The Historic Landscape Characterisation Project for Lincolnshire

The Historic Character of
The County of Lincolnshire
English Heritage Project No. 4661 Main

Report

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(Available in separate volume)

Summary

The Lincolnshire Historic Landscape Characterisation Project began in October 2008.The aim of the project was to categorise and characterise the landscape of the county with specific reference to its development over time. This report describes the methodology and results of the project, including descriptive Character Area Statements designed to provide accessible interpretation of the HLC data. The appendices give a full breakdown of the types and attributes used in the mapping process, and a computer-generated analysis of each Character Area.

1. Introduction

Historic Landscape Characterisation (HLC) is a relatively new method for examining the development of the modern landscape. The first project was undertaken in Cornwall in 1994, but the programme has expanded since then to include almost every part of England.

At approximately the same time as the earliest HLC projects were being undertaken, the European Landscape Convention was being drafted and adopted. It came into force in 2004 and is a major influence on government policy with regard to landscape management. The convention gives a useful definition of the word 'Landscape':

Landscape means an area, perceived by people, whose character is the result of the action and interaction of natural and/or human factors.

This definition can be used to form the basis of a judgement-free analysis of our surroundings. Indeed, a fundamental principle of HLC is that it should not attempt to define the landscape in terms of its value. In order for the HLC dataset to be of the greatest use to the greatest number of people it must allow them to form their own judgments. It must, therefore, endeavour to be a means of understanding the modern landscape, rather than acting as a prescriptive definition or quantification of subjective measures such as 'beauty' or 'value'.

The Lincolnshire HLC project is a joint endeavour between English Heritage, Lincolnshire County Council, North Lincolnshire Council, North-East Lincolnshire Council, North Kesteven District Council, South Kesteven District Council, East Lindsey District Council, West Lindsey District Council, Boston Borough Council, South Holland District Council, City of Lincoln Council and the Lincolnshire Wolds Countryside Service.

Lincolnshire is one of the last areas in the country to undertake an HLC project and is, therefore, in a position to benefit from the methodology and technology developed by previous projects.

2. Methodology

2.1 Project Management

The project design, included as an appendix to this report, was based on a standard English Heritage template modified according to the experience gained from the Wash Estuary HLC project. This document set out the various phases of the project, and defined the project management structure.

The HLC project was carried out by staff from the Lincolnshire County Council Historic Environment Record. Two full-time project staff were responsible for the day-to-day operation of the project. The project staff were managed by the Senior Historic Environment Record Officer and a representative from English Heritage. This small team was responsible to the HLC Project Board, a supervisory body whose membership was drawn from the project partners, and which met at six-monthly intervals. A sub-committee of the Project Board, known as the management committee, was created in order to monitor project progress on a monthly basis.

2.2 Definition of Landscape Types

Before undertaking the pilot studies, it was necessary to create a list of landscape types. This was achieved through consultation with neighbouring HLC officers in Leicestershire and South Yorkshire, who made the lists used in their projects available to the Lincolnshire project. These lists were examined in detail and combined in order to create a provisional set of landscape types for use in the pilot studies. In addition to this, the landscape types used in

the Wash Estuary HLC project were consulted, and elements of these were incorporated as well.

The resulting list of character types was then examined and modified in order to trim away those landscape types that were not thought to be necessary for the Lincolnshire project. Finally, the list of character types was incorporated into the Lincolnshire HLC computer system.

After the completion of the Pilot Study, described below, the list of character types was re-assessed. Further alterations were made during the main data collection phase as required. The final list of all character types used in the project can be found as an appendix to this report.

2.3 Pilot Studies

At the beginning of the project, the Project Board defined six small areas for the purpose of testing and validating the emerging characterisation methodology. These areas typically comprised between two and four parishes and were intended to provide a cross section of landscape types. The pilot studies were the subject of a separate report to the project partners, which is available to the public through the Lincolnshire Historic Environment Record.

2.4 The Polygonisation Process

In broad terms, HLC attempts to map modern land use by considering the legibility of the historic processes that have created it and the survival of evidence in the landscape that reveals these historic processes. This is achieved by a combination of methods, including documentary research, map regression and the study of aerial photographs. The resulting information is processed and stored using a computerised Geographical Information System (GIS) allowing sophisticated data analysis techniques to be employed.

