpe	[b]	[b]		[a]			[b]			49	44
Alford with members	932	[b]		70	3414	48.77	[b]			46	101
Alvingham	652	90	360	[f] 21	1038	21.00	[b]			[f] 26	30
Anderby	1280	[b]		24	1106	46.08	[b]			22	32
Ashby and Fenby	1010	[b]		22	680	30.91	23	696	30.26	20	23
Ashby by Partney	560	65	260	25	1040	41.60	22	1032	46.91	17	34
Autby	164.25	[b]		[b]			[b]			[b]	1
Authorpe - louthesk	[b]	[b]		11	142	12.91	[b]			16	24
Beesby	747	[b]		15	330	22.00	[b]			23	31
Belleau and Aby	456	68	272	[a]			[b]			7	10
Bilsby with members	818	[b]		[g] 51	2504	49.10	[b]			[g] 45	40
Bonthorpe	[a]	[b]		[b]			[b]			[b]	6
Brackenborough	308	28	112	[b]			[b]			[b]	[b]
Bratoft	740	106	424	16	342	21.38	25	372	14.88	41	34
Brigsley	674	114	456	22	490	22.27	19	522	27.47	13	25
Burgh le Marsh	1772.5	372	1488	58	4828	83.24	80	3960	49.50	92	92
Calceby	297	60	240	8	100	12.50	[b]			15	18
Candlesby and Gunby	801.75	107	428	[b]			11	284	25.82	26	24
Castle Carlton	[a]	[a]		4	40	10.00	[b]			5	21
Claxby	523	64	256	16	188	11.75	[b]			9	12
Claythorpe	306	[b]		[h] 17	236	13.88	[b]			18	21
Clee with members	1607	[b]		66	710	10.76	69	704	10.20	61	22
Cockerington	1476	266	1064	[i]			[b]			[i]	[i]
Cockerington Leynard (South)	[c]	[c]		29	556	19.17	[b]			27	32
Cockerington Maire (North)	[c]	[c]		32	1112	34.75	[b]			39	73
Conisholme	488.5	80	320	25	978	39.12	[b]			20	20
Covenham and Cawthorpe	1442	181	724	33	568	17.21		568		56	[i]
Covenham St Bartholomew	[c]	[c]		[c]			[c]			[c]	33
Covenham St Marys	[c]	[c]		[c]			[c]			[c]	39
Croft	1244	200	800	[b]	3276		[b]			73	67

Place	1334	1377 poll tax		1524 lay subsidy			1525 lay subsidy			1543	1563
	total paid	no. taxed	total paid	no. taxed	total paid	per head	no. taxed	total paid	per head	no. taxed	households
Cumberworth	517	80	320	19	782	41.16	[b]			13	27
Driby	328	57	228	[b]			[b]			[b]	10
Farlesthorpe	442	51	204	18	1360	75.56	[b]			24	20
Firsby	664	108	432	[b]			17	938	55.18	26	26
Fordington	184.25	27	108	6	116	19.33	5	110	22.00	5	3
Fotherby with members	1212.5	[b]		[j] 41	1504	36.68	[j] 47	1594	33.91	18	30
Fulstow	1742	[b]		48	610	12.71	48	638	13.29	54	108
Gayton le Marsh	722	98	392	35	720	20.57	[b]			34	59
Grainsby	436	[b]		14	400	28.57	17	466	27.41	23	21
Grainthorpe	1293	220	880	43	794	18.47	[b]			39	24
Great Carlton and Castle Carlto	880	80	320	[k] 17	952	56.00	[b]			[k] 28	36
Great Steeping	1162	115	460	[b]			25	892	35.68	37	30
Grimoldby and Stewton	664	135	540	[l] 36	424	11.78	[b]			[l] 37	45
Gunby	[a]	[a]		12	706	58.83	12	690	57.50	[b]	15
Habertoft	[b]	[b]		[b]			[b]			[b]	5
Hagnaby and Hannah	[b]	[b]		17	656	38.59	[b]			[a]	10
Halton (Holegate)	1115	285	1140	19	576	30.32	[b]			66	43
Hannah	[b]	[b]		[a]			[b]			[a]	15
Hasthorpe	[b]	[b]		[b]			[b]			[b]	4
Haugh	211.25	38	152	7	368	52.57	[b]			1	[b]
Hogsthorpe	1600	160	640	43	1830	42.56	[b]			46	70
Holton le Clay	591.25	[b]		14	212	15.14	c20	274		19	24
Houll hamlet	[a]	[a]		[a]			[a]			[a]	14
Humberston	1444	[b]		31	594	19.16	34	604	17.76	34	52
Huttoft	1440	375	1500	72	1730	24.03	[b]			64	80
Ingoldmells	2502	401	1604	[m] 70	2580	36.86	[b]	1506		39	39
Irby in the Marsh	389.75	60	240	[b]			13	580	44.62	14	12
Keddington	182	78	312	[n] 27	308	11.41	[b]			[n] 25	44
Legbourne	508	90	360	[o] 30	776	25.87	[b]			[o] 46	44
Little Carlton	276	22	88	7	64	9.14	[b]			9	12
Little Grimsby	[b]	[a]		[a]			[b]			2	4

Place	1334	1377 poll tax		1524 lay subsidy			1525 lay subsidy			1543	1563
	total paid	no. taxed	total paid	no. taxed	total paid	per head	no. taxed	total paid	per head	no. taxed	households
Little Steeping	671.25	[b]		25	1153	46.12	30	762	25.40	30	39
Louth	3637.75	684	2736	151	9220	61.06	[b]			162	[b]
Louth Park Hamlet	[b]	[b]		[b]			[b]			[b]	7
Ludborough	775	[b]		[p] 22	810	36.82	[b]			[p] 39	38
Ludney hamlet	[b]	[b]		[b]			[b]			[b]	12
Mablethorpe	1613.75	278	1112	[q] 54	5220	96.67	[b]			39	32
Maltby le Marsh	816	116	464	[r] 48	906	18.88	[b]			29	31
Manby	834	54	216	21	302	14.38	[b]			24	40
Markby with members	636	[b]		15	158	10.53	[b]			[x] 24	20
Marshchapel	[b]	[b]			1170		46	1218	26.48	64	55
Mawthorpe	[b]	[b]		[b]			[b]			[b]	5
Muckton	60	[b]		14	132	9.43	[b]			14	35
Mumby	2091	403	1612	86	1786	20.77	[b]			78	50
Mumby Chapel	[b]	[b]		[b]			[b]			[b]	36
North Coates	848	[b]		41	902	22.00	35	924	26.40	25	37
North Reston	300	20	80	9	108	12.00	[b]			10	15
North Somercotes	[c]	[c]		25	650	26.00	[b]			74	86
North Thoresby	764	154	616	30	1038	34.60	28	498	17.79	35	50
Northolme	827.5	110	440	[b]			22	912	41.45	8	[b]
Orby	720	109	436	26	488	18.77	26	494	19.00	33	42
Rigsby and Ailby	416	55	220	12	144	12.00	[b]			11	16
Saleby and Thoresthorpe	806	[d] 120	480	29	400	13.79	[b]			36	22
Saltfleetby	1758	320	1280	69	3404	49.33	[b]			56	[i]
Saltfleetby All Saints	[c]	[c]		[c]			[c]			[c]	31
Saltfleetby St Clement	[c]	[c]		[c]			[c]			[c]	13
Saltfleetby St Peter	[c]	[c]		[c]			[c]			[c]	31
Saltfleethaven hamlet	[c]	[c]		[c]			[c]			[c]	29
Scremby	602.75	91	364	[b]			[b]			18	18
Scupholme hamlet	[b]	[b]		[b]			[b]			[b]	10
Skegness	821	140	560	[b]			20	430	21.50	10	14
Skendleby	950.5	159	636	17	358	21.06	25	474	18.96	20	27

Place	1334	1377 poll tax		1524 lay subsidy			1525 lay subsidy			1543	1563
	total paid	no. taxed	total paid	no. taxed	total paid	per head	no. taxed	total paid	per head	no. taxed	households
Skidbrooke	3070	e 343	1372	e 43	1152	26.79	b			e 35	28
Sloothby	1448	190	760	b			b			29	31
Somercotes	2031	300	1200	i			b			i	i
South Reston	a	a		10	114	11.40	b			8	13
South Somercotes	c	c		25	1074	42.96	b			47	44
South Thoresby	439.75	60	240	10	364	36.40	b			7	6
Stain	a	a		a			b			a	2
Stewton	a	a		12	208	17.33	b			8	12
Strubby and Woodthorpe	818	118	472	a			b			26	b
Sutterby	150	b			470		11	494	44.91	11	8
Sutton le Marsh	1486	b		41	1394	34.00	b			42	46
Swaby	516	b		10	102	10.20	b			6	17
Tetney	1208	b		67	1508	22.51	59	1600	27.12	64	90
Theddlethorpe	2410	b		78	3220	41.28	b			78	i
Theddlethorpe All Saints	c	b		c			b			c	44
Theddlethorpe St Helen	c	b		c			b			c	45
Thorpe and Trusthorpe	628	135	540	a			b			a	a
Thorpe St Peter	1204	222	888	13	965	74.23	25	852	34.08	33	42
Three Bridges hamlet	b	b		b			b			b	3
Thrunscoe	b	b		b			b			b	16
Thurlby	b	b		b			b			b	14
Totill and South Reston	380	69	276	s 13	196	15.08	b			s 14	s 14
Trusthorpe and Fulstropp	a	a		40	2305	57.63	b			43	39
Ulceby	406	b		8	118	14.75	b			9	7
Utterby and North Ormsby	795	130	520	38	1236	32.53	b			39	30
Utterby hamlet	b	b		b			b			b	18
Wainfleet	3726	678	2712	b			i			i	i
Wainfleet All Saints	c	c		b			c			52	56
Wainfleet All Saints & Wainfleet	c	c		b				1942		i	i
Wainfleet St Mary	c	c		b			c			41	38
Waithe	754.75	b		16	206	12.88	17	196	11.53	11	16

Place	1334	1377 poll tax		1524 lay subsidy			1525 lay subsidy			1543	1563
	total paid	no. taxed	total paid	no. taxed	total paid	per head	no. taxed	total paid	per head	no. taxed	households
Waltham	1168	[b]		c41	820		42	824	19.62	43	41
Well & Mawthorpe	[b]	[b]		17	270	15.88	[b]			24	1
Welton le Marsh	690	121	484	[t] 16	338	21.13	[t] 17	326	19.18	[t] 27	34
Willoughby and Bonthorpe	1230	[b]		[u] 40	804	20.10	[b]			[u] 33	16
Winthorpe	1349	200	800	[b]	2968		54	2998	55.52	48	55
Withern and Stain	1200	140	560	[v] 36	672	18.67	[b]			40	[b]
Wragholme with Little Grimsby	[b]	90	360	[a]			[a]			[y] 21	24
Yarburgh	720.5	100	400	30	1082	36.07	[b]			31	32

Appendix 9

Prehistoric archaeology

The following tables present the archaeological sites and finds mentioned in the text in Chapters 5-9. The data is organised by zone (see Chapter 6). In each zone, the Mesolithic material is listed followed by the Neolithic and Bronze Age data, and finally any data simply recorded as prehistoric. In each of these period groups, the finds are listed in numerical order of the unique identifier that has been given to the records (see Chapter 4). The data presented is a selection of that contained within the archaeology dataset that has been compiled from a variety of sources.

Key to table:

Identifier:	Unique number
Source:	Original source of the data (see list of abbreviations at the beginning of the thesis)
PRN:	Original source reference number
Xcoord:	6-figure easting
Ycoord:	6-figure northing
Parish:	Modern parish name
Name:	Free-text name given to site
Type:	Type of find taken from type list (see Table Appendix 9.1)
Find type	Coins, Flint, Metalwork, Pottery, Stone
Secondary	Second date for any other material within record
Description	Free-text description of the site or artefact

Abbey
Artefact Scatter
Baiting Place
Bank
Beacon
Boundary
Brick Kiln
Brick Pit
Brickworks
Brickyard
Bridge
Building
Burial
Butts
Camp
Canal
Carved Stone
Castle
Causeway
Cemetery
Chapel
Church
Churchyard
Country House
Cross
Dam
Decoy
Deserted Settlement
Ditch
Dovecote
Drain
Drainage
Enclosure
Farmhouse
Feature
Field System
Findspot
Fishpond
Fishtrap
Flint Scatter
Floor
Font
Grange
Hall House
Harbour
Hearth
Henge
Hermitage
Holy Well
Hospital
Inn
Kiln
Linear Feature
Lodge
Long Barrow
Manor
Manor
Midden
Mill
Moat
Moot
Mound
Non Antiquity
Park
Pillbox
Pit
Pond
Post Hole
Pound
Priory
Quarry
Ring Ditch
River
Road
Round Barrow
Salt Works
Sea Defence
Settlement
Shrunken Settlement
Spring
Structure
Tithe Barn
Toll House
Tower
Trackway
Vicarage
Warehouse
Water Tower
Watermill
Well
Windmill
Wood
Wreck

Table Appendix 9.1: List of types of archaeological sites and features

Zone 1

Mesolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1990	NELINHER	0049/1/0	530000	408000	Cleethorpes	Flint	Findspot	flint		Mesolithic flint core from Cleethorpes Country park
2021	NELINHER	169	531000	405000	Humberston	worked flints	Findspot	flint		Long bladed scraper

Neolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
21	HWP	TETNEY-2	529860	399590	Grainsby	Find concentration	Findspot	flint	BA	A scraper and a flake were found during fieldwalking
22	HWP	TETNEY-3	530200	399800	Grainsby	Find concentration	Flint Scatter	flint	BA	Two scrapers, a core, 11 flakes and a chunk were found during field walking.
48	HWP	TETNEY-5	531200	399700	Tetney	Find concentration	Flint Scatter	flint	BA	A scraper, four flakes and a chunk were discovered during field walking.
49	HWP	TETNEY-6	531500	399800	Tetney	Find concentration	Flint Scatter	flint	BA	A core, two flakes and two chunks of flint were recovered during field walking
126	LINHER	41195	528620	395030	Ludborough	STONE AXE	Findspot	stone		STONE AXE, PROBABLY GREAT LANGDALE TYPE
149	LINHER	41218	531060	399570	Grainsby	Stone axe	Findspot	stone		POLISHED STONE AXE FOUND IN 1957
1162	LINHER	43190	531400	390700	Fotherby	LATE NEOLITHIC SCRAPER	Findspot	flint		A LATE NEOLITHIC SCRAPER WAS FOUND DURING FIELDWALKING TOGETHER WITH FIVE PIECES OF STRUCK FLINT AND ONE POSSIBLE FRAGMENT OF NEOLITHIC STONE AXE.
1385	LINHER	43727	533920	394610	Covenham St Bartholomew	Flint	Findspot	flint		Possible struck flints, including a fragment of waste/core. During excavations prior to residential development, a scatter of residual worked flints was recovered, comprising a flake, a core, a broken blade tip and some debitage.
1976	NELINHER	0130/1/0	524100	400700	Ashby cum Fenby	Long Barrow	Long Barrow			A possible long barrow on the OS first edition map
1978	NELINHER	0120/1/0	525300	402900	Brigsley	Stone axe	Findspot	stone		A polished stone axe of lias found in 1951 whilst ploughing
2004	NELINHER	0066/1/0	529980	409800	Cleethorpes	Flint	Findspot	flint		An unfinished flint adze found on the beach
2006	NELINHER	0068/1/0	530900	408900	Cleethorpes	Stone axe	Findspot	stone		Ground stone axe found on beach 1970
2009	NELINHER	0071/1/0	529940	408100	Cleethorpes	Beacon Hill	Findspot	flint		Flint scrapers, cores and flakes at the site which was later used in the Bronze Age as a round barrow
2014	NELINHER	0072/1/0	531344	408537	Cleethorpes	Flint Axe	Findspot	flint		A Neolithic flaked flint axe, without any trace of grinding.
2024	NELINHER	813	531400	405300	Humberston	scraper	Findspot	flint		two scrapers (one end scraper) found at Humberstone Abbey
2029	NELINHER	1171	532600	405700	Humberston	Stone Axe	Findspot	stone		Polished stone axe Group VI
2066	Cummins	68	528000	400000	Waithe	Stone axe	Findspot	stone		A stone axe recorded by Cummins and Moore 1973

Bronze Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
57	HWP	TETNEY-4	530100	400400	Waithe	Find concentration	Flint Scatter	flint		Three scrapers, five cores, six flakes and a chunk were found during field walking. High proportion of cores to tools suggest flint working in the area.
115	LINHER	41182	534790	397510	Fulstow	Axe hammer	Findspot	stone		AXE HAMMER
134	LINHER	41203	529000	398000	North Thoresby	Stone Hammer	Findspot	stone		UNFINISHED PERFORATED STONE HAMMER
143	LINHER	41212	527840	399630	Grainsby	Battleaxes	Findspot	stone		TWO EARLY BRONZE AGE BATTLE-AXES, THE FIRST AXE WAS FOUND ON THE HAIGH ESTATE PROBABLY IN FIELDS N OF THE CHURCH. THE SECOND AXE IS BROKEN, SECONDARY HOUR GLASS PERFORATION
146	LINHER	41215	526500	398100	Grainsby	Scraper	Findspot	flint		A BRONZE AGE SCRAPER
185	LINHER	41252	537000	392000	Alvingham	Axe hammer	Findspot	stone	NEO	AXE HAMMER
257	LINHER	41325	539150	397420	Grainthorpe	Stone hammer	Findspot	stone		PERFORATED STONE HAMMER FOUND IN THE BANK OF DRAIN
258	LINHER	41326	537210	398110	Grainthorpe	Beaker	Artefact Scatter	pottery		FRAGMENTS OF 'A' BEAKER CLARKE'S FINAL SOUTHERN BRITISH GROUP (54) AND FLINT FLAKE FOUND ON BEACON HILL WHEN DIGGING A POST HOLE. FOUND IN 1894
1124	LINHER	43081	533200	403250	Tetney	Saltern site	Salt Works		IA	LATE BRONZE AGE/EARLY IRON AGE SALTERN EXCAVATION SITE
1237	LINHER	43340	533200	403250	Tetney	Saltern site	Salt Works		IA	LATE BRONZE AGE/EARLY IRON AGE SALTERN EXCAVATION
1502	LINHER	44059	530575	400885	Tetney	Barrow cropmark, Tetney	Round Barrow			A pair of potential Bronze Age cropmark barrows
1503	LINHER	44060	530655	400625	Tetney	Barrow cropmark, Tetney	Round Barrow			Potential Bronze Age cropmark barrow
1739	LINHER	45990	530105	400665	Tetney	Possible Bronze Age barrow cemetery	Round Barrow			Crop-marks were observed on aerial photographs as part of the national mapping programme. There were interpreted as a Bronze Age barrow cemetery.
1808	LINHER	46094	533975	393865	Covenham St Mary	Prehistoric barrow earthwork	Round Barrow			An earthwork interpreted as a prehistoric barrow was observed on aerial photographs as part of the national mapping programme.
1962	NELINHER	0003/1/0	525000	400000	Ashby cum Fenby	Bronze Axes	Findspot	metalwork		Two bronze axes found at Ashby. One small, socketed with loop, second larger
1998	NELINHER	0060/1/0	530060	406760	Cleethorpes	Stone Axe	Findspot	stone		a Bronze Age polished lias limestone axe found in 1951. Group VI
2010	NELINHER	0071/1/1	529900	408100	Cleethorpes	Beacon Hill	Round Barrow			group of middle Bronze Age vessels from the excavation of the mound. Large urn with cremated remains and four smaller vessels
2015	NELINHER	0072/2/0	531344	408537	Cleethorpes	Axe Hammer	Findspot	stone		A perforated axe hammer found in Cleethorpes. Found in a clay pit in 1894
2017	NELINHER	0082/1/0	530430	409730	Cleethorpes	Axe Hammer	Findspot	stone		A stone axe hammer with preserved handle found in peat in sunken forest. Leahy 1986
2027	NELINHER	1168	532220	405490	Humberston	Stone axe and flints	Findspot	stone	EBA	EBA axe, scrapers and flakes
2040	NMP		527142	403240		Possible Round Barrow	Round Barrow			possible Round Barrow identified during NMP
2041	NMP		527067	403302		Possible Round Barrow	Round Barrow			possible Round Barrow identified during NMP
2042	NMP		527679	402267		Possible Round Barrow	Round Barrow			possible Round Barrow identified during NMP

Zone 2

Mesolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1344	LINHER	43638	539940	386730	Manby	Scraper	Findspot	flint		AN UNSTRATIFIED FLINT END SCRAPER WITH A BLUE-WHITE PATINA WAS RECOVERED.
1536	LINHER	44461	544150	383450	Withern with Stain	Flint scatter	Flint Scatter	flint	NEO	A scatter of late Mesolithic and early Neolithic flints were recovered during fieldwalking as part of the Humber Wetlands Project.

Neolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
326	LINHER	41397	532000	387000	Louth	POLISHED FLINT	Findspot	flint		UNLOCATED. POLISHED FLINT AXE OR PERHAPS CHISEL
327	LINHER	41398	532000	387000	Louth	POLISHED STONE AXE	Findspot	stone		UNLOCATED. POLISHED STONE AXE
328	LINHER	41399	535000	388000	Louth	NEOLITHIC/E BRONZE AGE AXE	Findspot	stone		UNLOCATED FIND. NEOLITHIC/EARLY BRONZE AGE POLISHED CHALK AXE FROM LOUTH PARK
353	LINHER	41427	550800	385400	Mablethorpe and Sutton	Flint axe	Findspot	flint		WATER ROLLED FLINT AXE FOUND IN SHINGLE FROM MABLETHORPE FORESHORE. CLASSIFIED AS NEOLITHIC
707	LINHER	41841	536500	384500	Legbourne	STONE AXE	Findspot	stone		A LIGHT GREY STONE AXE FOUND AT LEGBOURNE.
708	LINHER	41842	536500	384500	Legbourne	POLISHED FLINT AXE	Findspot	flint		A POLISHED FLINT AXE FROM LEGBOURNE.
743	LINHER	41945	537710	384810	Legbourne	FLINT AXE	Findspot	flint		POLISHED FLINT AXE FOUND IN 1963 AT LEGBOURNE
997	LINHER	42662	546600	383800	Strubby with Woodthorpe	Stone axe	Findspot	stone		A POLISHED STONE AXE FOUND IN STRUBBY WITH WOODTHORPE
1029	LINHER	42801	540700	385700	Great Carlton	Axe	Findspot	stone		A FRAGMENT OF A NEOLITHIC POLISHED STONE AXE FOUND IN THE FIELD NORTH OF GREAT CARLTON
1334	LINHER	43613	532500	387500	Louth	NEOLITHIC FLINT FLAKE	Findspot	flint		AN EARLY NEOLITHIC SERRATED FLINT FLAKE WAS FOUND.
1451	LINHER	43904	534900	384600	Legbourne	Neolithic polished axehead	Findspot	flint		A polished flint axehead was said to be recovered during the construction of Kenwick Park Golf Course.
1580	LINHER	44719	545520	384120	Withern with Stain	Late Neolithic to early Bronze Age flint artefact	Findspot	flint	BA	Systematic fieldwalking found a flint tool, possibly a scraper or knife, dating to the late Neolithic to early Bronze Age.
1648	LINHER	45610	532525	387555	Louth	Neolithic Flint Knife	Findspot	flint		Neolithic flint knife was recorded during excavations on the site.
1704	LINHER	45877	543170	385915	Gayton le Marsh	Flint scraper	Findspot	flint	BA	A single side and end scraper was recovered.
2064	Cummins	50	550000	385000	Mablethorpe and Sutton	Stone axe	Findspot	stone		A stone axe recorded by Cummins and moore 1973 Group IX

Bronze Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
329	LINHER	41400	533000	387000	Louth	BRONZE AGE SOCKETED AXE	Findspot	metalwork		BRONZE AGE SOCKETED AXE FOUND NEAR LOUTH IN 1914.
745	LINHER	41947	538400	385400	Legbourne	PERFORATED STONE HAMMER	Findspot	stone		PERFORATED STONE HAMMER FOUND AT LEGBOURNE
1460	LINHER	43923	532740	387540	Louth	A residual thumbnail scraper	Findspot	flint		During trial trenching, a residual Early Bronze Age thumbnail scraper was recovered
1480	LINHER	43967	537950	388950	South Cockerington	A fragment Bronze Age scraper	Findspot	flint		During a watching brief, a fragment of a possible Bronze Age Scraper was recovered.
1504	LINHER	44078	535595	390825	Alvingham	Barrow cropmark	Round Barrow			Probable Bronze Age cropmark barrow
1505	LINHER	44079	543005	391155	South Cockerington	Barrow cropmark	Round Barrow			Possible Bronze Age cropmark barrow
1506	LINHER	44098	535200	389670	Keddington	Barrow cropmark	Round Barrow			Possible Bronze Age cropmark barrow
1642	LINHER	45522	533550	387350	Louth	Barbed and tanged arrowhead	Findspot	flint		A barbed and tanged arrowhead was found on the school field at Monks Dyke.
2047	NMP		535180	387992		Round Barrows	Round Barrow			Three Round Barrows identified during the NMP

Prehistoric

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
77	HWP	TF429829.AA	542910	382790	Withern with Stain	Flint	Findspot	flint		a core and a flake were recovered during field walking
101	LINHER	41134	547230	385060	Withern with Stain	Prehistoric finds	Artefact Scatter	flint		PREHISTORIC WORKED FLINTS FOUND ON STAIN HILL
323	LINHER	41393	531830	386180	Louth	WORKED FLINTS	Flint Scatter	flint		MANY WORKED FLINTS WERE FOUND
1180	LINHER	43244	537970	388910	South Cockerington	Flints	Findspot	flint		11 PARTLY WORKED FLINTS, INCLUDING FLAKES WERE RECOVERED
1331	LINHER	43604	534140	385360	Louth	WORKED FLINT	Flint Scatter	flint		SEVERAL WORKED FLINTS WERE FOUND TO THE EAST OF KENWICK ROAD. THESE INCLUDED A TRANSVERSE ARROWHEAD.
1575	LINHER	44704	541950	384950	Great Carlton	A struck flint flake	Findspot	flint		a struck flint flake was recovered.
1656	LINHER	45634	531895	388965	Louth	Prehistoric cropmark enclosure	Enclosure			Prehistoric cropmark enclosure has been identified from aerial photographs.
1706	LINHER	45880	544066	385300	Gayton le Marsh	A flint flake and a flint scraper	Findspot	flint		A flint flake and a flint side and end scraper were recovered
1852	LINHER	46159	535065	389845	Keddington	Two possible prehistoric enclosures	Enclosure			Two possible prehistoric enclosures seen as cropmarks
1853	LINHER	46160	534995	389565	Keddington	Possible prehistoric enclosure	Enclosure			Possible prehistoric cropmark enclosure
1854	LINHER	46161	535475	387545	Keddington	Possible prehistoric enclosure	Enclosure			Possible prehistoric enclosure seen as cropmark
1855	LINHER	46162	535235	387075	Keddington	Potential prehistoric enclosure	Enclosure			Potential prehistoric enclosure cropmark
2048	NMP		539374	383902		Prehistoric Enclosure	Enclosure			Prehistoric enclosure identified during the NMP

Zone 3

Mesolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
67	HWP	WILLOUGHBY-10	548700	372500	Willoughby with Sloothby	Flint	Flint Scatter	flint	NEO	One scraper, two cores and 10 flakes were found during fieldwalking
71	HWP	WILLOUGHBY-6	548060	372670	Willoughby with Sloothby	Flint	Findspot	flint	NEO	A large secondary flake with semi abrupt retouch
89	Wymer	Claxby	545000	371000	Claxby	Meso flints	Findspot	flint		core 16, B1/F1 88, Sc 1 O 1, M 3
1497	LINHER	44040	550625	373735	Cumberworth	Flint scatter	Flint Scatter	flint		eight fragments of Mesolithic flint work. No specific tool types were present , but one of the pieces may be a broken microlith

Neolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
31	HWP	HUTTOFT-1	549910	377230	Huttoft	Flint	Findspot	flint	BA	A scraper and a chunk of flint were found during field walking
68	HWP	WILLOUGHBY-11	548400	372800	Willoughby with Sloothby	Flint	Flint Scatter	flint		A scraper and 4 flakes were found during field walking
69	HWP	WILLOUGHBY-12	549170	372390	Willoughby with Sloothby	Flint	Findspot	flint		A scraper was found during field walking
72	HWP	WILLOUGHBY-7	548400	372400	Willoughby with Sloothby	Flint	Flint Scatter	flint	BA	A scraper and 6 flakes of flint were found during field walking.
74	HWP	WILLOUGHBY-9	548700	372500	Willoughby with Sloothby	Flint	Flint Scatter	flint	BA	A knife, scraper and two flakes were found during field walking
83	Jones 1998	TF 46 NW 88	543790	369020	Ashby with Scremby	Possible Long Barrow	Long Barrow			Barrow identified by Jones
375	LINHER	41449	551000	383000	Mablethorpe and Sutton	Flint axe	Findspot	flint		LARGE UNPOLISHED FLINT AXE FOUND IN TRUSTHORPE
396	LINHER	41470	548600	378800	Markby	Stone Axe	Findspot	stone		THREE POLISHED STONE AXES
404	LINHER	41478	547000	376000	Bilsby	Stone axe	Findspot	stone		SMALL ROUGH STONE AXE
528	LINHER	41616	556300	372000	Chapel St Leonards	Flint axe	Findspot	flint		NEOLITHIC FLINT AXE FOUND ON THE BEACH AT CHAPEL ST LEONARDS
781	LINHER	41989	547000	372000	Willoughby with Sloothby	Stone axe	Findspot	stone		POLISHED STONE AXE
825	LINHER	42052	542560	369000	Skendleby	FLINT ARROWHEAD	Findspot	flint		LEAF SHAPED FLINT ARROWHEAD FOUND IN 1976.
831	LINHER	42060	542920	370880	Skendleby	GIANTS HILLS II	Long Barrow			THE SITE OF A LONG BARROW CLOSE TO GIANT'S HILL BARROW. BEAKER POTTERY HAS BEEN FOUND AT THE SITE. EXCAVATED BY EVANS AND SIMPSON IN 1975 AND 1976.
865	LINHER	42157	546600	369800	Welton le Marsh	Flint	Findspot	flint		NEOLITHIC FLINT BORER/SCRAPER
868	LINHER	42160	546800	369900	Welton le Marsh	Flint axe	Findspot	flint		A NEOLITHIC FLINT AXE
880	LINHER	42173	548100	369300	Welton le Marsh	Find	Findspot	flint	BA	A NEOLITHIC FLINT AXE AND A PERFORATED STONE HAMMER HEAD
925	LINHER	42426	540080	377820	Belleau	NEOLITHIC STONE AXE	Findspot	stone		A POLISHED STONE AXE
957	LINHER	42515	540000	381000	Authorpe	POLISHED STONE AXE	Findspot	stone		A NEOLITHIC POLISHED STONE AXE OF LIGHT GREY STONE. IT HAS A THIN BUTT AND FLAT SIDES.
958	LINHER	42516	539000	380000	Authorpe	NEOLITHIC POLISHED AXE	Findspot	stone		A NEOLITHIC POLISHED STONE AXE WITH A THIN BUTT
974	LINHER	42532	545290	376040	Alford	Stone axe	Findspot	stone		A POLISHED STONE AXE
976	LINHER	42534	545330	375890	Alford	Flint dagger	Findspot	flint		A FLINT DAGGER OF THE LATE NEOLITHIC OR EARLY BRONZE AGE

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
980	LINHER	42538	545060	376030	Alford	Arrowhead	Findspot	flint		A NEOLITHIC LEAF-SHAPED ARROWHEAD
987	LINHER	42546	545600	375900	Alford	Stone axe	Findspot	stone		A STONE AXE HEAD DATING TO EITHER THE LATE NEOLITHIC OR EARLY BRONZE AGE
1010	LINHER	42686	542030	371180	Ulceby with Fordington	POLISHED STONE AXE	Findspot	stone		A NEOLITHIC POLISHED STONE AXE
1011	LINHER	42745	544400	371800	Claxby	POSSIBLE LONG BARROW	Long Barrow			A POSSIBLE LONG BARROW IDENTIFIED AS A CROPMARK FROM AERIAL PHOTOGRAPH AND POSSIBLY PART OF A GROUP AT DEADMEN'S GRAVES,
1012	LINHER	42746	542770	371270	Ulceby with Fordington	GIANTS HILLS III	Long Barrow			A POSSIBLE NEOLITHIC LONG BARROW IDENTIFIED FROM AERIAL PHOTOGRAPHS AND POSSIBLY PART OF A GROUP AT GIANT HILLS, AND KNOWN AS GIANTS HILLS III.
1102	LINHER	42978	543300	372000	Ulceby with Fordington	Cropmarks	Enclosure			SOILMARKS OF A RECTANGULAR ENCLOSURE, WITH A FURTHER VERY FAINT ONE TO THE WEST
1126	LINHER	43083	540600	377000	South Thoresby	PREHISTORIC FINDS	Flint Scatter	flint	BA	54 WORKED FLINTS OF LATE NEOLITHIC/EARLY BRONZE AGE DATE. THE GREATEST DENSITY WAS A CONCENTRATION LOCATED ON THE TOP OF THE SLOPE IN THE EAST PART OF THE AREA. FINDS INCLUDED 3 CORES, 2 BLADES AND 5 SCRAPers
1159	LINHER	43174	542350	371640	Ulceby with Fordington	CROPMARK LONG BARROW	Long Barrow			THE MONUMENT INCLUDES THE BURIED REMAINS OF A NEOLITHIC LONG BARROW LOCATED ON THE EASTERN SIDE OF THE VALLEY OF THE TRIBUTARY OF THE RIVER LYMN. IT WAS FIRST IDENTIFIED IN 1976 AND WAS RECORDED ON AERIAL PHOTOGRAPHS.
1160	LINHER	43175	542350	371720	Ulceby with Fordington	CROPMARK LONG BARROW	Long Barrow			POSSIBLE NEOLITHIC CROPMARK LONG BARROW. THE LONG BARROW IS LOCATED ON A FALSE CREST ADJACENT TO BLUESTONE HEATH RIDGEWAY, WITH THE LONG AXIS RUNNING PARALLEL TO THE CONTOURS.
1161	LINHER	43177	544010	372840	Skendleby	CROPMARK LONG BARROW	Long Barrow			POTENTIAL NEOLITHIC CROPMARK LONG BARROW.
1229	LINHER	43315	542030	372160	Ulceby with Fordington	PREHISTORIC FLINTS	Flint Scatter	flint	BA	FOUR WORKED FLINTS WERE IDENTIFIED: THREE RETOUCHED FLAKES AND ONE POSSIBLE TRANCHET DERIVATIVE ARROWHEAD (UNFINISHED).
1231	LINHER	43318	544570	371900	Claxby	LONG BARROW	Long Barrow			THE MONUMENT INCLUDES THE EARTHWORK AND BURIED REMAINS OF A NEOLITHIC LONG BARROW
1232	LINHER	43319	543370	371940	Ulceby with Fordington	Long barrow	Long Barrow			THE MONUMENT INCLUDES THE BURIED REMAINS OF A LONG BARROW
1268	LINHER	43418	540600	377000	South Thoresby	PREHISTORIC FINDS	Flint Scatter	flint	BA	54 WORKED FLINTS OF LATE NEOLITHIC/EARLY BRONZE AGE DATE.
1283	LINHER	43463	555000	377400	Huttoft	Stone axe	Findspot	stone		BUTT END OF A POLISHED STONE AXE OF LANGDALE TYPE GROUP VI
1336	LINHER	43620	544420	371980	Claxby	LONG BARROWS	Long Barrow			TWO LONG BARROWS, KNOWN LOCALLY AS DEADMEN'S GRAVES.
1337	LINHER	43621	542870	371100	Skendleby	GIANTS HILLS I	Long Barrow			NEOLITHIC LONG BARROW, EXCAVATED BY C W PHILLIPS IN 1933-4. POTTERY AND OTHER OBJECTS FOUND IN THE SURROUNDING DITCH INDICATE BRONZE AGE AND EARLY IRON AGE SETTLEMENT OF THIS AREA ALSO.
1347	LINHER	43657	544680	371920	Claxby	NEOLITHIC LONG BARROW	Long Barrow			THIS LONG BARROW IS LOCATED ON THE SLOPE OF A SPUR,
1414	LINHER	43818	545440	370550	Claxby	Prehistoric flints	Flint Scatter	flint	BA	sparse scatter of worked flint in Claxby parish. Twelve worked flint fragments were found including a broken knife-blade.

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
2050	NMP		539970	375783		Possible Long Barrow	Long Barrow			A possible long barrow identified during the NMP
2051	NMP		538384	376095		Possible Long Barrow	Long Barrow			A possible long barrow identified during the NMP
2062	NMP		543786	369053		Possible Long Barrow	Long Barrow			A possible long barrow identified during the NMP

Bronze Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
70	HWP	WILLOUGHBY 5	547600	372700	Willoughby with Sloothby	Crop marks and flint	Round Barrow	flint		Ring ditch earthworks. A scraper and flake
85	LHA				Ashby with Scremby	Perforated axe-hammer	Findspot			Perforated axe-hammer
86	LHA		542670	368300	Ashby with Scremby	Flint dagger	Findspot	flint		Flint dagger
369	LINHER	41443	553400	380200	Mablethorpe and Sutton	Beaker	Findspot	pottery		LONG NECK BEAKER FOUND ON BEACH AT SUTTON ON SEA
395	LINHER	41469	549500	378900	Markby	Tumulus	Round Barrow			SITE OF TUMULUS.
526	LINHER	41614	556300	373200	Chapel St Leonards	Flint	Findspot	flint		A BRONZE AGE FLINT SCRAPER WITH SECONDARY WORKING
534	LINHER	41622	556340	373060	Chapel St Leonards	Flint dagger	Findspot	flint		A EARLY BRONZE AGE DAGGER FOUND ON THE BEACH
757	LINHER	41964	554170	372330	Hogsthorpe	Stone axe	Findspot	stone		A BROKEN BLADE FRAGMENT OF A PERFORATED AMPHIBOLITE BATTLE AXE (ROE CLASS I)
791	LINHER	41999	548040	372600	Willoughby with Sloothby	Axe	Findspot	stone		A BRONZE AGE AXE HEAD
848	LINHER	42077	545030	371730	Claxby	bowl barrow	Round Barrow			SITE OF BRONZE AGE BARROW. IN THE 1920s DURING QUARRYING THE BARROWS INTERIOR WAS EXPOSED TO REVEAL BEAKER POTTERY AND A CROUCHED BURIAL. THE VESSEL BELONGS TO THE SOUTHERN BRITISH BEAKER ASSEMBLAGE (c1600 BC).
867	LINHER	42159	547200	368900	Welton le Marsh	Battle axe	Findspot	stone		HALF OF A BATTLE AXE OF EARLY BRONZE AGE TYPE
928	LINHER	42429	542960	377480	Aby with Greenfield	Round Barrow	Round Barrow			THE SITE OF A POSSIBLE BRONZE AGE ROUND BARROW. THE EARTHWORK HAS BEEN SPREAD AND PLOUGHED ALMOST FLAT. IN THE SURROUNDING AREA FLINT FLAKES AND CORE. A FRAGMENT OF SANDSTONE QUERN AND A WHETSTONE WERE FOUND BY C W PHILLIPS IN 1929
965	LINHER	42523	545310	378890	Saleby with Thoresthorpe	Tumulus	Round Barrow			A MOUND VISIBLE AGAINST THE SKYLINE IN A FIELD UNDER CROP
970	LINHER	42528	544700	375810	Alford	Round Barrow	Round Barrow			An almost complete 'Yorkshire' type food vessel was found on the site of a barrow or Tumulus which was marked on 1st Edition map.
977	LINHER	42535	545720	375660	Alford	Stone axe	Findspot	stone		A STONE BATTLE AXE EARLY OS MAPS SHOW A TUMULUS ON THIS SITE
981	LINHER	42539	546020	375840	Alford	Axe hammer	Findspot	stone		AN EARLY BRONZE AGE AXE-HAMMER FOUND IN ALFORD
1001	LINHER	42666	543000	382000	Withern with Stain	Bronze Axe	Findspot	metalwork		A BRONZE PALSTAVE
1091	LINHER	42930	548850	372460	Willoughby with Sloothby	Barrow cemetery	Round Barrow			AT LEAST 11 RING-DITCH CROP AND SOIL MARKS SEEN BY PAUL EVERSON IN 1976 AND 1977 WITHIN AN ARC EXTENDING FROM THE WESTERN END OF BUTTERBUMP BARROW CEMETERY
1163	LINHER	43193	541300	372600	Ulceby with Fordington	BARROW	Round Barrow			A POSSIBLE BRONZE AGE CROPMARK BARROW
1164	LINHER	43194	541320	371930	Ulceby with Fordington	BARROW	Round Barrow			A POSSIBLE BRONZE AGE CROPMARK BARROW