HLC is rooted in the principle that every element of the landscape can be described using pre-defined categories, such as 'settlement', 'field' and 'industry'. Within these categories there are numerous sub-types, which allow the object to be defined still further. For example, an object with the Broad Type 'field' might be further defined as a 'paddock' or 'planned enclosure'. The historic element of the process derives from the ability to define previous categories and sub-categories where possible, and to relate them to the formation of the current landscape type.

The basic HLC unit is known as a 'polygon' or a 'record'. These terms are largely interchangeable, although the former specifically refers to the mapping component of the data, while the latter refers to the database entry. Each polygon is drawn around an area of roughly uniform landscape character. Although there are some exceptions, the general guideline followed in the project is that at least 85% of the area of the polygon should be made up of a single character type. A further guideline is that the area of each polygon should not be less than 1 hectare in rural locations or 0.5 hectare in urban areas. Some exceptions to this guideline include isolated farm complexes, historic earthworks and significant buildings in an urban area, all of which are considered to be important parts of the historic character of their surroundings.

The HLC has been created and is maintained within the database and GIS system run by the Historic Environment Record. The Historic Environment Record uses the database application HBSMR (Historic Buildings, Sites and Monuments Record), built and supported by exeGesIS SDM Ltd. This is a Microsoft Access database application and includes an integrated mapping module based on the MapInfo GIS program. HBSMR is used by many local authority Historic Environment Records as a tool within the development management process. Both North Lincolnshire Council and North-East Lincolnshire Council, as well as

Lincolnshire County Council, use HBSMR. The HLC dataset is fully integrated into this application and will, therefore, be readily accessible to its users.

2.5 Identifying Past Landscapes

As well as the current landscape character, the system allows the user to record earlier, or past, landscape forms. These 'previous types' are identified using two main methodologies; firstly using historic map data. The earliest dataset available to the project on a county-wide level was the first edition Ordnance Survey County Series maps, dating from around 1888. Also available were the second edition County Series maps from around 1905. It was initially thought that the project might be able to make use of Enclosure and Tithe Award maps held by the Lincolnshire Archive, but restrictions on the amount of available material meant that this was not possible. Fortunately, the Enclosure Awards and pre-enclosure landscapes of many parishes have been analysed and published by Rex and Eleanor Russell in a series of volumes, and these were available to the project team from the Lincolnshire HER.

The second method is used to infer the existence of previous landscapes where no map evidence can be found. This involves examining landscape features, such as field boundaries, and estimating an approximate date for their origin from their morphology. As an example, planned, rectilinear field patterns are likely to date from the post medieval period, while irregular sinuous boundaries, in the absence of any contrary information, are likely to predate the enclosure movement and may, in some cases, have medieval origins.

There is no limit to the number of previous types that can be recorded, although in practice, it is not normally possible to recognise pre-medieval landscapes using the Lincolnshire HLC methodology.

2.6 Character Areas

As well as the main HLC dataset, the Lincolnshire HLC Project has created two broader levels of characterisation. These are intended to provide a basic level of interpretation to the HLC data in order to facilitate its use by those outside the heritage profession, as well as providing guidance to heritage professionals.

The highest level of interpretation is the Character Area. There are ten such areas within the county, excluding the major urban centres of Lincoln, Scunthorpe and Grimsby. These areas were defined by using the boundaries of the existing Natural England Joint Character Areas as a base, and modifying them according to observed concentrations of character types, landscape patterns and ground-truthing by project staff.

The ten Character Areas are complemented by the subsidiary Character Zones. There are three to five of these zones for each Character Area. Both the Character Areas and the Character Zones were defined in the MapInfo GIS package, and are available in that format. Each area also has a written description, known as a character statement, and the Character Area statements form the main body of this report. The template statement below shows the sort of information provided, and explains some of the terms used.

2.7 Character Area Template

Name of Area: The name given to the Character Area by the project team.

ARS sub-province: Taken from, Roberts, B. K. and Wrathmell, S., *An Atlas of Rural Settlement in England* (London: English Heritage, 2000).

Countryside Agency Countryside Character Area: Taken from, Countryside Commission, C*ountryside Character Volume 3: Yorkshire and the Humber* (Cheltenham: Countryside Commission, 1998).

Total area: In square kilometres.

Percentage of project area: The proportion of the Character Area compared with the project area as a whole expressed as a percentage.