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1165	LINHER	43195	541640	371790	Ulceby with Fordington	BARROW	Round Barrow			A POSSIBLE BRONZE AGE CROPMARK ROUND BARROW
1228	LINHER	43314	543370	374600	Well	Miles Cross Hill	Pit			78 FRAGMENTARY SHERDS OF EARLY BRONZE AGE POTTERY WITH COMB IMPRESSED DECORATION REPRESENTING A SINGLE VESSEL. IN ADDITION A PIT SECTIONED CONTAINING SOME POTTERY SHERDS, BURNT NUT SHELLS AND SOME FLINT FLAKES, AT LEAST THREE VESSELS ARE REPRESENTED FROM THE SHERDS IN THE PIT
1284	LINHER	43467	547600	369900	Welton le Marsh	Bronze Axe	Findspot	metalwork		A BRONZE FLANGED AXE
1304	LINHER	43503	547250	372000	Willoughby with Sloothby	Bronze Axe	Findspot	metalwork		THE BLADE END OF A BRONZE AGE AXE, WITH SMOOTH BROWN PATINA ON CAST COPPER ALLOY
1327	LINHER	43597	549270	372390	Willoughby with Sloothby	Barrow cemetery	Round Barrow			A GROUP OF 7 ROUND BARROWS AT BUTTERBUMP FARM.
1393	LINHER	43785			Cumberworth	Bracelet	Findspot	metalwork		A GOLD BRACELET WAS REPORTED TO HAVE BEEN FOUND AT THE CUMBERWORTH DETECTORIST RALLY IN 1998. MIGHT BE LATE BRONZE AGE BRACELET
1509	LINHER	44175	538455	376125	South Thoresby	Barrow cropmark	Round Barrow			Probable Bronze Age cropmark barrow
1510	LINHER	44177	539165	375185	South Thoresby	Henge cropmark	Henge			Potential Bronze Age cropmark henge
1511	LINHER	44178	539185	375085	South Thoresby	Barrow cropmark	Round Barrow			Probable Bronze Age cropmark barrow
1512	LINHER	44179	539145	375015	South Thoresby	Barrow cropmark	Round Barrow			Probable Bronze Age cropmark barrow
1513	LINHER	44180	541380	375120	Haugh	Barrow cropmark	Round Barrow			Probable Bronze Age cropmark barrow
1514	LINHER	44181	542585	377785	Aby with Greenfield	Barrow cropmark	Round Barrow			Pair of potential Bronze Age cropmark barrows
1515	LINHER	44182	542705	377675	Aby with Greenfield	Barrow cropmark	Round Barrow			Potential Bronze Age cropmark barrow
1516	LINHER	44208	539335	374515	South Thoresby	Possible round barrow cropmark	Round Barrow			A possible Bronze Age round barrow cropmark is visible on aerial photographs
1517	LINHER	44209	539115	374935	South Thoresby	Possible round barrow cropmark	Round Barrow			A possible Bronze Age round barrow cropmark is visible on aerial photographs
1518	LINHER	44210	539915	373965	South Thoresby	Possible round barrow cropmark	Round Barrow			A possible Bronze Age round barrow cropmark is visible on aerial photograph
1519	LINHER	44219	540255	373865	Ulceby with Fordington	Possible round barrow cropmark	Round Barrow			A possible Bronze Age round barrow cropmark is visible on aerial photographs
1520	LINHER	44220	544600	372940	Claxby	Possible round barrow cropmark	Round Barrow			A possible Bronze Age round barrow cropmark is visible on aerial photographs
1521	LINHER	44221	544240	372690	Claxby	Possible round barrow cropmark	Round Barrow			A possible Bronze Age round barrow cropmark is visible on aerial photographs}
1562	LINHER	44551	549885	372105	Willoughby with Sloothby	Undated enclosures and pits	Enclosure			A probable undated rectangular cropmark enclosure is visible
1605	LINHER	45093	539885	374005	South Thoresby	Bronze Age cropmark barrow	Round Barrow			A prehistoric round barrow, from aerial photographs
1623	LINHER	45299	543384	374955	Well	Prehistoric cropmark boundary	Round Barrow			Ring ditch enclosure interpreted as possible Bronze Age round barrow by NMP
1717	LINHER	45910	545725	375665	Alford	Tumulus	Round Barrow			Early Ordnance Survey maps show a tumulus on this site.
1872	LINHER	46186	540635	378185	Belleau	Possible Bronze Age round barrow	Round Barrow			Enclosure cropmark, possible Bronze Age round barrow with causeway
1890	LINHER	46219	544601	372942	Claxby	Bronze Age round barrow cropmark	Round Barrow			Potential Bronze Age cropmark round barrow.
2055	NMP		548860	372519		Round barrow	Round Barrow			A round barrow was identified during the NMP

Prehistoric

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
58	HWP	TF492689.AA	549240	368740	Welton le Marsh	Flint	Findspot	flint		a core and a chunk were found during field walking
62	HWP	TF482701.AA	548390	370080	Willoughby with Sloothby	Flint	Findspot	flint		A scraper and four flakes were found during field walking
64	HWP	TF487725.AG	548470	372280	Willoughby with Sloothby	Flint	Findspot	flint		a core and five flakes were found during field walking
65	HWP	TF487725.AK	548820	372580	Willoughby with Sloothby	Flint	Findspot	flint		a scraper and three flakes were found during field walking
525	LINHER	41613	556200	373500	Chapel St Leonards	Flint	Findspot	flint		A WORKED FLINT FLAKE
815	LINHER	42024	542000	371500	Ulceby with Fordington	PREHISTORIC FINDS	Flint Scatter	flint		FLINTS
828	LINHER	42056	543000	369000	Skendleby	WORKED FLINT	Flint Scatter	flint		FLINT CORES AND SCRAPERS
847	LINHER	42076	545200	371800	Claxby	WORKED FLINT	Findspot	flint		THREE WORKED FLINTS
866	LINHER	42158	547000	369000	Welton le Marsh	Flint	Findspot	flint		FLINT AWL OR BLADE
1074	LINHER	42895	542970	371000	Skendleby	CROPMARK SITE	Boundary			A CROPMARK SITE ADJACENT TO GIANTS HILLS LONG BARROWS, COMPRISING OF A LINEAR BOUNDARY AND AN ENCLOSURE
1166	LINHER	43196	541310	371270	Ulceby with Fordington	CROPMARK ENCLOSURES	Enclosure			POSSIBLE UNKNOWN PREHISTORIC CROPMARK ENCLOSURES
1167	LINHER	43199	542790	371750	Ulceby with Fordington	PREHISTORIC FARMSTEAD	Enclosure			SITE OF A PREHISTORIC FARMSTEAD WITH ENCLOSURES AND HUT CIRCLES SHOWING UP AS CROPMARKS
1168	LINHER	43200	543110	372420	Ulceby with Fordington	PREHISTORIC ENCLOSURE	Enclosure			POSSIBLE UNKNOWN PREHISTORIC CROPMARK ENCLOSURE
1170	LINHER	43202	544680	370670	Claxby	PREHISTORIC ENCLOSURE	Enclosure			POSSIBLE UNKNOWN PREHISTORIC CROPMARK ENCLOSURE AND LINEAR FEATURE
1223	LINHER	43302	545740	375710	Alford	Flints	Findspot	flint		TWO END SCRAPERS
1299	LINHER	43492	548700	376100	Bilsby	Flint	Findspot	flint		A PREHISTORIC FLINT
1593	LINHER	45080	540275	375605	South Thoresby	Prehistoric and undated cropmarks	Enclosure			Cropmark enclosure and boundaries, they have been interpreted as mostly prehistoric, although one of them remains undated.
1595	LINHER	45082	540215	373475	South Thoresby	Prehistoric cropmark enclosure	Enclosure			A prehistoric cropmark enclosure, has been identified from aerial photographs
1596	LINHER	45083	540305	373575	South Thoresby	Prehistoric cropmark linear feature	Linear Feature			A prehistoric cropmark linear feature has been identified from aerial photographs.
1606	LINHER	45095	538425	375815	South Thoresby	Prehistoric cropmark enclosures	Enclosure			Prehistoric cropmark enclosures have been identified from aerial photographs.
1607	LINHER	45096	538475	375655	South Thoresby	Prehistoric cropmark enclosure	Enclosure			A prehistoric cropmark enclosure has been identified from aerial photographs.
1608	LINHER	45097	538445	375525	South Thoresby	Prehistoric cropmarks	Enclosure			Cropmarks, interpreted as being prehistoric enclosures, boundaries and hut circles, have been located to the west of Claceby
1611	LINHER	45100	539065	375285	South Thoresby	Prehistoric cropmark enclosure	Enclosure			A prehistoric cropmark enclosure has been identified from aerial photographs.

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1613	LINHER	45104	539925	375265	South Thoresby	Prehistoric cropmark enclosure	Enclosure			A prehistoric cropmark enclosure has been identified from aerial photographs.
1624	LINHER	45300	545195	370265	Claxby	Prehistoric cropmark enclosure	Enclosure			Prehistoric cropmark enclosure.
1631	LINHER	45307	543505	368305	Ashby with Scremby	Prehistoric hut circle cropmarks	Settlement			Possible prehistoric settlement identified possible cropmarks of enclosures, hut circles and boundaries.
2052	NMP		540577	374515		Prehistoric Enclosure	Enclosure			Prehistoric enclosure identified during the NMP
2053	NMP		540719	374323		Prehistoric Enclosure	Enclosure			Prehistoric enclosure identified during the NMP
2059	NMP		547876	369572		Prehistoric Enclosure	Enclosure			Prehistoric enclosure identified during the NMP

Zone 4

Mesolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
90	Wymer	Skegness	556000	364000	Skegness	Meso flints	Findspot	flint		core 1, B1/F1 4
91	Wymer	Skegness	556500	363900	Skegness	Meso flints	Findspot	flint		PMH 1
1092	LINHER	42931	549950	365010	Burgh le Marsh	Flint	Findspot	flint		MESOLITHIC MICROLITHIC CORES AND FLAKES
1155	LINHER	43157	541000	365700	Halton Holegate	FLINT MICROLITHS	Flint Scatter	flint		FLINT MICROLITHS
1471	LINHER	43942	541320	365620	Halton Holegate	late Mesolithic flint scatter	Flint Scatter	flint		a scatter of flint flakes and a notched blade. the site was visited only sporadically from the 7th to the 4th millennium BC.
1475	LINHER	43947	549985	364755	Burgh le Marsh	Mesolithic temporary hunting encampment	Flint Scatter	flint		a thin scatter of worked flint. technical attributes of the tools suggest that they date to the Mesolithic period. The amount of cortex remaining on the tools, coupled with the fact that only one was broken, suggests that the tools were produced quickly for immediate use elsewhere. Therefore, the most plausible interpretation of the site is that it was a temporary hunting encampment, where the tools were produced and taken away from the site in pursuit of game.

Neolithic

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
510	LINHER	41584	549360	364330	Burgh le Marsh	Stone axe	Findspot	stone		A POLISHED STONE AXE
602	LINHER	41691	557300	363200	Skegness	Stone axe	Findspot	stone		A POLISHED STONE AXE OF GREENSTONE
603	LINHER	41692	557500	362500	Skegness	Stone axe	Findspot	stone		A POLISHED STONE AXE OF GREY FINE GRAINED VOLCANIC LAVA OF TUFE
611	LINHER	41700	556000	363300	Skegness	Stone axe	Findspot	stone		POLISHED STONE AXE MADE FROM ?GLACIAL ERRATIC
631	LINHER	41721	551000	360230	Croft	POLISHED STONE AXE	Findspot	stone		THE BUTT FRAGMENT OF A GREY-GREEN POLISHED STONE AXE, PROBABLY FROM THE AXE FACTORY GROUP XVIII, WHIN SILL. CORAL FOSSIL INCLUSIONS EVIDENT.
858	LINHER	42087	541600	365500	Halton Holegate	WORKED FLINT SCATTER	Flint Scatter	flint	BA	SCATTER OF NEOLITHIC/BRONZE AGE FLINTWORK INCLUDING 10 SCRAPERS, 6 CORES, BLADES AND FLAKES.
923	LINHER	42255	548000	360000	Thorpe St Peter	SMALL POLISHED AXE	Findspot	stone		A SMALL GREENSTONE AXE
924	LINHER	42256	549160	360600	Thorpe St Peter	POLISHED STONE AXE	Findspot	stone		A POLISHED STONE AXE
1095	LINHER	42935	541900	361800	Halton Holegate	POLISHED STONE AXE	Findspot	stone		A POLISHED STONE AXE (PROBABLY OF SPILSBY SANDSTONE), AND A POLISHED STONE AXE FRAGMENT.
1140	LINHER	43113	555300	364600	Skegness	Long Barrow	Long Barrow			POSSIBLE PREHISTORIC LONG BARROW FROM AIR PHOTOS
1472	LINHER	43943	541320	365620	Halton Holegate	Neolithic occupation site	Settlement			A geophysical survey and trial trenching revealed two pits with stakeholes in their bases. These pits contained what are thought to be ritual deposits.
1473	LINHER	43944	541320	365620	Halton Holegate	Neolithic/Early Bronze Age barrow cemetery	Round Barrow		BA	two sections of ditch. The ditch sections were thought to be part of the same feature, forming a circular ditch of circa 10m diameter, which is thought to be the ditch surrounding a small round barrow. If so, the geophysical survey suggests that there are more round barrows present on the site, forming a barrow cemetery.
1474	LINHER	43946	549950	364750	Burgh le Marsh	Prehistoric worked flints	Findspot	flint	BA	three flint tools. These comprised an undated flake, a possible broken core dating to the Early Bronze Age, and a broken blade dating to the Neolithic. A Prehistoric flint blade flake was recovered.
1508	LINHER	44121	555950	367550	Ingoldmells	Possible Neolithic scraper	Findspot	flint		possible Neolithic scraper was recovered.
2065	Cummins	165	557500	368700	Ingoldmells	Stone axe	Findspot	stone		A stone axe recorded by Cummins and Moore 1973 Group VI

Bronze Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
488	LINHER	41562	549860	364920	Burgh le Marsh	Stone axe	Findspot	stone		A STONE BATTLE AXE DESCRIBED AS BEING OF THE WESSEX TYPE
581	LINHER	41670	557500	366600	Ingoldmells	Burial	Burial			A SKULL AND SKELETAL REMAINS OF A LEAST THREE BODIES FOUND ON THE BEACH AT INGOLDMELLS. THE DATE HAS BEEN SUGGESTED AS BRONZE AGE
607	LINHER	41696	550000	360000	Skegness	Arrowhead	Findspot	flint		BARBED AND TANGED ARROWHEAD
609	LINHER	41698	556540	363900	Skegness	Stone axe	Findspot	stone		A PERFORATED STONE AXE HAMMER
919	LINHER	42251	547260	360570	Thorpe St Peter	BRONZE AXES	Findspot	stone		LARGE BATTLE AXES
1090	LINHER	42929	541580	365800	Halton Holegate	CROPMARK SITE	Round Barrow			CROPMARKS OF AT LEAST 5 RING DITCHES POSSIBLY A SMALL BARROW CEMETERY. THE CROPMARKS CONSIST OF 4 SMALL SINGLE- DITCHED CIRCLES AND A LARGER, DOUBLE-DITCHED CIRCLE ALSO INTERPRETED AS A CAUSEWAYED ENCLOSURE
1410	LINHER	43812	549850	364860	Burgh le Marsh	Ditch	Ditch		PRE	ONE SHERD OF BEAKER POTTERY AND TWO WORKED FLINTS, ONE WORKED BLADE AND ONE POSSIBLE CORE
1892	LINHER	46221	541555	365835	Halton Holegate	Prehistoric round barrow cropmark	Round Barrow			Possible unknown prehistoric cropmark barrow.

Prehistoric

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
494	LINHER	41568	549910	365100	Burgh le Marsh	Flint	Findspot	flint		TWO FLINT BLADES AND A FLINT FLAKE
614	LINHER	41703	555700	364500	Skegness	Ditch	Ditch			POSSIBLE PREHISTORIC CIRCLE - AIR PHOTOS
635	LINHER	41725	549910	363140	Croft	FLINT SCRAPER	Findspot	flint		FLINT SCRAPER FOUND IN CROFT END.
1141	LINHER	43114	555200	364500	Skegness	Ditch	Ditch			POSSIBLE PREHISTORIC CIRCLE - AIR PHOTOS
1153	LINHER	43155	541700	365500	Halton Holegate	FLINTS AND ARROWHEADS	Flint Scatter	flint		FLINTS FOUND AT TF415655 AND FLINTS AND ARROWHEADS
1154	LINHER	43156	541000	365700	Halton Holegate	FLINT SCRAPERS	Flint Scatter	flint		FLINT SCRAPERS.
1171	LINHER	43208	541150	365930	Halton Holegate	PREHISTORIC CROPMARKS	Enclosure			POSSIBLE/POTENTIAL UNKNOWN PREHISTORIC CROPMARK ENCLOSURE, HUT CIRCLE AND LINEAR BOUNDARY, PARTLY OVERLAIN BY MEDIEVAL CROPMARKS. THE FIELD CONTAINING THE CROPMARKS APPEARS ON APS, BUT THE CROPMARKS THEMSELVES ARE NOT VISIBLE.
1174	LINHER	43212	541560	365770	Halton Holegate	Causewayed Ring Ditch	Ring Ditch			PROBABLE PREHISTORIC CROPMARK CAUSEWAYED RING DITCH, WITH TRACKWAY
1175	LINHER	43213	541530	365790	Halton Holegate	PREHISTORIC TRACKWAY	Trackway			POTENTIAL PREHISTORIC TRACKWAY, POSSIBLY ASSOCIATED WITH THE CAUSEWAYED ENCLOSURE.
1363	LINHER	43674	554000	368000	Addlethorpe	Flint	Findspot	flint		PREHISTORIC FLINT
1552	LINHER	44528	549750	365150	Burgh le Marsh	Flint flake	Findspot	flint		a flint waste flake was recovered.
1629	LINHER	45305	543765	366705	Ashby with Scremby	Prehistoric cropmark field system	Field System			Prehistoric cropmarks of field system.
2063	NMP		541134	364761		Prehistoric Settlement	Settlement			A prehistoric settlement was identified during the NMP

Appendix 10

Iron Age and Roman archaeology

The following tables present the archaeological sites and finds mentioned in the text in Chapters 5-9. The data is organised by zone (see Chapter 6). In each zone, the Iron Age material is presented followed by any material simply dated as later prehistoric, and then the Roman material. In each of these period groups, the finds are listed in numerical order of the unique identifier that has been given to the records (see Chapter 4). The data presented is a selection of that contained within the archaeology dataset that has been compiled from a variety of sources.

Key to table:

Identifier:	Unique number
Source:	Original source of the data (see list of abbreviations at the beginning of the thesis)
PRN:	Original source reference number
Xcoord:	6-figure easting
Ycoord:	6-figure northing
Parish:	Modern parish name
Name:	Free-text name given to site
Type:	Type of find taken from type list (see Table Appendix 9.1, in Appendix 9)
Find type	Coins, Flint, Metalwork, Pottery, Stone
Secondary	Second date for any other material within record
Description	Free-text description of the site or artefact

Zone 1

Iron Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
51	HWP	TETNEY-9	530300	402700	Tetney	Crop marks	Enclosure		PMED	Crop marks representing linear features and enclosures possibly IA or Roman or later
1384	LINHER	43726	533920	394610	Covenham St Bartholomew	Iron Age pottery	Findspot	pottery		A FRAGMENT OF IRON AGE OR EARLY SAXON POTTERY
1741	LINHER	45993	530465	398975	North Thoresby	Probable Iron Age farmstead and field system cropmarks	Settlement			Cropmarks of an enclosure and field system were observed east of North Thoresby as part of the national mapping programme. These were interpreted as an Iron Age farmstead and associated field system
1842	LINHER	46148	528255	398505	North Thoresby	Prehistoric farmstead	Settlement			Potential unknown prehistoric cropmarks that are interpreted as being a late prehistoric farmstead and associated field system.
1873	LINHER	46187	529165	401745	Holton le Clay	Prehistoric farmstead	Settlement			Possible later prehistoric farmstead south of Holton le Clay, seen as cropmarks
2002	NELINHER	0064/1/0	530570	407700	Cleethorpes	Iron Age Coins	Findspot	coins		A Brigantian coin of base gold c.40 AD found in 1937. Coritanian gold stater 'Whorl' type

Later prehistoric

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
2035	NELINHER	0328/1/0	527260	404970	New Waltham	Probable prehistoric or Roman enclosure	Enclosure			Probable Prehistoric or Roman enclosure and boundary seen as cropmarks. PastScape

Roman

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
23	HWP	TETNEY-3	530200	399800	Grainsby	Find concentration	Artefact Scatter	pottery		95 sherds of Roman pottery were found during field walking. Possibly fourth century AD
24	HWP	TF294995.AA	529470	399520	Grainsby	Roman pottery	Findspot	pottery		a single sherd of Roman pottery
25	HWP	TF302998.AG	529960	399450	Grainsby	Roman pottery	Findspot	pottery		a single sherd of Roman pottery
26	HWP	TF305995.AB	530490	399540	Grainsby	Roman pottery	Findspot	pottery		a single sherd of Roman pottery
27	HWP	TF306998.AB	530570	399920	Grainsby	Roman pottery	Findspot	pottery		a single sherd of Roman pottery
37	HWP	TF362980.AC	536380	397660	Marshchapel	Roman pottery	Findspot	pottery	MED	One sherd of Roman pottery and two sherds of Medieval pottery
39	HWP	TETNEY-10	533500	399600	North Thoresby	Find concentration	Artefact Scatter	pottery		49 sherds of Roman pottery collected during site visit. Farmer previously had collected a large quantity of pottery including Samian and colour coated ware.
44	HWP	TA316019.AA	531590	401620	Tetney	Roman pottery	Findspot	pottery		a single sherd of Roman pottery
45	HWP	TA318020.AA	531720	401990	Tetney	Roman pottery	Findspot	pottery		a single sherd of Roman pottery
55	HWP	TA298301.AB	529950	400180	Waithe	Roman pottery	Findspot	pottery		Two sherds of Roman pottery
56	HWP	TA301004.AD	530090	400500	Waithe	Pottery	Findspot	pottery	MED	One sherd of Roman pottery and two sherds of Medieval pottery
84	LHA	9531	525230	400930	Ashby cum Fenby	Roman pottery	Findspot			Roman pottery discovered during a watching brief
113	LINHER	41180	534120	397010	Fulstow	Roman pottery	Artefact Scatter	pottery		SCATTER OF COARSE GREY ROMANO BRITISH POTTERY
135	LINHER	41204	529580	398460	North Thoresby	Coin Hoard	Findspot	coins		TWENTY FIVE ROMAN BRONZE COINS GALLIENUS TO CONSTANS 330-341
138	LINHER	41207	526610	398110	North Thoresby	Field system and vineyard	Field System			ROMANO BRITISH POTTERY FOUND AFTER DEEP PLOUGHING IN 1955. AREA ALSO VISITED IN 1959 AND AN EXTENSIVE SCATTER OF c3 POTTERY FOUND ASSOCIATED WITH DARK SOILMARKS. EXCAVATION OF THE DARK FILL REVEALED HIGH ORGANICS AND SUGGESTED CULTIVATION DITCHES
147	LINHER	41216	526300	398800	Grainsby	Settlement	Settlement			A ROMANO-BRITISH OCCUPATION SITE. POSSIBLE EXTENSION OF PRN 41207. A QUANTITY OF C3 AND C4 CENTURY POTTERY INCLUDING SAMIAN AND PART OF A MORTARIUM RIM BEARING A STAMP FOUND AND DARK PATCHES OF EARTH REVEALED IN PLOUGHING.
148	LINHER	41217	526300	398840	Grainsby	Pottery and plaque	Artefact Scatter	pottery	MED	ROMANO-BRITISH POTTERY FOUND AFTER DEEP PLOUGHING IN 1954 AND 1955. A MEDIEVAL PLAQUE
154	LINHER	41223	533600	401400	Tetney	Roman pottery	Artefact Scatter	pottery		C3-C4 GREYWARE POTTERY AND SHERD OF SAMIAN AND CASTOR FOUND 1958
156	LINHER	41225	531840	401320	Tetney	Roman pottery	Artefact Scatter	pottery	AS	ROMAN GREYWARE AND SAMIAN FRAGMENTS. ALSO OYSTER SHELL FOUND. MAYBE A MIDDEN SITE.
159	LINHER	41228	531340	403490	Tetney	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FOUND IN TETNEY AND DATED C3-C4
173	LINHER	41242	528650	402770	Holton le Clay	Settlement	Settlement			SEVERAL SHERDS OF C3-C4 GREYWARE AND PART OF A FLUE TILE SUGGEST ROMAN OCCUPATION
184	LINHER	41251	537110	393390	Alvingham	Roman pottery	Artefact Scatter	pottery		SHERDS OF ROMAN COARSE WARES, INCLUDING GREYWARE, MOSTLY OF C4 PLOUGHED UP IN FIELD
256	LINHER	41324	537000	397000	Grainthorpe	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FROM WRAGHOLME.
268	LINHER	41336	536070	397490	Marshchapel	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY OF LATE C3 AND EARLY C4 TYPE RECOVERED IN DYKE CLEANING
269	LINHER	41337	535700	397800	Marshchapel	Roman farm	Settlement			ROMANO BRITISH POTTERY FOUND ON SURFACE INCLUDING 3 GREY WARE RIMS, 2 BASES AND BODY SHERDS AS WELL AS 2 RIMS AND A BASE OF GRITTED WARE. GREY WARE AND COLOUR COATED WARE. Geophysical survey.

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
285	LINHER	41354	535800	397500	Marshchapel	Roman pottery	Artefact Scatter	pottery		C3 AND C4 CENTURY ROMANO BRITISH POTTERY FOUND OVER A WIDE AREA OF MARSHCHAPEL
292	LINHER	41361	536350	401260	North Coates	Saltern site	Salt Works			REPORT OF GREY POTTERY FOUND AT THE BOTTOM OF SALTERN AT NORTHCOATES. MAY BE ASSOCIATED WITH SALTWORKING.
302	LINHER	41371	539190	394670	Conisholme	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FOUND
1093	LINHER	42933	530610	401420	Tetney	Roman material	Artefact Scatter	pottery		A ROMAN SURFACE SCATTER OF GREYWARE POTTERY AND OYSTER SHELL
1094	LINHER	42934	530570	401490	Tetney	Roman material	Artefact Scatter	pottery		A ROMAN SURFACE SCATTER OF GREYWARE POTTERY AND OYSTER SHELL
1541	LINHER	44498	533000	391000	Brackenborough with Little Grimsby	Roman artefacts	Artefact Scatter	metalwork		While metal detecting several Roman artefacts were found. Silver ring with very slender hoop; gem setting has some remains of adhesive material.
1963	NELINHER	0004/1/0	524200	401300	Ashby cum Fenby	Roman pottery	Findspot	pottery		Small number of Roman sherds and 'native' shell ware
1986	NELINHER	0123/1/0	526000	401000	Brigsley	Roman brooch	Findspot	metalwork		Roman brooch found by metal detectorist. Triple groove running down the centre of the length of the bow, hook on the top, most of which is missing.
1997	NELINHER	0059/1/0	530520	409470	Cleethorpes	Roman pottery	Findspot	pottery		A large romano-British sherd - D2 type from Swanpool kiln
1999	NELINHER	0061/1/0	529580	409840	Cleethorpes	Roman Coin	Findspot	coins		Second bronze of Vespasian, AD 69-79
2000	NELINHER	0062/1/0	530570	409300	Cleethorpes	Roman Coin	Findspot	coins		Hadrianic bronze coin found on foreshore, AD117-138
2001	NELINHER	0063/1/0	530840	407460	Cleethorpes	Roman quern	Findspot	stone		Upper part of a beehive quern found whilst gardening
2003	NELINHER	0065/1/0	530730	409130	Cleethorpes	Roman Coin	Findspot	coins		Roman coin of Constantinus AD337-361
2007	NELINHER	0069/1/0	529990	409770	Cleethorpes	Roman Coin	Findspot	coins		Brass of Marcus Aurelius. AD 161-180
2013	NELINHER	0071/1/4	529940	408100	Cleethorpes	Beacon Hill	Findspot	pottery		Portions of a plain globular vase - possibly grey ware found in Beacon Hill
2016	NELINHER	0073/1/0	530670	409250	Cleethorpes	Roman Coin	Findspot	coins		A small bronze Roman coin of Flavius Valens AD364-378
2018	NELINHER	0084/1/0	531344	408537	Cleethorpes	Roman pottery	Findspot	pottery		A sherd of courseware and a rim of mortarium found on Cleethorpes Beach
2022	NELINHER	368	530500	406500	Humberston	Pottery	Findspot	pottery		
2028	NELINHER	1170	531000	406000	Humberston	Pottery	Findspot	pottery		4th century pottery
2034	NELINHER	0323/1/0	528600	404800	Humberston	Possible Roman Road	Road			Potential Roman road, an extension of Margary 274. Stone Lion supposedly found in garden

Zone 2

Iron Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
362	LINHER	41436	551210	384770	Mablethorpe and Sutton	Iron Age settlement	Settlement			IRON AGE PYGMY URN FOUND IN MABLETHORPE. ROUND HUT SITES WITH RUSH FLOORS WERE ALSO SEEN EXPOSED AFTER A SEVERE STORM
1340	LINHER	43633	539940	386730	Manby	Iron Age remains	Ditch			FEATURES OF MIDDLE/LATE IRON AGE DATE WERE IDENTIFIED. THESE INCLUDED PITS GULLIES, DITCHES AND A POSSIBLE DRIP GULLY. SOME OF THESE FEATURES CONTAINED POTTERY DATING TO THE IRON AGE

Roman

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
54	HWP	SALTFLEETBY-5	547200	389300	Theddlethorpe St Helen	Find concentration	Artefact Scatter	pottery		69 sherds of roman pottery were recovered during field walking
78	HWP	TF452834.AA	545420	383420	Withern with Stain	Roman pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
79	HWP	TF455843.AA	545560	384310	Withern with Stain	Find concentration	Findspot	pottery	MED	One sherd of Roman pottery and two sherds of Medieval pottery
80	HWP	TF455843.AB	545600	384190	Withern with Stain	Roman pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
81	HWP	WITHERN-2	544900	383200	Withern with Stain	Find concentration	Artefact Scatter	pottery	MED	Five sherds of Roman pottery and 3 sherds of Medieval pottery were recovered in an area of crop mark enclosures
82	John		546353	391279	Saltfleetby St Peter	Roman pottery	Findspot	pottery		Roman pottery recovered
100	LINHER	41133	547200	384800	Mablethorpe and Sutton	Roman coins	Artefact Scatter	coins		A REPORT OF 53 ROMAN COINS IDENTIFIED FROM GRATIAN TO VALENTIAN 11 (367-383N AND 375-392)
186	LINHER	41253	536600	391600	Alvingham	Roman pottery	Artefact Scatter	pottery	MED	ROMAN C4 SHERDS MAINLY GREYWARE. MEDIEVAL SHERDS ALSO FOUND
200	LINHER	41267	543550	388550	Saltfleetby St Peter	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY DATING TO LATE C3 OF C4 CENTURY
206	LINHER	41274	544600	395000	Skidbrooke with Saltfleet Haven	Roman pottery	Findspot	pottery		SINGLE SHERD OF SAMIAN (PLAIN FORM)
208	LINHER	41276	545000	393000	Skidbrooke with Saltfleet Haven	Roman coins	Artefact Scatter	coins		SIX ROMAN COINS ALL AE. 1 AS OF NERO R.I.C.329 2. ANT OF GALLIENUS R.I.C.483 3. ANT. OF VICTORINUS 1? R.I.C.75 4. FOLLIS OF MAXIMIAN GENIO POP.ROMANI TYPE C298 5. ?CONSTANTINE 1 GLORIA EXERCITUS
226	LINHER	41294	540300	391900	South Somercotes	Roman finds	Artefact Scatter	pottery		A LARGE QUANTITY OF ROMANO BRITISH POTTERY, MAINLY GREYWARE BUT ALSO SOME SAMIAN AND COLOUR COATED WARE
234	LINHER	41302	539200	387900	Grimoldby	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY
237	LINHER	41305	539700	387000	Manby	Roman coin	Findspot	coins		ROMAN COIN EARLY C4. CENTENIONALIS OF CONSTANTIUS II.
311	LINHER	41380	540700	390500	South Cockerington	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH GREYWARE IN 'LARGE PATCHES OF VERY DARK SOIL'
313	LINHER	41382	535210	388860	Keddington	ROMAN COINS	Artefact Scatter	coins		ROMAN COINS OF MAXENTIUS AND ALEXANDER SEVERUS
320	LINHER	41389	533200	387860	Louth	ROMAN COIN	Findspot	coins		AS OF DOMITIAN FOUND ON THE CORNER OF CHARLES STREET AND NEWBRIDGE HILL ON THE SITE OF A FACTORY. OBV: IMP CAES DOMIT AVG GERM COS XII CENS PER PP REV: MONETA AVGUSTI SC 86 AD
325	LINHER	41395	533000	387000	Louth	ROMAN COINS	Findspot	coins		ANTONINIANUS OF TETRICUS, SENIOR, AND A DENARIUS OF FAUSTINA THE YOUNGER

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
363	LINHER	41437	551000	385000	Mablethorpe and Sutton	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FOUND AT MABLETHORPE. ADDITIONAL POTTERY AND C3 COINS
365	LINHER	41439	551350	384540	Mablethorpe and Sutton	Roman pottery	Settlement			ROMANO BRITISH SITE EXPOSED IN 1948 WHEN FINDS INCLUDED A FLAVIAN BOWL CONTAINING A HOARD OF COINS FROM AUGUSTUS TO MID C4. C2 AND C3 POTTERY ALSO FOUND. RIM OF POT IS IN LINCOLN MUSEUM AND DESCRIBED AS 'BOWL FORM 29 IN THE STYLE OF PASSENUS' IN 1943 ROMANO BRITISH POTTERY AND C3 COINS
706	LINHER	41836	537900	385300	Legbourne	ROMAN POTTERY	Artefact Scatter	pottery		A ROMANO BRITISH LUG HANDLE AND GREYWARE
943	LINHER	42501	539700	383600	South Reston	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FOUND
1333	LINHER	43612	533830	385680	Louth	ROMAN SITE	Settlement			Romano-British site was identified. A Roman ditch aligned east to west was examined and contained charcoal and burnt sandstone as well as pottery.
1341	LINHER	43634	539940	386730	Manby	Roman remains	Ditch			FEATURES OF ROMANO-BRITISH DATE WERE IDENTIFIED. THESE INCLUDED DITCHES WHICH CONTAINED ROMANO-BRITISH POTTERY SOME OF THE FEATURES WERE LATE IRON AGE/ROMANO-BRITISH IN DATE SUGGESTING CONTINUITY OF SETTLEMENT
1369	LINHER	43685	550850	383850	Mablethorpe and Sutton	Roman pottery	Artefact Scatter	pottery		ROMANO-BRITISH POTTERY AND TILE WAS RECOVERED.
1439	LINHER	43870	544445	390555	Saltfleetby St Peter	sherd of pottery	Findspot	pottery	MED	A single sherd of undated micaceous pottery. This may have been within the date range Roman to medieval.
1585	LINHER	44801	544370	384950	Gayton le Marsh	Roman pottery	Findspot	pottery		Romano-British pottery sherd of the 2nd century
1586	LINHER	44802	544360	384950	Gayton le Marsh	Roman pottery	Findspot	pottery		Romano-British pottery sherd of the 2nd to 3rd century
1588	LINHER	44806	544470	384800	Gayton le Marsh	Undated Ditch	Ditch			Geophysical survey identified a single north to south aligned ditch-like feature which may be archaeologically significant, the surveyors noted the presence of Romano-British pottery in the ploughsoil, scattered across the mid-section of the field.
1649	LINHER	45626	532718	387230	Louth	Roman artefacts	Artefact Scatter	tile		Some unstratifed fragments of Roman brick and tile
1701	LINHER	45873	542655	386370	Great Carlton	Roman field system	Settlement			Evidence was uncovered for Roman ditches, gully and a pit. Finds recovered were low status, local domestic pottery from the mid 2nd to 4th centuries and animal bone. There was the burnt area of a hearth. This was interpreted as a field system associated with a nearby settlement.
1702	LINHER	45874	544415	384885	Gayton le Marsh	Roman field system	Field System			Evidence was uncovered for a Roman field system. There was various ditches and gullies draining into a pond.
1703	LINHER	45876	543215	385960	Gayton le Marsh	Roman pottery	Findspot	pottery		A single sherd of Romano-British pottery was recovered.
1905	LINHER	46243	544135	389725	Saltfleetby St Peter	Romano-British settlement	Settlement			The excavation produced large quantities of Romano-British pottery, oyster shell and moderate amounts of bone. It appears that during the 2nd and 3rd centuries AD, a creek flowed through the area, into which a large quantity of rubbish was deposited over a period of at least a hundred years. The nature of the pottery assemblage suggests that it originates from a high status site and/or a site which had close connections with continental trade. The lack of building material and the large size and freshness of the sherds indicate a primary rubbish or midden deposit that must have originated from a settlement or household in the immediate vicinity of the creek.

Zone 3

Iron Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
571	LINHER	41658	557440	368870	Ingoldmells	Saltern	Salt Works			EARLY IRON AGE SALTWORKING SITE WITH BRIQUETAGE, SHALLOW VESSELS
573	LINHER	41660	557190	369380	Ingoldmells	Saltern	Salt Works			EARLY IRON AGE SALTWORKING SITE WITH BRIQUETAGE, SHALLOW VESSELS
574	LINHER	41661	557290	369120	Ingoldmells	Saltern	Salt Works			EARLY IRON AGE SALTWORKING SITE WITH BRIQUETAGE, SHALLOW VESSELS
578	LINHER	41667	557030	370160	Ingoldmells	Saltern	Salt Works			IRON AGE SALTWORKING SITE WITH BRIQUETAGE BENEATH MEDIEVAL 'SUN PAN'.
699	LINHER	41817	555500	370000	Addlethorpe	Saltern	Salt Works			SALTERN BRIQUETAGE AND SCRAPS OF IRON AGE POTTERY
703	LINHER	41821	555500	369000	Addlethorpe	Saltern	Salt Works			A SALTERN MOUND C 30CM HIGH. THE MOUND IS 7M LONG AND 1.75M BELOW THE GROUND SURFACE
746	LINHER	41948	552100	368800	Hogsthorpe	Saltern	Salt Works			POSSIBLE IRON AGE SALTERN WITH C2 BC POTTERY
755	LINHER	41957	551740	368800	Hogsthorpe	Saltern	Salt Works			POSSIBLE SITE OF C2 BC SALTERN
1152	LINHER	43154	551900	368800	Hogsthorpe	Saltern	Salt Works			POSSIBLE IRON AGE SALTWORKS
1526	LINHER	44236	551515	374215	Mumby	Iron Age ditch	Ditch			Iron Age ditch was recorded containing two sherds of pottery thought to be dated to the middle/late Iron Age
2057	NMP		542539	369408		Iron Age Enclosure	Enclosure			An Iron Age enclosure was identified during the NMP
2061	NMP		543808	369135		Iron Age Enclosure	Enclosure			An Iron Age enclosure was identified during the NMP

Later prehistoric

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
19	HWP	WILLOUGHBY-14	550500	372700	Cumberworth	Crop marks	Enclosure			Enclosure with linear ditches
33	HWP	HUTTOFT-5	553400	379100	Huttoft	Crop marks	Linear Feature			A series of linear ditches and perpendicular junctions following co-axial alignment
60	HWP	WILLOUGHBY-1	547700	368700	Welton le Marsh	Crop marks	Enclosure			Crop marks of a possible enclosure and linear feature
564	LINHER	41651	556300	369400	Ingoldmells	Saltern	Salt Works			Two saltern sites were seen in a ditch approximately. Finds include handmade bricks, 9cm or smaller, pans and Iron Age potsherds, some Roman pottery was also recorded.
565	LINHER	41652	556390	369280	Ingoldmells	Saltern	Salt Works			BRIQUETAGE, HANDBRICKS, PAN FRAGMENTS AND ONE ROMANO BRITISH SHERD FOUND IN NEWLY CUT DYKE C 2M DOWN
751	LINHER	41953	553300	371800	Hogsthorpe	Saltern	Salt Works			SALTERN SITE WITH PAN FRAGMENTS AND OTHER DEBRIS INCLUDING DEER ANTLER AND HORN CORE
753	LINHER	41955	553300	371800	Hogsthorpe	Saltern	Salt Works			SALTERN SITE REVEALING PAN EDGES AND HORN CORE
754	LINHER	41956	552000	369200	Hogsthorpe	Saltern	Salt Works			SALTERN SITE WITH HAND BRICKS 4 X 1 BAKED CLAY RODS PIECES OF PANS AND BASES
872	LINHER	42164			Welton le Marsh	Saltern	Salt Works			HAND BRICKS FROM A POSSIBLE SALTERN SITE
1238	LINHER	43341	557200	369500	Ingoldmells	Saltern	Salt Works			A FEW FRAGMENTS OF BRIQUETAGE WHICH PROBABLY DATE TO THE IRON AGE/ ROMAN PERIODS
1239	LINHER	43342	556900	370500	Chapel St Leonards	Saltern	Salt Works			LAYER OF BRIQUETAGE INCLUDING HANDBRICKS AND EVAPORATING TROUGHS, AND CHARCOAL. IT IS THOUGHT TO DATE FROM IRON AGE/ROMAN PERIODS. THERE WAS ALSO A SERIES OF AT LEAST 45 SUB-RECTANGULAR FEATURES CUT THROUGH THE UPPER PEAT LAYER, ONE OF WHICH CUT INTO THE BRIQUETAGE LAYER
1240	LINHER	43346	557200	369500	Ingoldmells	Saltern	Salt Works			BRIQUETAGE WERE DISCOVERED IN A WOODY PEAT LAYER. THEY PROBABLY DATE FROM THE IRON AGE/ROMAN PERIODS
1241	LINHER	43347	556900	370500	Chapel St Leonards	Saltern	Salt Works			BRIQUETAGE INCLUDING HANDBRICKS AND EVAPORATING TROUGHS, AND CHARCOAL. IT IS THOUGHT TO DATE FROM IRON AGE/ROMAN PERIODS.
1695	LINHER	45836	557150	370050	Ingoldmells	Iron Age or Roman salt working site	Salt Works			Iron Age or Roman Saltern site. A large quantity of briquetage and hand bricks were recovered.
2054	NMP		550489	372612		Later Prehistoric enclosure	Enclosure			A Later Prehistoric enclosure identified during the NMP