The statement includes a map to indicate the location and extent of the Character Area within the project area.

Description of Present Landscape

This is a written description of the present character of the area under discussion. It is based on statistical analysis of HLC data, background research and site visits. It is intended to be an overall description of the essential elements that, taken together, create the distinct character of an area. The description is intended to be objective, free of value-laden terminology, and accessible to the general public, as well as those within the planning and heritage sectors.

The description includes a consideration of
• Topography
• Land use
• Settlement patterns
• Communications
• Above-ground heritage assets

Landscape History

Complementing the description of the present landscape, this section endeavours to describe the historical processes and events that have shaped the character of the area. The description is arranged chronologically, where possible, and describes past landscapes, their surviving elements and their impact on subsequent landscape features. It is intended that this should act as a guide to understanding historical developments within the landscape, and is not an exhaustive guide to the history or archaeology of the area.

Legibility

The concept of legibility is applied to all records in the HLC database. It is a measure of the extent to which past landscapes can be identified in later ones. For example, it may be possible to identify areas of former ridge and furrow cultivation by the characteristic s-shaped field boundaries left when it was enclosed. This section attempts to describe the survival of past landscapes into the present, and to show the specific features in the modern landscape which demonstrate a high degree of legibility.

Drivers of Change

Perhaps the most important underlying principle of HLC is that the landscape is not static. Just as former landscapes have been superseded, so the modern landscape will change in the future. It is not in the scope of this report to recommend actions in pursuit of landscape management, or to make judgements as to the desirability of change or conservation in the modern landscape. However, it has been thought appropriate to identify some factors which may cause changes to the landscape in the future. The lists are not exhaustive, and other factors may be identified in the future, as the changing landscape is presented with new threats or opportunities. The table below shows the various landscape categories which will either be altered by future change or from which such change will emerge.

Agriculture
• Changes resulting from alterations to farming practices relating to crops, livestock, fields or buildings

Climate Change
• Changes resulting from alterations to the climate or from attempts to mitigate such changes

Industry
• Changes resulting from the creation of new industries, the decline of old industries or the by products of existing industries

Settlement
• Changes resulting from the expansion or contraction of settlements or to the infrastructure needed for their support

Tourism & Recreation
• Changes resulting from pressure on recreational sites and associated infrastructure with particular reference to holidaymakers

3. Character Area Statements

3.1 Regional Character Area 1

The Confluence

ARS sub-province: CTRNT

Countryside Agency Countryside Character Areas:
39 Humberhead Levels
41 Humber Estuary
45 Northern Lincolnshire Edge with Coversands

Total area: 320 km²

Percentage of project area: 4.6%

Description of Present Landscape

This character area lies at the confluence of the Trent and the Ouse, in the extreme north-west of the historic county of Lincolnshire. To the south the area is bounded by the River Idle and, to the west, by the River Don. The area thus defined is largely flat with wide, uninterrupted views. The central part of the area has a higher topography than the rest, being a series of low hills. These hills form the Isle of Axholme and are home to the majority of the population of the area. Therefore, the area divides neatly into two types of landscape, one on the higher ground of the islands, the other on the flat drained land surrounding them.

Much of the drained lowland is used for arable farming, and this area is widely recognised as being very productive. The fields are generally bounded by drains, rather than hedges, and where hedges exist they are typically overgrown and not stock-proof. The land is worked from isolated farmsteads which typically comprise an old red-brick farmhouse with its associated outbuildings and a variety of more modern barns and sheds which are used for the storage of machinery and produce.

The high ground is limited to a large central island, with some smaller satellite islands, upon which are found the historic settlements of the area. The settlements range in size from small hamlets, such as Low Burnham, to large local centres such as Crowle, Epworth or Haxey. Each settlement retains a well preserved village core with later phases of twentieth-century ribbon development radiating away from the cores along the main roads. Later housing expansion is set back from the main roads in discrete estates with sinuous cul-de-sac street patterns. There is no evidence for settlement shrinkage or desertion on the Isle which indicates that deserted or derelict plots were quickly built upon.