Roman

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
5	HWP	INGOLDMELLS-15	555700	370300	Addlethorpe	Pottery	Artefact Scatter	pottery		13 sherds of Roman pottery were found during field walking
18	HWP	TF498723.AD	550010	372830	Cumberworth	Pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
32	HWP	HUTTOFT-4	552300	377000	Huttoft	Roman pottery	Artefact Scatter	pottery		28 sherds of Roman pottery were found during field walking
59	HWP	TF492692.AA	549220	369240	Welton le Marsh	Pottery	Artefact Scatter	pottery	MED	2 sherds of Roman pottery and three sherds of medieval pottery
61	HWP	WILLOUGHBY-2	549200	368800	Welton le Marsh	Roman pottery	Artefact Scatter	pottery	MED	88 sherds of Roman pottery were found during field walking
63	HWP	TF487715.AB	548450	371590	Willoughby with Sloothby	Pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
66	HWP	TF488733.AA	548340	373310	Willoughby with Sloothby	Roman pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
75	HWP	TF425819.AF	542440	381950	Withern with Stain	Roman pottery	Findspot	pottery		Two sherds of Roman pottery were recovered during field walking
76	HWP	TF425823.AA	542670	382310	Withern with Stain	Roman pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
92	LINHER	40281	548180	369990	Willoughby with Sloothby	Roman coin	Findspot	coins		GOLD SOLIDUS EXTREMELY FINE. VIRTUALLY UNCIRCULATED REV: HONORIUS STG R HOLDING STANDARD AND VICTORY. L FOOT ON CAPTIVE: INFIELD MD IN EX COMOB OBVERSE: DIN HONORIUS PF AUG:VICTORIA AUGG:MD
102	LINHER	41135	546600	377200	Saleby with Thoresthorpe	Roman pottery	Artefact Scatter	pottery		REPORT OF GREYWARE POTTERY
361	LINHER	41435	550000	380000	Mablethorpe and Sutton	Roman brooch	Findspot	metalwork		ROMANO BRITISH PENANNULAR BROOCH WITH KNOBBED AND COLLARED TERMINALS FOUND AT MABLETHORPE. TYPE A3
367	LINHER	41441	550300	381100	Mablethorpe and Sutton	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH GREYWARE AND 1 SAMIAN SHERD
370	LINHER	41444	552160	382540	Mablethorpe and Sutton	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY. INCLUDES A SHERD OF RUSTIC WARE, A HIGH NECKED CARINATED BOWL, A BOWL SHAPED STRAINER AND A FLAT HEAVY RIMMED BOWL (THE LAST TWO ARE C2 TORKSEY TYPES)
377	LINHER	41451	550000	380000	Mablethorpe and Sutton	Roman tiles	Artefact Scatter	pottery		ROMAN TILES FOUND IN TRUSTHORPE
378	LINHER	41452	551900	383300	Mablethorpe and Sutton	Roman brooch	Findspot	metalwork		ROMANO BRITISH PENANNULAR BROOCH
398	LINHER	41472	548600	377100	Bilsby	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH GREYWARE
400	LINHER	41474	547100	376600	Bilsby	Roman pottery	Artefact Scatter	pottery		SAMIAN WARE PLOUGHED UP
403	LINHER	41477	546800	375900	Bilsby	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH GREY WARE
408	LINHER	41482	546800	376300	Bilsby	Roman finds	Artefact Scatter	pavement		SEVERAL FRAGMENTS OF ROMAN PAVEMENT AND MANY SCULPTURED STONES
419	LINHER	41493	554100	377600	Huttoft	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH FOLDED BEAKER FOUND IN HUTTOFT.
420	LINHER	41494	554000	378000	Huttoft	Roman coins	Artefact Scatter	coins		11 BRONZE ROMAN COINS WERE FOUND IN HUTTOFT BANK. 1 EARLY C1 SESTERTIUS 2. TETRICUS 1 ANTONINIANUS 270-273 3. TETRICUS 11 D 4. 2 BARBAROUS RADIATES 5. CONSTANTINAIAN REV BEATA TRANQUILLITAS TYPE 321-323 6. CONSTANINIAN. RX GLORIA EXERCITUS-1 STD 335-341 7. CONSTANINIAN RX GLORIA EXERCITUS-2 STDS 330-335 8. CONSTANS RX 2 VICTORIES TYPE 341-6 9. BARBAROUS COPY FEL TEMP FALLING HORSEMAN 1-. VALENS RX SECURITAS REI PUBLICAE TYPE. MM. PROB TRIER ALL OF THE COINS WERE IN A VERY WORN STATE
421	LINHER	41495	544500	377870	Huttoft	Roman pottery	Findspot	pottery		A ROMAN URN DATES TO LATE C3
514	LINHER	41602	555700	375100	Anderby	Roman pottery	Findspot	pottery		A ROMANO BRITISH POT SHERD
519	LINHER	41607	555430	375890	Anderby	Roman pottery	Findspot	pottery		A LATE ROMANO BRITISH C4 POTSHERD
520	LINHER	41608	555430	375860	Anderby	Roman pottery	Findspot	pottery		A ROMANO BRITISH POTSHERD
521	LINHER	41609	555000	376000	Anderby	Roman pottery	Findspot	pottery		COMPLETE C4 ROMANO BRITISH POT

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
523	LINHER	41611	555900	371000	Chapel St Leonards	Roman pottery	Findspot	pottery		A ROMANO-BRITISH POT OF LIGHT GREYWARE WITH DARKER GREY SURFACE, FOUND IN BLUE CLAY 10' DOWN
524	LINHER	41612	556400	372200	Chapel St Leonards	Roman pottery	Findspot	pottery		ROMAN BRITISH GREYWARE BASE AND FRAGMENT OF HUMAN SKULL
527	LINHER	41615	556800	370800	Chapel St Leonards	Roman pottery	Findspot	pottery		A SHERD OF ROMANO BRITISH POTTERY
535	LINHER	41623	556200	373300	Chapel St Leonards	Roman pottery	Findspot	pottery		GREYWARE RIM OF LARGE BOWL
537	LINHER	41625	556270	372600	Chapel St Leonards	Roman pottery	Findspot	pottery		UPPER HALF OF C3 ROMANO BRITISH GRITTED JAR
752	LINHER	41954	552190	372850	Mumby	Saltern	Salt Works			ROMAN SALTERN SITE WITH BRIQUETAGE AND POTTERY OF C2-C3.
761	LINHER	41968	553000	372000	Hogsthorpe	Coin	Findspot	coins		AN AUREUS OF VESPASIAN RIC 92
771	LINHER	41979	550600	374800	Mumby	Roman pottery	Artefact Scatter	pottery		C2 AND C3 ROMAN POTTERY
780	LINHER	41988	548910	370650	Willoughby with Sloothby	Roman coins	Findspot	coins		2 ROMAN COINS OF GALLIENUS (253-68) AND COMMODUS (177-92)
784	LINHER	41992	548200	373100	Willoughby with Sloothby	Roman coins	Findspot	coins		2 ROMAN COINS FOUND 1 - COIN OF ANTONINUS PIUS OBV: ANTONINUS AVG PIVS (TRP XII) REV: MV (NIFICENTIA AVG COS III ELEPHANT RIC 862A 2- UNIDENTIFIABLE C3 RADIATE
785	LINHER	41993	548900	370600	Willoughby with Sloothby	Roman pottery	Artefact Scatter	pottery		ROMAN POTTERY SCATTER INCLUDING GREYWARE, 2 SAMIAN AND DALES WARE
787	LINHER	41995	546500	372500	Willoughby with Sloothby	Roman finds	Artefact Scatter	pottery		6 ROMANO BRITISH SHERDS, POSSIBLY OF C4 AND PART OF A ROMANO BRITISH GLASS BOTTLE
788	LINHER	41996	546550	372230	Willoughby with Sloothby	Settlement	Settlement			ROMANO BRITISH SETTLEMENT. A LARGE QUANTITY OF ROOFING AND FLUE TILES, POTTERY INCLUDING SAMIAN, A COPIN OF HADRIAN, SQUARE HEAD PIN, BRONZE OBJECT AND PARTS OF TWO PATERA WERE FOUND. THE SOIL WAS MIXED WITH ASH, BLACK AND RED EARTH, CHALK, CHARCOAL, OYSTER SHELL, BONE AND POTTERY FRAGMENTS
790	LINHER	41998	549500	370500	Willoughby with Sloothby	Roman pottery	Artefact Scatter	pottery		ROMAN GREYWARE SHERDS HAVE BEEN FOUND AT DIFFERENT TIMES AT THIS LOCATION.
797	LINHER	42005	549300	371200	Willoughby with Sloothby	Brooch	Findspot	metalwork		ROMAN BROOCH OF SIMPLE T-SHAPE
798	LINHER	42006	548900	370700	Willoughby with Sloothby	Roman finds	Findspot	metalwork		ROMANO BRITISH RING AND ? CRESCENT PENDANT
806	LINHER	42014	544500	374100	Well	Roman coin	Findspot	coins		ROMAN COINS FOUND IN WELL. GRATIAN - GLORIA NOVI SAECULI. ARIES MINT. LRBC 529. CONSTANTINE II AS CAESAR - BEATA TRANQUILLITAS CONSTANTIUS II AS CAESAR - REV NOT IDENTIFIED
809	LINHER	42017	544440	373530	Well	Roman coin	Findspot	coins		TWO URNS CONTAINING HOARDS OF ANTONINANI WERE FOUND ONE HOLDING 600-700 COINS.
810	LINHER	42018	544700	373600	Well	Roman coin	Findspot	coins		A C2 BRASS OF COMMODUS
812	LINHER	42021	540800	373600	Ulceby with Fordington	ROMAN POTTERY	Artefact Scatter	pottery		ROMAN POTTERY INCLUDING SOME SAMIAN
813	LINHER	42022	541610	371600	Ulceby with Fordington	ROMAN COINS	Findspot	coins		A VICTORINUS ANTONIANUS AND TWO ILLEGIBLE ANTONINIANI
816	LINHER	42025	541200	373400	Ulceby with Fordington	ROMAN BROOCHES	Findspot	metalwork		THREE ROMANO-BRITISH CROSS-BOW BROOCHES, INCLUDING ONE WITH THE SPRING UNWOUND.
817	LINHER	42026	541820	371300	Ulceby with Fordington	ROMAN COINS	Findspot	coins		THREE ROMAN COINS: 1. CLAUDIUS II 2. TETRICUS I ANTONIANUS 3. AN AE OF VALENS
819	LINHER	42028	540800	373200	Ulceby with Fordington	ROMAN SETTLEMENT SITE	Settlement			EXTENSIVE ROMANO-BRITISH SETTLEMENT EXTENDING BOTH SIDES OF THE ROMAN ROAD. EXCAVATED BY CANON TATHAM 1913-23.

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
824	LINHER	42035	540805	373105	Ulceby with Fordington	ROMAN SETTLEMENT SITE	Settlement			ROMANO BRITISH SETTLEMENT SITE. INDICATIONS OF WOODEN TILED- ROOFED BUILDINGS WITH CHALK FLOORS AND RAMMED EARTH FLOORS SEEN. FINDS INCLUDE COINS FROM DOMITIAN TO C5 MINIMI, SAMIAN, NEW FOREST, CASTOR AND COARSE WARE POTTERY, NAILS, GLASS AND BRONZE.
833	LINHER	42062	543000	371350	Skendleby	COURSE OF ROMAN ROAD	Road			COURSE OF ROMAN ROAD THROUGH SKENDLEBY.
836	LINHER	42065	544400	371900	Claxby	Roman pottery	Findspot	pottery		A SINGLE RIM SHERD OF ROMANO BRITISH GREYWARE OF C3-C4.
837	LINHER	42066	544390	371540	Claxby	COPPER ALLOY RING	Findspot	metalwork		IRON AGE/ROMANO BRITISH COPPER ALLOY RING WITH SWIMMING DUCK AS BEZEL
840	LINHER	42069	545000	371000	Claxby	ROMAN POTTERY	Artefact Scatter	pottery		C3-C4 ROMAN POTTERY; DALES WARE MAINLY IN SANDY FABRICS
843	LINHER	42072	546000	371000	Claxby	ROMAN POTTERY	Artefact Scatter	pottery		ROMAN POTTERY
844	LINHER	42073	545300	371300	Claxby	RING AND ANNULAR BROOCH	Findspot	metalwork		POSSIBLE ROMANO BRITISH RING AND ANNULAR BROOCH
850	LINHER	42079	545400	371300	Claxby	ROMAN FINDS	Artefact Scatter	coins		A COIN OF VALENS WAS FOUND. COINS OF GALLIENUS, CONSTANTINE, FAUSTINA, CONSTANTIUS, LICINIUS AND HONORIUS
869	LINHER	42161	547000	369000	Welton le Marsh	Roman pottery	Artefact Scatter	pottery		SAMIAN WARE FOUND
871	LINHER	42163	545800	368900	Welton le Marsh	Roman road	Road			ROAD METALLING FLINTS, POSSIBLY ROMAN
874	LINHER	42166	547000	369000	Welton le Marsh	Roman pottery	Findspot	pottery		A SHERD OF DECORATED SAMIAN WARE
876	LINHER	42168	546880	369210	Welton le Marsh	Pit	Pit		MED	A CHALK LINED PIT OR WELL. POTTERY FROM THIS AREA INCLUDES A JUG HANDLE AND ROMAN AND POST MEDIEVAL TYPES
877	LINHER	42169	546200	370400	Welton le Marsh	Roman pottery	Artefact Scatter	pottery		IN 1948 C3 AND C4 POTTERY WAS FOUND
879	LINHER	42172	546100	370300	Welton le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY OF C3 AND C4 FOUND
886	LINHER	42180	546600	369700	Welton le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY MAINLY GREYWARE WITH SOME SAMIAN
938	LINHER	42439	540000	377000	South Thoresby	ROMAN URN	Findspot	pottery		A ROMAN URN FOUND IN SOUTH THORESBY.
952	LINHER	42510	537700	381300	Muckton	ROMANO BRITISH POTTERY	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FOUND IN MUCKTON
953	LINHER	42511	537500	381390	Muckton	ROMANO BRITISH FINDS	Findspot	metalwork		A ROMANO BRITISH SPINDLE WHORL AND TWO BRONZE RINGS (OF UNCERTAIN USE)
954	LINHER	42512	537620	381370	Muckton	ROMAN COIN AND OTHER FINDS	Findspot	coins		AN AE COMMEMORATIVE COIN OF CONSTANTINOPOLIS, AD 330-1 MINTED IN TRIER, RIC 530. ALSO SOME ROMAN POTTERY, INCLUDING GREYWARE AND SAMIAN. ALSO A LEAD WEIGHT AND/OR TOKEN OF UNCERTAIN DATE.
963	LINHER	42521	544000	378000	Saleby with Thoresthorpe	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY
968	LINHER	42526	546400	377400	Saleby with Thoresthorpe	Roman cremations	Burial			TWO GREYWARE ROMANO BRITISH VESSELS CONTAINING CREMATIONS
972	LINHER	42530	544980	375940	Alford	Roman coin	Findspot	coins		A SMALL AE COIN OF CONSTANTINE I OR II
975	LINHER	42533	545350	376200	Alford	Roman coins	Findspot	coins		THREE ROMAN COINS INCLUDING ONE OF CLADIUS AND ONE OF ALLECTUS. NINE OTHER COINS ARE RECORDED SO MAY BE A HOARD
979	LINHER	42537	545290	375580	Alford	Roman coin	Findspot	coins		A DENARIUS OF TRAJAN

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
986	LINHER	42545	545800	377000	Alford	Roman pottery	Findspot	pottery		THE BASE OF A ROMAN CARINATED BOWL
990	LINHER	42549	545800	375400	Alford	Roman pottery	Artefact Scatter	pottery		VARIOUS SHERDS OF GREY BLACK HAND MADE POT WITH CARINATION AND LID-SEATING. THERE IS A HOLE DRILLED IN THE SIDE SO IT MAY HAVE BEEN USED AS A LAMP OR COLANDER. PROBABLY MORE LIKELY TO BE ROMAN A BELGIC DERIVATIVE POT
1128	LINHER	43086	543310	374550	Well	Miles Cross Hill	Settlement			SECTION THROUGH A BROAD DITCH AND SOME 48 SHERDS OF ROMAN POTTERY DATING TO C3 AND C4 WERE FOUND NEARBY. A FURTHER DITCH CONTAINED STRATIFIED POTTERY OF THE MID TO LATE C3. THE EVIDENCE FOR SUSTAINED OCCUPATION CLOSE TO THE EXCAVATION AREA SUGGEST A SMALL FARMING COMMUNITY, PERHAPS A SINGLE FARM NEARBY
1129	LINHER	43089	551600	381550	Mablethorpe and Sutton	Roman pottery	Artefact Scatter	pottery		A QUANTITY OF ROMANO-BRITISH POTTERY. THIS MAY INDICATE THE EXISTENCE OF CONTEMPORARY OCCUPATION SITES IN THE VICINITY SEALED BY THE MARINE TRANSGRESSION SILT LAYER
1184	LINHER	43249	540900	373400	Ulceby with Fordington	Roman finds	Road	pottery		ROMAN ROAD AS CHALK AND GRAVEL SPREAD ACROSS FIELD. GREY WARE AND COLOUR COATED WARES (NENE VALLEY) OF C2-C4 ACROSS FIELD. TWO POSSIBLE RUBBISH PITS CONTAINING POTTERY, SHEEP, PIG AND CATTLE BONES, OYSTER SHELL AND SHELLY POT. NO OBVIOUS SETTLEMENT REMAINS.
1225	LINHER	43304	555200	377200	Chapel St Leonards	Roman finds	Artefact Scatter	pottery		A SMALL QUANTITY OF ROMANO-BRITISH POTTERY. TYPES INCLUDED GREY WARE AND DALES WARE. A FRAGMENT OF BRIQUETAGE WAS ALSO RECOVERED
1413	LINHER	43817	544840	369750	Welton le Marsh	Roman road	Road			A SECTION ACROSS THIS ROAD. THE SECTION WAS AT THE POINT WHERE THE STRAIGHT STRETCH OF ROAD FROM ULCEBY TURNS SHARPLY SOUTH AND THE LINE OF THE ROMAN ROAD FOLLOWS A TARMACED FARM TRACK.
1465	LINHER	43930	553885	369295	Addlethorpe	Probable salt-making site	Salt Works			A scatter of fired clay/briquetage of Roman or earlier date was recorded, close to a number of buried saltern sites. The material is thought to represent a salt-making site. four pieces of briquetage were found in a borehole
1494	LINHER	44037	550625	373735	Cumberworth	Scatter of Roman pottery	Artefact Scatter	pottery		10 sherds of Roman pottery, one of which was samian dating to the mid- to late 2nd century, and nine of which were greyware dating to the mid-3rd to 4th century.
1525	LINHER	44235	551515	374215	Mumby	Possible Romano-British Settlement	Settlement			Pottery of 2nd and 3rd century was recovered from a series of ditches. Some of the pottery sherds are large in size and appear to be unabraded, this could suggest that this site is in close proximity to the settlement zone. From the artefactual evidence, two distinct phases of activity were identified, dating to the early to mid 2nd century AD and the mid to late 3rd century AD. The distribution and nature of the Romano-British activity suggests that the former settlement focus existed immediately to the north-west of the development area, with possible evidence of industrial activity
1587	LINHER	44803	547000	382730	Maltby le Marsh	Romano-British tegula	Findspot	tile		A fragment of Romano-British tegula

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1625	LINHER	45301	545255	370485	Claxby	Roman cropmarks	Enclosure			Roman cropmarks of boundary, enclosure and pit.
1681	LINHER	45707	545130	369480	Welton le Marsh	Roman Road	Road			A fluxgate gradiometer survey identified a diffuse linear anomaly towards the north-eastern part of the site, which may reflect traces of the known Roman Road
1696	LINHER	45838	557250	369850	Ingoldmells	Silver Denarius	Findspot	coins		Silver denarius found at Vickers Point in 1953. The coin was minted in Colchester and shows the Emperor Carausius 287-293 AD.
2049	NMP		546837	376849		Roman settlement	Settlement			Roman settlement site identified during the NMP
2056	NMP		541140	372951		Roman settlement	Settlement			Roman settlement site identified during the NMP
2058	NMP		546290	370463		Roman Enclosure	Enclosure			A Roman enclosure was identified during the NMP
2060	NMP		547597	367325		Roman road	Road			A section of Roman Road was identified during the NMP

Zone 4

Iron Age

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
36	HWP	INGOLDMELLS-16	557300	368200	Ingoldmells	Walkover survey	Salt Works			A saltern was investigated on Ingoldmells beach
562	LINHER	41649	557550	368590	Ingoldmells	Saltern	Salt Works			Saltern scatter, exposed in beach erosion in August? 1980.
567	LINHER	41654	556500	368500	Ingoldmells	Saltern	Salt Works			IRON AGE SALTWORKING SITE PRODUCING HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
568	LINHER	41655	556200	368500	Ingoldmells	Saltern	Salt Works			IRON AGE SALTWORKING SITE PRODUCING HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
569	LINHER	41656	555900	368500	Ingoldmells	Saltern	Salt Works			IRON AGE SALTWORKING SITE PRODUCING HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
570	LINHER	41657	555600	368300	Addlethorpe	Saltern	Salt Works			SALTERN SITE PRODUCING HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
572	LINHER	41659	555600	368800	Ingoldmells	Saltern	Salt Works			EARLY IRON AGE SALTWORKING SITE WITH BRIQUETAGE, SHALLOW VESSELS ETC
575	LINHER	41662	557450	367420	Ingoldmells	Saltern	Salt Works			EARLY IRON AGE SALTWORKING SITE WITH BRIQUETAGE AND POTTERY, INCLUDING BELGIC
576	LINHER	41663	557450	367510	Ingoldmells	Saltern	Salt Works			EARLY IRON AGE SALTWORKING SITE WITH BRIQUETAGE AND POTTERY, INCLUDING BELGIC
577	LINHER	41664	557470	367760	Ingoldmells	Saltern	Salt Works			Early Iron Age salt working site with briquetage and pottery including some Belgic.
583	LINHER	41672	555500	366600	Skegness	Saltern	Salt Works			SALTERN SITE PRODUCING HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
612	LINHER	41701	555000	364800	Skegness	Saltern	Salt Works			IRON AGE 'A' POTTERY AND BRIQUETAGE
681	LINHER	41799	554800	366800	Addlethorpe	Saltern	Salt Works			A SALTERN SITE PRODUCING HAND BRICKS, SHORT RODS AND BELGIC-TYPE POTTERY
682	LINHER	41800	554800	367200	Addlethorpe	Saltern	Salt Works			A SALTERN SITE PRODUCING HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
700	LINHER	41818	555350	367680	Addlethorpe	Saltern	Salt Works			AN EARLY IRON AGE SITE OF SALT PRODUCTION
701	LINHER	41819	555200	368700	Addlethorpe	Saltern	Salt Works			A SALTERN SITE WITH HAND BRICKS, SHORT RODS AND IRON AGE POTTERY
702	LINHER	41820	555200	368200	Addlethorpe	Saltern	Salt Works			THREE SALTERN SITES WITH HAND BRICKS AND SHORT RODS AND IRON AGE POTTERY
1131	LINHER	43101	551200	365350	Burgh le Marsh	Saltern	Salt Works			299 BRIQUETAGE FRAGMENTS, ALONG WITH SALTWORKING FEATURES. THIS INCLUDED A BRIQUETAGE DISC WHICH HAD POSSIBLY BEEN USED AS A COUNTER OR TOKEN. THE PRESENCE OF A LATE IRON AGE RIM SHERD TENTATIVELY DATES THE SALT WORKINGS
1507	LINHER	44120	556055	367625	Ingoldmells	Salt-making site	Salt Works			Archaeological work in 1999 and 2000 recorded evidence of salt-making.

Later prehistoric

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
2	HWP	INGOLDMELLS-10	555500	368200	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
3	HWP	INGOLDMELLS-11	555500	368200	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
7	HWP	INGOLDMELLS-3	555100	367800	Addlethorpe	saltern	Salt Works	pottery		A range of briquetage was recovered during a dyke survey along with a single sherds of Iron Age pottery
8	HWP	INGOLDMELLS-4	555500	367900	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
9	HWP	INGOLDMELLS-5	555500	368100	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
10	HWP	INGOLDMELLS-6	555500	368200	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
11	HWP	INGOLDMELLS-7	555300	368300	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
12	HWP	INGOLDMELLS-8	555200	368400	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
13	HWP	INGOLDMELLS-9	555200	368600	Addlethorpe	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
34	HWP	INGOLDMELLS-12	555900	368700	Ingoldmells	saltern	Salt Works			A range of briquetage was recovered during a dyke survey
558	LINHER	41645	557500	368700	Ingoldmells	Settlement	Settlement			A GROUP OF TIMBER STRUCTURES POSSIBLE HUT CIRCLES. THE FEATURES WERE OVAL IN SHAPE AND 3-4 YARDS IN DIAMETER AND WERE FORMED BY A SCORE OF PILES. THE HUT FLOORS WERE ARTIFICIALLY RAISED WITH BOULDER CLAY. BRIQUETAGE WAS FOUND BUT NO OTHER DOMESTIC WASTE WAS SEEN
559	LINHER	41646	556370	367030	Ingoldmells	Saltern	Salt Works			CLAY CYLINDERS, BRICKS ETC FOUND WHILST CLEANING DRAINS INGOLDMELLS
560	LINHER	41647	556590	367010	Ingoldmells	Saltern	Salt Works			CLAY CYLINDERS, BRICKS ETC FOUND WHILST CLEANING DRAINS INGOLDMELLS
563	LINHER	41650	557550	367800	Ingoldmells	Saltern	Salt Works			HANDBRICKS AND BASE OF GRITTY JAR FROM SITE NEAR THE FINDSPOT OF SALTERN TROUGHS
582	LINHER	41671	555700	366200	Skegness	Saltern	Salt Works			SALTERN SITE HAND BRICKS AND SHORT RODS
601	LINHER	41690	555100	364800	Skegness	Saltern	Salt Works			A possible saltern site was identified
604	LINHER	41693	552800	364400	Burgh le Marsh	Saltern	Salt Works			SALTERN SITE INCLUDING BRIQUETAGE AND POTTERY
605	LINHER	41694	552600	364500	Burgh le Marsh	Saltern	Salt Works			SALTERN SITE. BRIQUETAGE AND POTTERY
683	LINHER	41801	554800	367750	Addlethorpe	Saltern	Salt Works			TRACES OF BRIQUETAGE
684	LINHER	41802	553900	369100	Addlethorpe	Saltern	Salt Works			AN IRON AGE OR ROMANO BRITISH SALTERN SITE REVEALED IN A SECTION OF DITCH
685	LINHER	41803	553550	368890	Addlethorpe	Saltern	Salt Works			A SALTERN SITE OF EITHER IRON AGE OR ROMANO BRITISH DATE WITH BRIQUETAGE. FINDS INCLUDE HAND BRICKS, PAN FRAGMENTS AND SHORT RODS
694	LINHER	41812	555300	368600	Addlethorpe	Saltern	Salt Works			LOW MOUNDS 2-3FT HIGH IN THE CENTRE AND ABOUT 15-20 FT IN EXTENT AND CAN BE SEEN EXTENDING ON EITHER SIDE OF THE DRAIN UNDER 3-4FT OF LATER CLAY ALLUVIUM.
695	LINHER	41813	555400	368600	Addlethorpe	Saltern	Salt Works			THE SITES ARE VISIBLE IN THE SIDES OF THE MAIN DRAIN
696	LINHER	41814	555500	368600	Addlethorpe	Saltern	Salt Works			THE SITES ARE VISIBLE IN THE SIDES OF THE MAIN DRAIN
697	LINHER	41815	555600	368500	Addlethorpe	Saltern	Salt Works			THE SITES ARE VISIBLE IN THE SIDES OF THE MAIN DRAIN
698	LINHER	41816	557000	368500	Addlethorpe	Saltern	Salt Works			THE SITES ARE VISIBLE IN THE SIDES OF THE MAIN DRAIN
747	LINHER	41949	552700	367700	Orby	Saltern site	Salt Works			6M LONG SALTERN SITE INCLUDING PAN FRAGMENT, HAND BRICKS INCLUDING ONE BEARING A CLOTH IMPRESSION AND HEARTH EDGING
748	LINHER	41950	552900	368000	Orby	Saltern sites	Salt Works			FIVE SALTERN SITES WITH BRIQUETAGE, HAND BRICKS, PAN FRAGMENTS AND BAKED CLAY LUMPS
1052	LINHER	42843	552600	364500	Burgh le Marsh	Saltern	Salt Works			A SALTERN SITE. BRIQUETAGE AND POTTERY ALSO FOUND. EITHER IRON AGE OR ROMAN IN DATE
1054	LINHER	42845	552800	364400	Burgh le Marsh	Saltern	Salt Works			A SALTERN SITE INCLUDING BRIQUETAGE AND POTTERY. EITHER IRON AGE OR ROMAN IN DATE

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1133	LINHER	43103	552990	367160	Orby	Saltern site	Salt Works			A LARGE QUANTITY OF BRIQUETAGE (208 FRAGMENTS), INCLUDING NUMEROUS POSSIBLE STRUCTURE FRAGMENTS
1357	LINHER	43668	553240	367240	Orby	Medieval briquetage	Salt Works			SIX FRAGMENTS OF BRIQUETAGE (INCLUDING SUPPORT PEDESTALS/HAND BRICKS). IT IS THOUGHT THAT THESE MAY HAVE SPREAD FROM A MEDIEVAL SALTERN SITE IN THE VICINITY. Medieval salterns did not use the poorly-fired clay-vessels that are the source of briquetage. If the identification of briquetage is accurate then the site will be Prehistoric or Roman.
1387	LINHER	43729	555600	368800	Ingoldmells	Saltern	Salt Works			14 FRAGMENTS OF FIRED CLAY. THEY MAY BE FRAGMENTS OF BRIQUETAGE
1411	LINHER	43813	549850	364860	Burgh le Marsh	Ditch	Ditch			THREE SHERDS OF LATE IRON AGE AND ONE SHERD OF C1 ROMAN POTTERY
1493	LINHER	44036	549810	358860	Wainfleet All Saints	possible salt-making activity	Salt Works		MED	Silt layers contained fired clay which may indicate Iron Age, Romano-British or medieval salt-making in the vicinity.

Roman

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
14	HWP	TF545673.AA	554510	367210	Addlethorpe	Roman pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
15	HWP	TF547687.AA	554700	368700	Addlethorpe	Roman pottery	Findspot	pottery		a single sherd of Roman pottery was recovered during field walking
96	LINHER	40583	549980	364780	Burgh le Marsh	Roman finds	Artefact Scatter	pottery		ROMAN POTTERY AND COIN. A V-SHAPED DITCH AND SHERDS OF ROMANO-BRITISH POTTERY, two probable rubbish pits and a series of ditches and gullies were recorded. The pottery assemblage, with a concentration in the 3rd/4th centuries, is suggestive of a relatively high status Roman site, including as it does Lincoln material, Central Gaulish samian (including a mortarium), and a fine copy of a samian bowl, manufactured in the Nene Valley.
428	LINHER	41502	550100	365000	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FROM CHURCH YARD. ALSO A BRASS AS OF MARCUS AURELIUS
429	LINHER	41503	549780	365030	Burgh le Marsh	Roman finds	Artefact Scatter	pottery		C2 AND C3 POTTERY AND COINS PROBABLY INCLUDING A LARGE BRASS AS OF ANTONINUS PIUS
433	LINHER	41507	550090	365180	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMAN POTSHERDS MAINLY C4 SWANPOOL TYPES. A SHALE BRACELET, ORGANIC MATERIAL AND MORE C4 CENTURY POTTERY INCLUDING DALES WARE TYPE
434	LINHER	41508	550120	365170	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMAN POTSHERDS OF THE C2, C3 AND C4 PROBABLE ROMAN DITCH FILL
435	LINHER	41509	550020	365250	Burgh le Marsh	Roman finds	Artefact Scatter	coins	MED	ASSORTED ROMAN POTTERY AND SOME MEDIEVAL ALONG WITH SOME COINS. 1. CONSTANTIUS 11 CAESAR OBV: FL IVL CONSTANTIUS NOB C REV: GLORIA EXERC ITUS MM 1/TR.P TRIER AD 332-3 R.I.C.540 2. CONSTANTINE 11 CAESAR OBV: CONSTANTINUS IUN NOB C REV: GLORIA EXERITUS 1/U.PL(G) LYONS AD 332 R.I.C. 254
436	LINHER	41510	550100	365190	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMAN BRITISH POTTERY. MAINLY CONSISTS OF GREYWARE AND CALCITE GRITTED WARE
437	LINHER	41511	550100	365060	Burgh le Marsh	Roman coin	Findspot	coins		ANTONIANANUS OF VICTORINUS AD 268-270 REV: PROB SALUS AUG COIN VERY WORN
438	LINHER	41512	550080	365170	Burgh le Marsh	Roman coin	Findspot	coins		A ROMAN COIN OF GALERIUS?
439	LINHER	41513	550000	365000	Burgh le Marsh	Roman coin	Findspot	coins		THREE ROMAN COINS OF CONSTANTINE 1
441	LINHER	41515	550100	364900	Burgh le Marsh	Roman coin	Findspot	coins		AN AE BRONZE 3 OF CRISPUS CAESARUM NOSTRORUM AD 1317-26 AN ILLEGIBLE C3 CENTURY RADIATE AND MEDIUM GILT BRONZE BUCKLE PLATE
442	LINHER	41516	550500	364700	Burgh le Marsh	Roman coin	Findspot	coins		AN AE OF CONSTANTINE 1 BEATE TRANQUILLITAS
444	LINHER	41518	550500	364200	Burgh le Marsh	Roman coin	Findspot	coins		AN ILLEGIBLE ROMAN AE
446	LINHER	41520	550100	364900	Burgh le Marsh	Roman coin	Findspot	coins		AN AE4 OF CONSTANTIUS II REV: VICTORIAE DD AUGG Q NN 337-46 AD
447	LINHER	41521	550500	364800	Burgh le Marsh	Roman coin	Findspot	coins		A COMMEMORATIVE COIN OF THE REIGN OF CONSTANTINE THE GREAT. OBV: URBS ROMA REV: SHE-WOLF TWINS TR.S MINT OF TRIER AD 330-335 LRBC NO 65
448	LINHER	41522	550500	364900	Burgh le Marsh	Roman coin	Findspot	coins		TWO ROMAN COINS 1. DENARIUS CLAUDIUS RIC 22 2. SMALL BRONZE OF CONSTANTINE
450	LINHER	41524	550300	364000	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMAN POTTERY
453	LINHER	41527	550200	364600	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		VARIOUS SHERDS OF ROMANO BRITISH POTTERY INCLUDING 1 PIECE OF SAMIAN STAMPED 'MA…'

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
455	LINHER	41529	550030	364950	Burgh le Marsh	Roman pottery	Settlement			ROMAN POTTERY OF C3 AND C4 INCLUDING COLOUR COATED WARES. AN EVALUATION REVEALED EVIDENCE FOR THE ROMAN SETTLEMENT OF BURGH LE MARSH. THE DATE OF THESE REMAINS WAS LATE IN THE ROMAN PERIOD. MOST OF THE POTTERY WAS C4 AND IS INDICATIVE OF AN URBAN ENVIRONMENT.
456	LINHER	41530	550400	364900	Burgh le Marsh	Roman coin	Findspot	coins		A DENARIUS OF CLAUDIUS
457	LINHER	41531	550280	364830	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY FOLDED BEAKER AND ROULETTED SHERD
458	LINHER	41532	550270	364870	Burgh le Marsh	The Causeway	Trackway			ACCORDING TO THE OS THERE IS NO OBVIOUS EVIDENCE FOR THE CAUSEWAY BEING ROMAN. POTTERY HAS BEEN FOUND IN THE AREA BETWEEN TF50286497 AND TF50356495
460	LINHER	41534	550170	364730	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		A BASE SHERD OF A SAMIAN VESSEL DR30 AND COARSE WARES OF ALL PERIODS UP TO THE C4. A BODY SHERD OF A FOLDED BEAKER
462	LINHER	41536	550080	364980	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		A FEW ROMAN POTSHERDS DATING TO THE C4. ALONG WITH SOME MEDIEVAL FRAGMENTS
463	LINHER	41537	550240	364820	Burgh le Marsh	Roman coin	Findspot	coins		TWO ROMAN BRONZE COINS 1: FOLLIS OF GALERIUS AS CAESAR OBV: MAXIMIANUS NOBIL C. REV: GENIO POPVLI ROMANI S/F R.I.C. 532 ITR MINT TRIER C 302-3 2. FOLLIS OF DIOCLETIAN 284-305 OBV: IM DIOCLETIANUS I P AV(G) LAUR. CUIR.R REV (GENIO) POPUL I ROMANI S/F
465	LINHER	41539	550000	360000	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		POSSIBLE ROMAN POTTERY
469	LINHER	41543	550000	364800	Burgh le Marsh	Ditch	Ditch			A V-SHAPED DITCH CONTAINING A FEW ANIMAL BONES AND SHERDS OF ROMANO BRITISH POTTERY
471	LINHER	41545	550000	364000	Burgh le Marsh	Roman coin	Findspot	coins		13 ROMAN COINS, MAINLY C4
472	LINHER	41546	550000	365000	Burgh le Marsh	Roman coin	Findspot	coins		A BARBAROUS COPY 'GLORIA EXERCITUS' ISSUE OF HOUSE OF CONSTANTINE 320-340 AD AND URBS ROMA ISSUE 330-346
475	LINHER	41549	550100	364900	Burgh le Marsh	Roman coin	Artefact Scatter	coins		ROMAN COINS AND A JETTON
476	LINHER	41550	550000	364000	Burgh le Marsh	Roman coin	Findspot	coins		AN AE 3 OF CONSTANTINE II AS CAESAR, AN AE 3 OF CONSTANTINE I AND AE DUPONDIUS OF JULIA DOMNA (?)
478	LINHER	41552	550000	364000	Burgh le Marsh	Roman coin	Findspot	coins		A AE 3 OF CONSTANTINE I
482	LINHER	41556	550100	364900	Burgh le Marsh	Roman coin	Artefact Scatter	coins		EIGHT ROMAN COINS AND BARBAROUS COPIES OF EARLY TO MID C4 TYPES
483	LINHER	41557	550000	365000	Burgh le Marsh	Roman artefacts	Artefact Scatter	coins		A HEAD STUD BROOCH C2, 20 C4 COINS OF CONSTANTINE AND SONS AND 2 C3 RADIATES ONE OF VICTORINUS
484	LINHER	41558	550000	360000	Burgh le Marsh	Roman coin	Findspot	coins		AN ANTONINIANUS OF GALLIENUS 253-268
489	LINHER	41563	549900	365300	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY OF C2 AND C3 DATE
490	LINHER	41564	549500	365600	Burgh le Marsh	Roman coin	Findspot	coins		AN AUREUS OF CONSTANTINIAN I
493	LINHER	41567	549200	366500	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH SHELLY DALES WARE POTSHERDS
495	LINHER	41569	549900	365000	Burgh le Marsh	Roman coin	Findspot	coins		TWO ROMAN Coins 1. CONSTANTIUS II? 337-361 REV: VICTORIAE DD AUUGG QNN C.341-346 2. VALENTINIAN I? 364-375 REV: GLORIA ROMANORUM-TYPE 6 OR 7 TRIER
496	LINHER	41570	549950	365070	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY
499	LINHER	41573	549950	365080	Burgh le Marsh	Roman coin	Findspot	coins		A FOLLIS OF CONSTANTINE I 307-337 'SOLI INVICTOMITI MM PLN' LONDON MINT
500	LINHER	41574	549890	364980	Burgh le Marsh	Roman burial	Burial			A ROMANO BRITISH INHUMATION BURIAL. THE GRAVE WAS COVERED WITH ROOFING TILES
504	LINHER	41578	549800	364400	Burgh le Marsh	Roman pottery	Artefact Scatter	pottery		A DECORATED SAMIAN SHERD AND SOME GREYWARE SHERDS OF ROMAN POTTERY. ALSO A POST MEDIEVAL SHOE BUCKLE