Strip Farming near Haxey
©Jonathan Thacker

The farmland surrounding the settlements is largely derived from the ancient open fields. Indeed, the Isle is unique in Lincolnshire for the survival of large areas of open field farming in a largely unaltered state, with the Great Field at Belton being a particularly important example. These open fields are farmed in strips, giving a distinctive stripy pattern to the landscape, with different crops sown adjacent to each other with no hard boundaries between them. The strip farming is not now as extensive as it was even twenty years ago, and the strip fields are subject to encroachment from the nearby villages. A particular concern is the enclosure of strips for horse pasture. Another pressure is the engrossment of holdings by individual land-owners who are then able to consolidate adjacent strips into larger modern fields. This pattern is evident in some of the modern fields found in the vicinity of Haxey, which retain sinuous external boundaries indicative of their former use.

Another feature of upland farming in the area is the survival of irregularly shaped ancient enclosure adjacent to the historic settlements. These may have been used as winter grazing for the large numbers of livestock that the Isle supported before the surrounding wetlands were drained.

Historically, the main lines of communication in the area have been aligned north to south. This is in keeping with the orientation of the high ground upon which settlements were founded. After the wetlands were drained, new roads were built linking settlements to each other, and providing access to the new isolated farms and their associated land. Two of these new roads, Bank End road, near Westwoodside, and High Levels Bank road, south of Crowle, provide east-west access across the county boundary with South Yorkshire. The character area is also split across the middle by the M180 motorway. This runs through the lowland area between the two settlements of Belton and Crowle. It does not, however, mark a change in character between north and south, but rather cuts through an area of similar character without respect to pre-existing landscape features.

The area is predominantly rural, to a slightly greater extent than the county average. This is primarily an arable landscape, although there is some pasture in the small closes adjacent to the main historic settlements.

Landscape History

The Isle of Axholme has always stood apart from the rest of the county and this is still true to a great extent. Before drainage, the area was bounded by the Trent to the east, the Idle to the south, the Don to the west and the Torne to the north, creating an island separated from neighbouring counties. In addition to these natural boundaries, the area used to flood annually over the winter months creating a further barrier to communication with the surrounding areas.

From the earliest settlements in the post Roman Dark Ages, the high ground has been the stage for those activities requiring year-long dry land. The settlements in the area are nucleated in character and were established on the Isle proper as well as on smaller neighbouring islands. The settlements were set within their open fields which were also limited to the higher ground.

Before the drainage of the surrounding fens, the Isle supported large populations of cattle and sheep that grazed on the common fenland during the summer months and were accommodated in closes on the Isle, adjacent to the settlements, during the winter. The seasonal inundation laid down rich sediment over the common fens, which made the summer grazing especially lush. In winter, when the land was flooded, the islanders would support themselves by fishing and fowling.

In the seventeenth century outside forces brought radical change to the lifestyle of the Islanders. Sir Cornelius Vermuyden, a Dutch drainage engineer, was commissioned by King Charles I to 'improve' the Isle through drainage and a practice known as warping, in which the level of the land was raised by allowing the deposition of silt from deliberate flooding. In order to achieve his objectives, Vermuyden and his fellow 'Participants' constructed several major new drains, including catchwaters at the base of the islands, and altered the course of the Torne and the Idle. They also constructed a network of minor drains, forming a new rectilinear pattern of fields on the old fenland, effectively enclosing the common grazing land. The 'Participants' reward for their efforts was a share of the drained land, and their farmsteads and holdings can still be identified today.

The effect of these improvements on the lot of the local inhabitants was not entirely beneficial. At a stroke, they lost much of their winter grazing land, and also the peripheral resources, such as fish, fowl and hemp, that went with the regular inundations. The common that was left was eventually enclosed by various Acts of Parliament in the nineteenth century.

Although the enclosure and drainage of the fens was remarkably effective and wide-ranging, the ancient open fields found on the Isle and close to the River Trent have survived to this day, albeit in much reduced form. The strip fields, while no longer farmed communally, retain much of their original character. Several factors have influenced this survival, not least the independent character of the islanders themselves. Although local farmers were able to consolidate their ownership of individual strips into larger contiguous holdings, the right of common grazing over the land remained, and so the land could not be enclosed without depriving commoners of their rights. In some cases the arable farmers were themselves commoners, and with the removal of the common fenland by drainage, had to make full use of available grazing. In addition to this, the lack of powerful aristocratic landowners in the area, as shown by the distinct absence of surviving parkland, meant that the usual driving force behind enclosure was not present in the island.