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
543	LINHER	41631	555900	368500	Ingoldmells	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY
545	LINHER	41633	557400	367900	Ingoldmells	Roman pottery	Artefact Scatter	pottery		POSSIBLE ROMANO BRITISH POTTERY
546	LINHER	41634	557500	368700	Ingoldmells	Roman pottery	Findspot	pottery		SMALL RUSTIC WARE COOKING POT IN GREY FABRIC
549	LINHER	41637	557550	368650	Ingoldmells	Ditch	Ditch			Roman ditch containing a large quantity of animal bones and 3rd century pottery, including 'dog dishes' and a jar with a lug handle. Leather fragments possibly from shoes were also found.
551	LINHER	41639	557430	368660	Ingoldmells	Settlement	Settlement			Romano-British site seen during construction of sea defences. Pottery dating to 2nd and 3rd centuries was recorded together with brick and bone.
552	LINHER	41640	557290	367680	Ingoldmells	Roman pottery	Artefact Scatter	pottery		ROMAN POTTERY
553	LINHER	41641	557440	368150	Ingoldmells	Settlement	Settlement			ROMAN SITE
598	LINHER	41687	557000	363000	Skegness	Roman pottery	Findspot	pottery		ONE SHERD OF ROMANO BRITISH GREYWARE COOKING POT WITH LATTICE DECORATION
608	LINHER	41697	557000	363000	Skegness	Roman pottery	Artefact Scatter	pottery		ROMAN POTTERY AND HANDBRICKS
619	LINHER	41709	557000	363000	Skegness	Roman token	Findspot	coins		A BROTHEL TOKEN OR SPINITRAE OF C1 AD
626	LINHER	41716	552150	361550	Croft	ROMANO BRITISH FINDS	Salt Works	pottery		POSSIBLE SALTERN SITE OF ROMANO BRITISH DATE. HANDBRICKS AND BRIQUETAGE RECOVERED FROM FIELD DRAIN 6 TO 8FT DOWN. POTTERY INCLUDES GREYWARE, DALES WARE, SHELLY WARE, SAMIAN AND A SMALL HAND-MADE CHEESE PRESS.
632	LINHER	41722	550950	360470	Croft	GREYWARE POTTERY	Findspot	pottery		TWO RIM SHERDS OF ROMANO BRITISH GREYWARE POTTERY
648	LINHER	41738	547000	358400	Wainfleet St Mary	ROMANO BRITISH POTTERY	Artefact Scatter	pottery		SHERDS OF ROMANO BRITISH POTTERY INCLUDING GREYWARE LUG HANDLE AND SHERDS AND A SHERD OF GREY-GREEN COLOUR COATED WARE
657	LINHER	41747			Wainfleet St Mary	BASE OF SAMIAN BOWL	Findspot	pottery		UNLOCATED FIND THE BASE OF A SAMIAN BOWL STAMPED LVPINI M (LUPINUS C1st)
680	LINHER	41798	554800	368800	Addlethorpe	Roman pottery	Artefact Scatter	pottery		ROMANO BRITISH POTTERY INCLUDING GREYWARE CHEESE DISH
724	LINHER	41909	549780	358900	Wainfleet All Saints	ROMAN PITCHER	Findspot	pottery		A ROMAN PITCHER. A COIN, SUPPOSEDLY ROMAN, WAS ALSO FOUND NEARBY BUT ON REFLECTION IS PROBABLY NOT ROMAN.
727	LINHER	41912	549940	359440	Wainfleet All Saints	SUPPOSED SITE OF ROMAN VAIONA	Settlement			W.STUKELEY REGARDED THIS HIGHEST PART OF WAINFLEET TO BE THE SITE OF THE ROMAN TOWN OF VAIONA. THERE IS NO SURFACE EVIDENCE AND NO EVIDENCE FOR THE SITE OR NAME.
749	LINHER	41951	552800	367800	Orby	Saltern site	Salt Works			SALTERN SITE WITH HAND BRICKS, PAN FRAGMENTS AND SHERD OF GREYWARE
750	LINHER	41952	551400	367000	Orby	Saltern site	Salt Works		MED	SALTERN SITE WITH BRIQUETAGE, HAND BRICKS, SHORT RODS, EVAPORATION DISHES, SHELL GRITTED POTTERY AND MEDIEVAL PANCHEON RIMS AND GREEN GLAZED SHERDS
851	LINHER	42080	542800	365200	Ashby with Scremby	ROMAN POTTERY	Artefact Scatter	pottery		ROMAN POTTERY
906	LINHER	42229	543500	362500	Little Steeping	ROMAN SALTERN	Salt Works			A POSSIBLE ROMAN SALTERN SITE
913	LINHER	42245	545500	361500	Thorpe St Peter	ROMAN POTTERY	Artefact Scatter	pottery		ASSORTED POTTERY, INCLUDING ROMANO BRITISH SHERDS.
999	LINHER	42664	547030	362170	Irby in the Marsh	ROMAN POTTERY	Artefact Scatter	pottery		ROMANO BRITISH GREYWARE POTSHERDS OF 3RD AND 4TH CENTURY DATE
1099	LINHER	42944	550000	365200	Burgh le Marsh	Roman road	Road			ROMAN ROAD 42KM LONG FROM LINCOLN TO BURGH LE MARSH.
1132	LINHER	43102	552500	366880	Orby	Saltern site	Salt Works			30 FRAGMENTS OF BRIQUETAGE

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Secondary	Description
1134	LINHER	43104	553240	367240	Orby	Saltern site	Salt Works			105 BRIQUETAGE FRAGMENTS
1136	LINHER	43107	554070	367600	Addlethorpe	Saltern	Salt Works			SPREAD OF BLACK, BURNT SOIL WITH FIRED CLAY FRAGMENTS AND VERY SMALL QUANTITIES OF BRIQUETAGE (12 FRAGMENTS)
1137	LINHER	43108	554400	367710	Addlethorpe	Saltern	Salt Works			A SPREAD OF BRIQUETAGE
1138	LINHER	43109	555150	367840	Addlethorpe	Saltern	Salt Works			A SCATTER OF BRIQUETAGE FROM A SALTERN
1139	LINHER	43110	555310	367820	Addlethorpe	Saltern	Salt Works			A SPREAD OF BRIQUETAGE (23 FRAGMENTS)
1351	LINHER	43662	551000	365200	Burgh le Marsh	Roman tile	Findspot	pottery		A FRAGMENT OF ROMANO BRITISH TILE FRAGMENT
1479	LINHER	43965	550145	365115	Burgh le Marsh	Coin of Tetricus	Findspot	coins		A third century coin of Tetricus
1553	LINHER	44529	549965	364755	Burgh le Marsh	Undated features	Ditch			two parallel east/west aligned ditches and a north/south aligned hollow were recorded. The southernmost of the ditches had been mapped by a previous geophysical survey and previous investigations to the east suggest a Romano-British date for this feature.
1693	LINHER	45834	557450	368650	Ingoldmells	Roman coin	Findspot	coins	324 AD	Coin, bronze half-follis of Constantine I. The coin was struck at Sirmium and dates to 324AD. It appears to be a type commemorating one of the great victories in that year. The reverse reads SARMATIA DEVICTA (Sarmatia conquered) and shows a prisoner cowering at the feet of a winged victory.
1694	LINHER	45835	557492	368596	Ingoldmells	Roman hand bricks	Findspot			Roman hand bricks were found while metal detecting.

Appendix 11

Saxon archaeology

The following tables present the archaeological sites and finds mentioned in the text in Chapters 5-9. The data is organised by zone (see Chapter 6). In each zone, the material dated as simply Anglo-Saxon is listed, followed by the Early Saxon, Middle Saxon and Late Saxon material. In each of these period groups, the finds are listed in numerical order of the unique identifier that has been given to the records (see Chapter 4). The data presented is a selection of that contained within the archaeology dataset that has been compiled from a variety of sources.

Key to table:

Identifier:	Unique number
Source:	Original source of the data (see list of abbreviations at the beginning of the thesis)
PRN:	Original source reference number
Xcoord:	6-figure easting
Ycoord:	6-figure northing
Parish:	Modern parish name
Name:	Free-text name given to site
Type:	Type of find taken from type list (see Table Appendix 9.1, in Appendix 9)
Find type	Coins, Flint, Metalwork, Pottery, Stone
Secondary	Second date for any other material within record
Description	Free-text description of the site or artefact

Zone 1

Anglo-Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
133	LINHER	41202	529000	398760	North Thoresby	Saxon cross	Cross		PART OF A SAXON CROSS SHAFT NOT IN SITU WITH INTERLACING STRAPWORK NOW PRESERVED
156	LINHER	41225	531840	401320	Tetney	Roman pottery	Artefact Scatter	pottery	SAXON MATERIAL ALSO FOUND IN TWO CLUSTERS.
1964	NELINHER	0005/1/0	525000	400000	Ashby cum Fenby	Anglo-Saxon brooch	Findspot	metalwork	Brooch made of copper alloy, found by metal detector. Portable Antiquities NLM201
2011	NELINHER	0071/1/2	529940	408100	Cleethorpes	Beacon Hill	Burial		A small plain Anglo-Saxon vessel found during the excavation of the Bronze Age barrow which may have accompanied a burial.

Early Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
1065	LINHER	42864	531880	401330	Tetney	Early Saxon pottery	Artefact Scatter	pottery	SOME SHERDS OF EARLY SAXON POTTERY
1383	LINHER	43725	533920	394610	Covenham St Bartholomew	Early Saxon pottery	Findspot	pottery	A fragment of early Saxon (or Iron Age - 43726) was recovered from a trench in the north-eastern corner of the site. a sherd of 5th to 7th century pottery was recovered

Middle Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
174	LINHER	41243	528650	402770	Holton le Clay	Mid Saxon pottery	Settlement		MAINLY UNSTRATIFIED MIDDLE SAXON POTTERY BUT WITH THREE SHERDS SEALED ALONG WITH OYSTER SHELLS AND BONE BY A FRAGMENTARY CRUSHED-CHALK SURFACE N OF TOWER OF ST PETER'S CHURCH. CUT BY LATER SAXON GRAVES.

Late Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
158	LINHER	41227	530750	401320	Tetney	Coin Hoard	Findspot	coins	ANGLO SAXON COIN HOARD OF 4000+ SILVER COINS IN URN Deposited c. 970
299	LINHER	41368	540280	395350	Conisholme	Cross	Cross		EARLY CROSS FOUND IN 1925 IN CHURCHYARD OF ST PETER'S IN THE FORM OF A WHEEL CROSS WITH SCULPTURED ORNAMENT WHICH SHOWS AFFINITY WITH THE JUTLAND JELLING STONE. A VERY INTERESTING HEAD OF A N ANGLO-SAXON WHEEL CROSS LATE C10 OR C11 WITH A TINY, VERY PRIMITIVE CRUCIFIXUS, INTERLACE ABOVE HIS HEAD, THREE DISKS BY HIS FEET
1066	LINHER	42865	531820	401320	Tetney	Late Saxon pottery	Artefact Scatter	pottery	SHERDS OF LATE SAXON POTTERY
1380	LINHER	43720	535810	398330	Marshchapel	Saltern site	Salt Works		MAGNETOMETER SURVEY PRODUCED EVIDENCE FOR ACTIVITY WHICH MAY BE CONNECTED WITH salt working. HIGH READINGS SUGGEST THAT ACTIVITY INVOLVING BURNING WAS TAKING PLACE, MAY WELL BE TH REMAINS OF INDUSTRIAL STRUCTURES. THERE IS EVIDENCE FOR ADDITIONAL FEATURES AND ENCLOSURES. Excavation revealed evidence of salt working
1406	LINHER	43806	528600	402700	Holton le Clay	Settlement	Settlement		SAXON GRAVES WERE FOUND DURING EXCAVATIONS AT THE CHURCH, AND FINDS DATING FROM THE MID-LATE SAXON PERIOD WERE ALSO RECOVERED. A DITCH AND PIT CONTAINING SMALL QUANTITIES OF LATE SAXON POTTERY, ANIMAL BONE AND SHELL
1407	LINHER	43807	528730	402680	Holton le Clay	Pit	Pit		SEVERAL PITS WERE IDENTIFIED. THEY ARE OF UNCERTAIN DATE AND FUNCTION, BUT ARE ASSOCIATED WITH A FURTHER PIT CONTAINING LATE SAXON POTTERY
1996	NELINHER	0057/1/0	530250	408100	Cleethorpes	Danish dagger	Findspot	metalwork	Danish dagger 850AD approx. found at beacon hill. The dagger was found in 1937
2023	NELINHER	399	531000	405000	Humberston	beads	Findspot	beads	Danish beads

Zone 2

Anglo-Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
103	LINHER	41162	531215	388355	Louth	Anglo-Saxon burial ground	Cemetery		The fifth to sixth century pagan Anglo-Saxon cemetery was excavated in 1946. These investigations revealed over 100 decorated urns located approximately two to three feet below the ground.
324	LINHER	41394	533100	386800	Louth	SAXON FIBULA	Findspot	metalwork	FINE SAXON FIBULA FOUND IN THIS CEMETERY.
1181	LINHER	43245	532880	387440	Louth	SAXON PITS AND POTTERY	Pit		TWO SHERDS OF ANGLO-SAXON POTTERY

Early Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
1243	LINHER	43349	537700	383200	North Reston	Saxon pit	Pit		TWO PITS, ONE CONTAINING 34 SHERDS OF EARLY TO MIDDLE SAXON POTTERY

Middle Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
593	LINHER	41682	539920	386640	Manby	Saxon cross	Cross		AN ANGLO-SAXON CROSS WITH HEAVY INTERLACED BAND AND CABLE DECORATION, AFFIXED TO N CHANCEL WALL OF ST MARY'S CHURCH MANBY. IT IS PROBABLY OF C7 DATE AND UNCOMMON TO THIS AREA. TWO FRAGMENTS WERE FOUND WHEN THE CHANCEL OF THE CHURCH WAS REBUILT IN 1889, NOW BUILT INTO THE INTERIOR OF THE NORTH WALL. THE LARGER STONE HAS A CABLE-MOULDING ON THREE SIDE, THE MIDDLE BEING CARVED WITH THREE BANDS OF INTERLACEMENT. A SECOND STONE WITH CARVED WORK SUPPORTS THE FIRST.
1178	LINHER	43242	537970	388910	South Cockerington	Mid-Late Saxon pottery	Artefact Scatter	pottery	MID AND LATE SAXON POTTERY WAS RECOVERED. THIS INCLUDED A LARGE SHERD OF MIDDLE SAXON IPSWICH WARE, AND TWO SHERDS OF LATE SAXON STAMFORD WARE
2068	Ulmschnieder	162	550000	385000	Mablethorpe and Sutton	Saxon sceatta	Findspot	coins	Sceatta 720-40, lower Rhineland of Frisia

Late Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
99	LINHER	41132	547150	385000	Withern with Stain	Saxon finds	Artefact Scatter	metalwork	A REPORT OF 17 SAXON PIN HEADS, 2 SAXON STRAP ENDS AND 1 FINGERIKE-STYLE (SIC) BOOK MOUNT
343	LINHER	41417	547580	388810	Theddlethorpe St Helen	Grave slab	Carved Stone		LATE C10/C11 GRAVE COVER WITH THREE ROWS OF VERTICAL INTERLACE
376	LINHER	41450	551400	384100	Mablethorpe and Sutton	Saxon pottery	Artefact Scatter	pottery	POTTERY DATING FROM SAXON/NORMAN PERIOD ONWARDS FOUND AT TRUSTHORPE
557	LINHER	41644	536780	391310	Alvingham	Site of church	Church		SAXON CHURCH DEDICATED TO ST ADELWOLD, PROBABLY BUILT IN THE SECOND HALF OF THE C10. THE CHURCH WAS DESTROYED IN C11 AND GETS NO MENTION IN DOMESDAY. THE CHALK AND STONE FOUNDATIONS WERE LATER INCORPORATED INTO THE NORMAN CHURCH BUILT LATER ON THE SAME SITE
1267	LINHER	43417	540370	385360	Little Carlton	Anglo-Saxon grave cover	Findspot	carved stone	LIMESTONE GRAVE COVER. THE STONE IS DECORATED IN LOW RELIEF ON THE TOP SURFACE WITH A TWIN CABLE HERRING BONE BORDER SURROUNDING A CENTRAL PANEL COMPRISING ONE COMPLETE FIGURE OF EIGHT PATTERN AND HALF A SECOND PATTERN. THESE SLABS ARE CHARACTERISTIC OF THE LINDSEY REGION AND ARE DATED TO THE LATER C10-C11.
1342	LINHER	43636	539940	386730	Manby	Late Saxon pit	Pit		PIT CONTAINING LATE SAXON (C9-C10) TORKSEY WARE WAS IDENTIFIED
1366	LINHER	43680	536730	391410	Alvingham	Early Medieval pottery	Artefact Scatter	pottery	UNGLAZED SAXO-NORMAN POTTERY DATING FROM LATE C10-EARLY C13. THIS POTTERY WAS ASSOCIATED WITH A POSSIBLE HEARTH. THESE LAYERS WERE WATERLOGGED OR SEMI-WATERLOGGED, AND MAY THEREFORE CONTAIN IMPORTANT ENVIRONMENTAL EVIDENCE. THEY MAY ALSO REPRESENT PRE-PRIORY OCCUPATION OF THE SITE
1427	LINHER	43857	547594	387500	Theddlethorpe St Helen	Possible Late Saxon/medieval occupation site	Settlement		a medieval pottery scatter was recorded, consisting of seventeen sherds, with four dating to the tenth-twelfth centuries. Although no archaeological features were observed, the density of finds suggests that this is the site of at least one late Saxon and medieval dwelling in the immediate area, possibly west of Orchard House
1442	LINHER	43873	543025	391115	South Cockerington	Two sherds of medieval pottery	Findspot	pottery	A sherd of possible Toynton ware and a sherd of shell and quartz tempered Late Saxon local ware were found during a watching brief.

Zone 3

Anglo-Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
373	LINHER	41447	550000	380000	Mablethorpe and Sutton	Spearhead	Findspot	metalwork	UNLOCATED FIND. IRON SPEARHEAD OF ANGLO SAXON TYPE BUT LACKING MOST OF THE SOCKET.
767	LINHER	41974	549060	367240	Orby	All Saint's Church	Church		During trial trenching nearby, late Saxon features were recorded in close proximity to the church (see PRN 43903). It is postulated on the basis of this evidence that an Anglo-Saxon predecessor to the present medieval church may have existed, acting as a focal point for settlement.
849	LINHER	42078	545250	371200	Claxby	MEDIEVAL EARTHWORK	Enclosure		DEFENSIVE MEDIEVAL EARTHWORK POSSIBLY SERVING AS A REFUGE FOR VILLAGER'S CATTLE IN THE MID TWELFTH CENTURY. THE AREA HAS BEEN PLOUGHED EAST OF THE FARM AND THE EARTHWORKS APPEAR AS SOILMARKS. IN 1977 MORE POTTERY AND COINS INCLUDING A SCEAT AND ONE CNNUT WERE FOUND.
887	LINHER	42181	545760	368690	Welton le Marsh	Anglo Saxon burials	Burial		HUMAN REMAINS, WEAPONS AND OTHER OBJECTS PROBABLY REPRESENT ANGLO SAXON INTERMENTS
1483	LINHER	43987	551235	376435	Huttoft	Undated features	Ditch		several gullies and ditches were recorded. Two different alignments were observed, suggesting two different phases, Saxon in date and relate to the early medieval settlement of Huttoft
1961	LINHER	46354	543135	369375	Skendleby	Chapel of St James	Church		A religious house was recorded by Bede in the seventh century as being 'near Partney', which it is suggested, due to later events there, may have been located in Skendleby

Early Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
984	LINHER	42543	545000	375000	Alford	Saxon brooch	Findspot	brooch	A CRUCIFORM BROOCH DATING TO ABOUT 500 AD
1221	LINHER	43299	551080	376440	Huttoft	Early Medieval settlement	Settlement		There is evidence to suggest that the settlement of Huttoft originated in the early Saxon period'. The church and the adjacent land to the west are in an elevated position overlooking the surrounding landscape. It is very likely that the core of the early settlement and any manorial complex was located somewhere on this high spot.
1495	LINHER	44038	550625	373735	Cumberworth	early to mid-Saxon settlement	Settlement		An excavation and watching brief recorded a sunken-featured building, a grubenhaus, dating to the 7th-9th centuries.