Warped farmland adjacent to the River Trent
©Jonathan Thacker

During the twentieth century the area saw significant change, albeit slow and incremental. In the former fenland there has been a movement towards consolidation of fields into larger parcels of land in order to permit more efficient modern farming techniques. On the high ground of the islands, most of the historic settlements have been subject to residential expansion, initially in the form of ribbon developments along main roads. Later residential developments from the post-war period have been constructed at the expense of the open fields near the main settlements. The open fields have also been subject to consolidation of holdings into larger fields, leading to a significant diminution of the open field character of the area.

Legibility

The processes that have shaped the development of the Isle and its surroundings are well recorded in the landscape. Although the fenland has long since disappeared, the sophisticated drainage network is indicative of the former landscape. Even where fields have been consolidated, the essential rectilinear pattern remains visible. In several cases, the former courses of historic rivers, such as the Torne at Westwoodside, are preserved as field boundaries.

On the higher ground of the islands most settlements retain well preserved village cores which are surrounded by discrete phases of growth from subsequent periods. Although there has been some ribbon development along main roads between the settlements, none have, as yet, merged into larger conurbations. The medieval pattern of nucleated settlements on the islands is therefore also well preserved. Perhaps the most significant element of the historic landscape of the Isle is the survival of the open fields around Belton and Haxey.

Drivers of Change

Agriculture
• Encroachment of horse-pasture onto the surviving open fields
• Consolidation of historic strips and fields to form larger units
• New crops for bio-fuels
• New climate-resistant crop strains

Climate Change
• Flood risk management may require new infrastructure, such as pumping stations, flood banks or storage areas
• Wind energy facilities and infrastructure either on flat lowland plains or set on the high ground of the island
• Solar panel installation on built features

Industry
• New industrial facilities along M180 corridor
• Expansion of existing sand and gravel quarrying capacity
• Growth of industrial areas along the River Trent

Settlement
• Pressure for further expansion due to population increase
• Historic settlements may merge if expansion is not adequately regulated

Tourism & Recreation
• The area is currently under-used as a tourist destination
• New nature reserves may result from quarrying
• Expansion of residential areas may require new recreational facilities

3.2 Regional Character Area 2

The Northern Cliff

ARS sub-provinces:
CLNSC
CTRNT

Countryside Agency Countryside Character Areas:
39 Humberhead Levels
41 Humber Estuary
44 Central Lincolnshire Vale
45 Northern Lincolnshire Edge with Coversands
48 Trent and Belvoir Vales

Total area: 336.4 km²

Percentage of project area: 4.82%
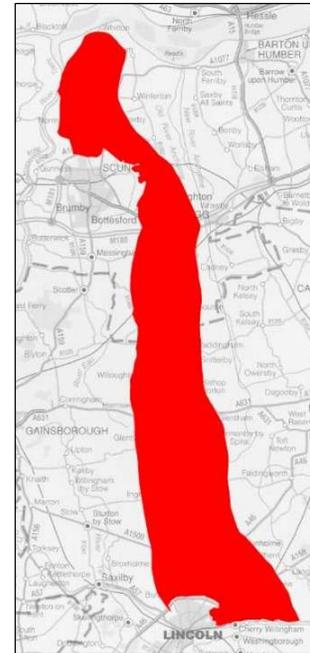
Description of Present Landscape

The landscape of this area has a strong north-south grain, influenced primarily by the presence of the Cliff, but also by the Roman Ermine Street that runs along the top of it. A map of parish boundaries in this Character Area shows that they all have the Roman road as an east or west boundary, and are laid out perpendicular to it.

There are two lines of settlement parallel to the Roman road, one on each side, set back from it at a distance of approximately one mile. The villages are generally small, with a mix of modern and historic buildings. Modern developments are set within the historic pattern of the villages rather than forming discrete extensions. The buildings are generally constructed of local stone, readily found on the Cliff, with clay tile roofs. These settlements are connected to each other by linear, yet irregular, north-south aligned roads, and to the Roman road by occasional straight east-west aligned lanes with wide verges, which are likely to have been laid out in the eighteenth or nineteenth centuries during the process of enclosure.

Enclosure Road near Spridlington
©Roger Geach

The other main concentration of settlement is made up of commuter villages around Lincoln, such as Nettleham, Sudbrooke and Cherry Willingham. Each of them retains an identifiable historic core, onto the edges of which modern residential developments have been added.