Middle Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
93	LINHER	40282	548450	373200	Willoughby with Sloothby	Saxon finds	Artefact Scatter	metalwork	SAXON FINDS INCLUDE BRONZE TWEEZERS WITH DOT AND CIRCLE DECORATION. PINS OF BRONZE AND SILVER AND BRONZE STRAP ENDS.
842	LINHER	42071	545250	371200	Claxby	SILVER SCEATTA	Findspot	coins	SAXON SILVER SCEATTA OF UNINSCRIBED 'PORCUPINE' TYPE
2067	Ulmschnieder	1	545000	376000	Alford	Saxon metalwork	Findspot	coins	Six coins and various other small artefacts such as Saxon coins. Coins date range 710-804
2069	Ulmschnieder	163	546000	381000	Maltby le Marsh	Saxon metalwork	Findspot	metalwork	two 9th century strap ends

Late Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
1143	LINHER	43117	545200	371300	Claxby	Anglo-Saxon finds	Findspot	metalwork	ONE BRONZE STRAP END, C9, WITH LIGHT GREEN PATTERN WITH BROWN BASE AND TIP.
1151	LINHER	43148	552550	382150	Mablethorpe and Sutton	Wattle structure	Findspot		A WOODEN HURDLE OR STRUCTURE WAS EXPOSED BY CURRENTS ON THE TIDAL FLATS AT SUTTON ON SEA.
1349	LINHER	43659	551600	381550	Mablethorpe and Sutton	Late Saxon pottery	Artefact Scatter	pottery	A FEW SHERDS OF LATE SAXON POTTERY WAS RECOVERED
1370	LINHER	43695	545740	375710	Alford	Late Saxon pottery	Findspot	pottery	ONE SHERD OF LATE C10 UNGLAZED GREENSAND WARE
1496	LINHER	44039	550620	373730	Cumberworth	mid- to late Saxon cemetery	Cemetery		An excavation recorded a sequence of 26 intercutting burials, thought to represent a period of over a century. The coffins were made from planks which had been charred on the outer surface, a characteristic of Saxon burials.
1527	LINHER	44379	549115	367275	Orby	Late Anglo-Saxon probable boundary ditches	Ditch		At least three of these features were thought to be components of a single entity (as part of a field system). These ditches and gullies were interpreted as boundary features, dated to the 10th-11th centuries based on pottery evidence.

Zone 4

Anglo-Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
704	LINHER	41822	550100	365100	Burgh le Marsh	Anglo Saxon Pottery	Artefact Scatter	pottery	SEVERAL SHERDS OF ANGLO-SAXON POTTERY. INCLUDES A BASE AND A RIM FRAGMENT
1408	LINHER	43810	550060	365010	Burgh le Marsh	Settlement	Settlement		THERE IS EVIDENCE FROM THE DOMESDAY BOOK FOR ANGLO SAXON SETTLEMENT AT BURGH LE MARSH, AND THERE ARE SIX ENTRIES IN THIS DOCUMENT. BURGH LE MARSH WAS AN IMPORTANT ANGLO SAXON ESTATE CENTRE.

Early Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
891	LINHER	42185	545000	367000	Candlesby with Gunby	CRUCIFORM BROOCH	Findspot	metalwork	A CRUCIFORM BROOCH OF C6
1326	LINHER	43596	549930	365010	Burgh le Marsh	Cock Hill	Burial		THE EARLY MEDIEVAL BURIAL MOUND HAD BEEN ENLARGED IN THE POST MEDIEVAL PERIOD. THE MOUND WAS FOUND TO CONTAIN AN INHUMATION WITH AN ASSOCIATED BRONZE BUCKLE SLIDE, DATED TO THE LATE C6 OR EARLY C7. A NUMBER OF MICROLITHIC CORES AND FLAKES WERE ALSO RECOVERED.

Middle Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
470	LINHER	41544	550100	364900	Burgh le Marsh	Anglo-Saxon coin	Findspot	coins	A BASE SILVER ANGLO SAXON SCEATTA
473	LINHER	41547	550100	365000	Burgh le Marsh	Anglo-Saxon coin	Findspot	coins	A SECOND ANGLO-SAXON SILVER SCEATTA

Late Saxon

Identifier	Source	PRN	Xcoord	Ycoord	Parish	Name	Type	Find type	Description
652	LINHER	41742	547000	358400	Wainfleet St Mary	MEDIEVAL FINDS	Artefact Scatter	pottery	LARGE AMOUNT OF MEDIEVAL AND SOME SAXO-NORMAN POTTERY
737	LINHER	41929	549670	359110	Wainfleet All Saints	SHELL GRITTED RIM	Findspot	pottery	RIM OF A COURSE SHELL GRITTED WARE COOKING POT; SQUARED AND EVERTED, A SMALL HANDLE IN WHITE FABRIC WITH GLOSSY GREEN GLAZE AND COMBED DECORATION.
738	LINHER	41930	549300	359200	Wainfleet All Saints	POTTERY	Artefact Scatter	pottery	A SCATTER OF SAXO-NORMAN POTTERY AND LATER TYPES FOUND IN PLOUGHED FIELD.
740	LINHER	41932	549900	359300	Wainfleet All Saints	MEDIEVAL POTTERY	Artefact Scatter	pottery	SCATTER OF SAXO-NORMAN MEDIEVAL AND LATER POTTERY WAS FOUND INCLUDING; SHELL GRITTED WARE, UNDEVELOPED AND DEVELOPED STAMFORD WARE, YORKSHIRE TYPE, GREEN SALT GLAZE AND TOYNTON TYPE
1352	LINHER	43663	550000	365000	Burgh le Marsh	Early Medieval pottery	Findspot	pottery	A SHERD OF EARLY MEDIEVAL POTTERY
1361	LINHER	43672	553500	367400	Addlethorpe	Early Medieval pottery	Artefact Scatter	pottery	EARLY MEDIEVAL POTTERY DATING FROM LATE C10 ONWARDS

Appendix 12

Place-names

The following table presents data on the origins of the place-names mentioned in the text in Chapter 5-9. The key below explains the contents of the table.

Key to table:

Name:	Modern place-name
Type:	ham, tun, by, porp, topo, habit, hybrid habit, hybrid topo (see Table 4.2, Chapter 4)
Origin:	Scandinavian or OE (Old English)
Elements:	Elements within the name
Meaning:	Meaning of the elements
Component date:	Origin of the secondary element – ON (Old Norse), OE (Old English), Scandinavian, Continental German
Date:	Date of the first written record of the name
Source:	Source for interpretation (Ekwall 1960, Fellows Jensen 1978, Cameron 1996, Gelling and Cole 2000)

Name	Type	Origin	Elements	Meaning	Component date	Date	Source
Aby	by	Scandinavian	a	stream	ON	1086	Fellows Jensen
Addlethorpe	porp	Scandinavian	Eardwulf	personal	OE	1086	Fellows Jensen
Ailby	by	Scandinavian	Ali	personal		1086	Fellows Jensen
Alford	topo	OE		eel/ford	OE	1086	Gelling and Cole
Altoft	habit	Scandinavian		alder/curtilage	Scandinavian	1220	Fellows Jensen
Alvingham	ham	OE	aelfwine/aelf(a)	personal	OE	1086	Ekwall
Anderby	by	Scandinavian	Eindrioi or Arnporr	personal	Could also be andri - snow shoe as in billet of wood	1123	Fellows Jensen
Ashby by Partney	by	Scandinavian		ash trees	possible scandinaviansation of earlier English names	1086	Fellows Jensen
Ashby cum Fenby	by	Scandinavian	Aski	personal	or could be ash-trees	1086	Cameron 1996
Asserby	by	Scandinavian	ashford	personal	Scandinavian	1200	Fellows Jensen
Autby	by	Scandinavian	Aelfweald	personal	OE	1086	Fellows Jensen
Authorpe	porp	Scandinavian	Agi	personal	Scandinavian	1086	Fellows Jensen
Authorpe Row	porp	Scandinavian	Agi	personal	Scandinavian	1115	Fellows Jensen
Beesby in the Marsh	by	Scandinavian	beos	bent grass	OE	1086	Fellows Jensen
Belleau	topo	Scandinavian		flat, low lying meadow near water	Scandinavian	1086	Fellows Jensen
Bilsby	by	Scandinavian	Billi	personal	Scandinavian	1086	Fellows Jensen
Bonthorpe	porp	Scandinavian	brunnr	spring	Scandinavian	1086	Fellows Jensen
Bontoft	Hybrid habit	Scandinavian	?/toft	?/curtilage	Scandinavian	1220	Fellows Jensen
Boothby	by	Scandinavian	boo	booth	Scandinavian	1086	Fellows Jensen
Brackenborough	topo	Scandinavian	braekni/berg	bracken/hill	Scandinavian	1086	Fellows Jensen
Bratoft	habit	Scandinavian	breior/toft	broad/curtilage	Scandinavian	1086	Fellows Jensen
Brigsley	topo	OE	brycg/leah	bridgewood glade	OE	1086	Cameron 1996
Burgh le Marsh	habit	OE	burg	fort	OE	1086	Ekwall
Calceby	by	Scandinavian	Kalfr	personal	Scandinavian	1086	Fellows Jensen
Calcewath	topo	Scandinavian	Kalfr/vao	personal/ford	Scandinavian	1086	Fellows Jensen
Candlesby	by	Scandinavian	Calunop	personal	OE	1086	Fellows Jensen
Candleshoe	Hybrid topo	Scandinavian	calunop/haugr	personal/spur	OE/Scandinavian	1086	Fellows Jensen
Castle Carlton	tun	OE	karl	free peasant	Scandinavian	1086	
Cawthorpe	porp	Scandinavian	Kali	personal	Scandinavian	1100	Fellows Jensen
Chapel St Leonards	habit			chapel			
Claxby	by	Scandinavian	Klakkr	personal	rare in Scandinavia so may also indicate hill	1086	Fellows Jensen
Claythorpe	porp	Scandinavian	clacc	hill	OE	1086	Fellows Jensen
Clee	topo	OE	claeg	Clayey soil	OE	1086	Ekwall
Cleethorpes	porp	Scandinavian	clee	settlement of clee	OE	1552	Cameron 1997a
Conisholme	topo	Scandinavian	kunung/holmr	king/land almost surrounded by streams	Scandinavian	1195	Fellows Jensen
Covenham St Bartholomew	ham	OE	cofa	personal	OE	1086	Cameron 1996
Covenham St Mary	ham	OE	cofa	personal	OE	1086	Cameron 1996
Croft	habit	OE		the enclosure	OE	1086	Ekwall
Cumberworth	habit	OE	Cumbra/worp	personal homestead	OE	1086	Ekwall
Danmark	topo	Scandinavian		homeland	Danish	1259	Fellows Jensen
Driby	by	Scandinavian	dryge	dry	OE	1086	Fellows Jensen
Eastville	habit			east/vill			
Eskham	topo	OE	askr	ash trees	OE	1314	Cameron 1996

Name	Type	Origin	Elements	Meaning	Component date	Date	Source
Fanthorpe	porp	Scandinavian			disputed	1202	Fellows Jensen
Farlesthorpe	porp	Scandinavian	Faraldr	personal	Scandinavian	1190	Fellows Jensen
Fenby	by	Scandinavian	fen	fen	OE	1086	Fellows Jensen
Firsby	by	Scandinavian	frisa	Frisians	Scandinavian	1202	Fellows Jensen
Fordington	tun	OE		ford	OE	1086	Ekwall
Fotherby	by	Scandinavian	Fot	personal	Scandinavian	1086	Cameron 1996
Fulsthorpe	porp	Scandinavian			debated	1316	Fellows Jensen
Fulstow	habit	OE	fugol/stow	birds place	OE	1086	Cameron 1996
Gayton le Marsh	tun	OE	gat	she goat	Scandinavian	1206	Fellows Jensen
Grainsby	by	Scandinavian	grein	personal	Scandinavian	1086	Cameron 1996
Grainthorpe	porp	Scandinavian	Germund	personal	Scandinavian	1086	Fellows Jensen
Great Carlton	tun	OE	karl	free peasant	Scandinavian	1115	Fellows Jensen
Great Steeping	habit	OE	Steapa's people	personal	OE	1086	Ekwall
Grebby	by	Scandinavian		rocks/gravel	Scandinavian/OE	1086	Fellows Jensen
Greenfield	topo			green field		1150	Ekwall
Greinby	by	Scandinavian	grein	fork	Scandinavian	1196	Fellows Jensen
Grimoldby	by	Scandinavian	Grimald	personal	Continental German	1086	Fellows Jensen
Gunby	by	Scandinavian	Gunni	personal	Scandinavian	1086	Fellows Jensen
Habertoft	habit	Scandinavian	Halbjorn/toft	personal/curtilage	Scandinavian	1166	Fellows Jensen
Hagnaby	by	Scandinavian	Hagni	personal	Scandinavian	1202	Fellows Jensen
Halton Holegate	tun	OE	halh	nook road	Scandinavian	1086	Gelling and Cole
Hanby	by	Scandinavian	hundr	dogs	Scandinavian/OE	1086	Fellows Jensen
Hannah	topo	OE	han/eg	cock/island	OE	1228	Gelling and Cole
Hasthorpe	porp	Scandinavian	Haraldr	personal	Scandinavian	1086	Fellows Jensen
Haugh	habit	OE	haga	enclosure	OE	1086	Ekwall
Haverstoe	topo	Scandinavian	Havaror/haugr	personal/mound	Scandinavian	1086	Fellows Jensen
Helsey	topo	OE	Hjallr	shed/island	Scandinavian		LINHER
Hogsthorpe	porp	Scandinavian	hogg	personal/hog	OE	1195	Fellows Jensen
Holton le Clay	tun	OE	hoh/tun	heel	OE	1086	Gelling and Cole
Humberston	tun	OE		humber/stone	OE	1086	Ekwall
Huttoft	Hybrid habit	Scandinavian	hoh/toft	spur of land/curtilage	OE	1086	Fellows Jensen
Ingoldmells	topo	Scandinavian	Ingjaldr/melr	personal/sand bank	Scandinavian	1086	Fellows Jensen
Irby in the Marsh	by	Scandinavian	Irar	Irishmen	Scandinavian	1115	Fellows Jensen
Itterby	by	Scandinavian	ytri	outer	Scandinavian	1086	Fellows Jensen
Keddington	tun	OE	Cydda's	personal	OE	1086	Ekwall
Langham	topo	Scandinavian	langr/holmr	long/island	Scandinavian	1217	Fellows Jensen
Laysingthorpe	porp	Scandinavian	leysingi	freedman	Scandinavian	1269	Fellows Jensen
Legbourne	Hybrid topo	Scandinavian	lece/burna	brook/stream	OE	1086	Fellows Jensen
Listoft	Hybrid habit	Scandinavian	liss/toft	?/curtilage	Scandinavian	1327	Fellows Jensen
Little Carlton	tun	OE	karl	free peasant	Scandinavian	1086	Fellows Jensen
Little Grimsby	by	Scandinavian	Grimr	personal	Scandinavian	1086	Fellows Jensen
Little Steeping	habit	OE	Steapa's people	personal	OE	1086	Ekwall
Louth	topo	OE	Lud	loud one - river	OE	790	Ekwall
Louthesk	Hybrid topo	Scandinavian	Louth/eskl	placename/ash-tree	Scandinavian	1086	Fellows Jensen
Ludbrough	habit	OE	Lud/burg	fort belonging to Louth	OE	1086	Ekwall
Mablethorpe	porp	Scandinavian	Malbert	personal	Continental German	1086	Fellows Jensen
Maltby le Marsh	by	Scandinavian	malt	malt	Scandinavian but some dispute over meaning	1086	Fellows Jensen
Manby	by	Scandinavian	manna	of the men	OE/Scandinavian	1086	Fellows Jensen
Markby	by	Scandinavian	mork	frontier of wilderness	Scandinavian	1086	Fellows Jensen
Marshchapel	habit	OE		chapel in marsh	OE		Cameron 1996

Name	Type	Origin	Elements	Meaning	Component date	Date	Source
Mawthorpe	porp	Scandinavian	Malt	malt	Scandinavian	1251	Fellows Jensen
Muckton	tun	OE	Muca	personal	OE	1086	Ekwall
Mumby	by	Scandinavian	mund	hand/protection	OE/Scandinavian	1086	Fellows Jensen
North Coates	habit	OE	cote	cottage, shelter for sheep	OE	1115	Ekwall
North Cockerington	tun	OE	Cocker	possible river name	OE	1086	Ekwall
North Somercotes	habit	OE		huts used in summer	OE	1086	Ekwall
North Thoresby	by	Scandinavian	porir	personal	Scandinavian	1086	Fellows Jensen
Northholme	topo	Scandinavian	noror/holmr	north/island	Scandinavian	1298	Fellows Jensen
Orby	by	Scandinavian	Orri	personal	Scandinavian	1086	Fellows Jensen
Reston	tun	OE	Hris	brushwood	OE	1086	Ekwall
Rigsby	by	Scandinavian	hryggr	spine/ridge	Scandinavian	1086	Fellows Jensen
Saleby	by	Scandinavian	sale	willow	OE	1086	Fellows Jensen
Saltfleet	topo	OE	salt-fleot	salt creek	OE	1086	Gelling and Cole
Saltfleetby	by	Scandinavian	salt-fleot	salt creek	OE	1086	Fellows Jensen
Scremby	by	Scandinavian	Skraema	personal	Scandinavian	1086	Fellows Jensen
Scremthorpe	porp	Scandinavian			debated	1212	Fellows Jensen
Skegness	topo	Scandinavian	skegg/nes	jutting out/headland	Scandinavian	1166	Fellows Jensen
Skendleby	by	Scandinavian	scene-helde	beautiful slope	OE but some dispute	1086	Fellows Jensen
Skidbrooke	Hybrid topo	Scandinavian	scite-broc	dirty brook	Scandinavian	1086	Fellows Jensen
Sloothby	by	Scandinavian		slow stream or trodden track	Scandinavian	1086	Fellows Jensen
South Cockerington	tun	OE	Cocker	possible river name	OE	1086	Ekwall
South Somercotes	habit	OE		huts used in summer	OE	1086	Ekwall
South Thoresby	by	Scandinavian	porir	personal	Scandinavian	1086	Fellows Jensen
Stain	topo	Scandinavian	Steinn	stone	Scandinavian	1115	Fellows Jensen
Stewton	tun	OE		tree trunks	OE	1086	Ekwall
Strubby	by	Scandinavian			disputed	1086	Fellows Jensen
Sutton	tun	OE	sup/tun	southern village	OE	1086	Ekwall
Swaby	by	Scandinavian	Svafi	personal	Scandinavian	1086	Fellows Jensen
Tatebi	by	Scandinavian	tata	personal	OE/Scandinavian	1086	Fellows Jensen
Tetney	topo	OE	Toeta/eg	personal/island	OE	1086	Gelling and Cole
Theddlethorpe	porp	Scandinavian		personal	some discussion but suggested to be Continental German suggesting later? Date	1086	Fellows Jensen
Thoresthorpe	porp	Scandinavian	porir	personal	Scandinavian	1086	Fellows Jensen
Thorganby	by	Scandinavian	porgrimr	personal	Scandinavian	1086	Fellows Jensen
Thorpe St Peter	porp	Scandinavian		farmstead	Scandinavian	1086	Fellows Jensen
Thrunscoe	topo	Scandinavian	pyrniskogr	thorn wood	Scandinavian	1086	Fellows Jensen
Thurlby	by	Scandinavian	porulfr	personal	Scandinavian	1086	Fellows Jensen
Tothby	by	Scandinavian			Difficult	1086	Fellows Jensen
Tothill	topo	OE	tot/hyll	look out/hill	OE	1086	Gelling and Cole
Trusthorpe	porp	Scandinavian			debated	1086	Fellows Jensen
Ulceby by Spilsby	by	Scandinavian	Ulfr	personal	Scandinavian	1086	Fellows Jensen
Utterby	by	Scandinavian	uterra	outer	OE	1197	Fellows Jensen
Wainfleet All Saints	topo	OE	waegn-fleot	wagon creek	OE	1086	Gelling and Cole
Wainfleet St Mary	topo	OE	waegn-fleot	wagon creek	OE	1086	Gelling and Cole
Waithe	topo	Scandinavian	vao	ford	Scandinavian	1086	Fellows Jensen
Waltham	ham	OE	Weald	wood	OE	1086	Ekwall
Well	topo	OE	wella	spring or stream	OE	1086	Ekwall
Welton le Marsh	tun	OE	wella	spring or stream	OE	1086	Ekwall

Name	Type	Origin	Elements	Meaning	Component date	Date	Source
Willoughby in the Marsh	by	Scandinavian	wilig	willow	OE	1086	Fellows Jensen
Winthorpe	porp	Scandinavian	Wina	personal	OE	1212	Fellows Jensen
Withern	Hybrid habit	Scandinavian	sidu/oern	wood/house	OE	1086	Fellows Jensen
Woodthorpe	porp	Scandinavian	wudu	wood	OE	1086	Fellows Jensen
Wragholme	topo	OE	wraghi/holm	personal/island	Scandinavian	1276	Ekwall
Yarburgh	habit	OE		earth/fort	OE	1086	Fellows Jensen