The modern developments typically have a sinuous pattern, with branching cul-de-sacs and crescents, and date from the 1970s and 1980s. The houses in these developments are generally brick built, and use slate roofing materials, rather than the local tile.

The rural landscape is characterised by rectilinear fields with straight boundaries, generally laid out at right angles to the long, straight roads that cross the Character Area. There are numerous farmsteads dotted among these fields, often retaining historic farm buildings but, more usually, surrounded by large modern agricultural structures. The Character Area is more wooded than the county average, and this largely due to many small blocks of plantation woodland scattered across the rural area. There is, however, a large area of Ancient Woodland to the east of Scunthorpe at Broughton.

The area is also heavily influenced by military activity. There are former Royal Air Force bases at Hibaldstow, Kirton-in-Lindsey and Hemswell, all of which retain characteristics of their previous use. The airbase at Scampton, which is still in use today, has an even greater influence on the character of the area than the others, even to the extent of diverting the course of the Roman road around its runway.

Landscape History

The earliest visible feature of this Character Area is the Roman road, Ermine Street, which linked Lincoln to the River Humber. A secondary road, Till Bridge Lane, runs westward towards the River Trent, and the crossing that would have existed at the Roman town of Segelocum, where Littleborough stands today. Although no other Roman features, are visible in the area today, these roads have influenced much of the later development of the surrounding landscape.

Ermine Street itself is notable for the lack of settlements situated directly on its course. Rather, the later Anglo-Saxon and Danish settlements are found in two lines running parallel to it, at a distance of one to two miles. The reason for this is not clear but it is observable in other parts of the country, for example along the Fosse Way between Leicester and Lincoln. Interestingly, both Ermine Street and the Fosse Way form the boundary between the parishes laid out to either side. It is clear that the post Roman settlement pattern is strongly influenced by the existence of the Roman road.

The parishes along Ermine Street (now the A15) are for the most part aligned east-west, and each of them enjoys the use of the heathland at the top of the Cliff and the heavier clay soils in either the Trent Valley or the Clay Vale. The medieval farming regime would therefore have involved an area of common pasture on the heath at either the west or east end of the parish depending on which side of the road it was situated. The settlement would have been surrounded by its open field arable land in two or three great fields. Then at the other end of the parish there would have been an area of common lowland pasture. Around the settlement, small areas of open field were gradually enclosed by villagers, in order to provide secure areas for over-wintering livestock, orchards or other supplementary farming practices. These small areas are still visible today as small irregularly shaped fields on the edge of settlements.

The medieval system of farming was swept away by the enclosure movement of the eighteenth and nineteenth centuries. In this area, the resulting landscape was one of rectilinear fields with hedged boundaries, and a pattern of long straight roads running through them. The allocation of land to a particular owner also allowed it to be used for new purposes, such as the creation of plantation woodland and game coverts. In order to work their new holdings more conveniently, landowners began to establish new farmhouses away from villages within their new lands. These isolated farmsteads quickly became a characteristic feature of the post enclosure landscape.

During the twentieth century new farming techniques began to change the appearance of the landscape once again. Increased mechanisation of tasks, such as ploughing and harvesting, created a requirement for larger fields and, to this end, many hedges were removed. The needs of the Royal Air Force have also shaped this character area, with many airfields being established along the line of the Cliff both prior to, and during, the Second World War. After the war several of these bases were adapted for use either by bomber or fighter squadrons during the long nuclear stand-off with the USSR. To this day, recognisable military facilities form an integral part of the character of this area.

Hangars at RAF Hemswell
© Richard Croft

Legibility

Perhaps more than any other part of the county, the Northern Cliff is a palimpsest of well-preserved landscape features. The Roman road runs through the area like a spinal cord, with medieval parishes and roads laid out to either side.

The medieval landscape has largely been removed by later processes, but the pattern of settlement is still largely from that period and the ancient enclosures found near to many villages retain the sinuous boundaries indicative of their origins as part of the open field system.

Although many fields have been consolidated into larger machine-friendly 'prairies', the essential rectilinear character of the underlying planned enclosure is still highly visible, both on maps and from within the landscape itself. Other features of the planned landscape, such as farms and roads, are also readily seen throughout the area.

The twentieth-century airfields, and other military facilities, are not as well preserved as the few surviving examples might appear to suggest. Upon closure, these facilities typically reverted to farmland, and even where the runways were paved they were often removed very quickly.

Drivers of Change

Agriculture
• Dereliction of historic farm buildings • Construction of modern agricultural facilities

Climate Change
• Changes to crop regime due to changing weather patterns • New bio-fuel crops and associated infrastructure • Potential for new wind energy facilities on higher ground

Industry
• Change in use or outright destruction of historic military facilities • Possible improvements to the A15 • Future changes to Scunthorpe steelworks

Settlement
• Expansion of commuter villages around Lincoln • Lincoln and surrounding area designated as a Growth Point Area • Further expansion of Scunthorpe into the northern part of the character area

3.3 Regional Character Area 3

The Northern Marshes

ARS sub-province: CLNSC

Countryside Agency Countryside Character Areas:
41 Humber Estuary
42 Lincolnshire Coast and Marshes
43 Lincolnshire Wolds

Total area: 281.1 km²

Percentage of project area: 4%
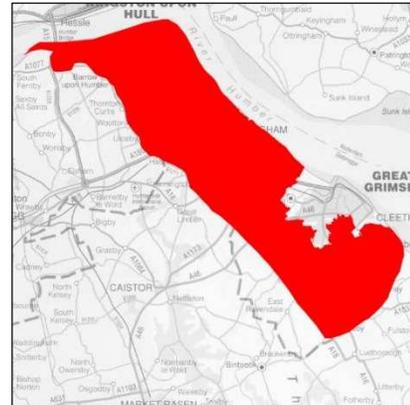
Description of Present Landscape

The landscape of the Northern Marshes Character Area is heavily influenced by the many industrial features along the coast. To the north of the area, along the inland bank of the River Humber, elements of the industrial past of this area has been preserved in a network of lakes which are the remnants of a once-thriving brick and tile industry at Barton-upon-Humber. Some of these lakes are now a valuable habitat for wildlife, while others have been remodelled as recreational facilities for water-sports.

Along the seaward bank of the Humber Estuary there is a large modern industrial presence clustered around the deep-water port of Immingham, which was completed in 1913. The most immediately visible of these industries is the Lindsey Oil Refinery at South Killingholme. The refinery complex includes many large and tall structures, such as tanks and flare stacks, which are a significant vertical element in this largely flat landscape. Other industries have also grown up in the vicinity and the coast north of Grimsby is strongly industrial in character for a distance of almost seven miles. Despite the frequent interpretation of these features as detrimental to the landscape of the North-East Lincolnshire Coast, the industrial facilities of the area make a significant contribution to its unique character, often creating brooding and dramatic skylines across great distances.

Killingholme Oil Refinery from East Yorkshire
© Andy Beecroft

Further north, along the coast, there are areas of well preserved open countryside. Between East Halton and New Holland the area is primarily rural in character with a preserved rectilinear field pattern indicative of nineteenth-century drainage and enclosure. Long straight roads with wide verges lead from these settlements toward the River Humber and the

landscape is dotted with isolated farms and other buildings. There is good visibility in all directions as the fields are bounded by ditches rather than hedges. The ditches indicate the marshland origins of the landscape. Further inland, between the A1077 and the coastal railway, the drained marsh character gives way to a more typical Lincolnshire landscape of nucleated settlement. Although the field patterns are still indicative of planned enclosure, there are also areas of more ancient enclosure to be found close to the villages. Views are more restricted in this part of the character area, as the roads are less straight and fields are more likely to be bounded by hedges.

The ruins of Thornton Abbey are perhaps the most significant standing archaeological remains in the character area. The abbey precinct covers a large area of land at the western edge of the Northern Marshes area, near to the village of Thornton Curtis. The floor-plan of the abbey is well preserved, although standing masonry is limited to a small portion of the cloister and the chapter house. The best preserved part of the complex is the fifteenth-century gatehouse which is brick built and largely intact. The gatehouse is in the care of English Heritage and the whole complex is a scheduled ancient monument. Although the complex is not readily visible from elsewhere in the character area, it enjoys wide views to the east across the Northern Marshes.

There is a variety of settlement types in this area. North of the industrial zone, there is a line of small villages, running from South Killingholme to Goxhill, that have retained much of their rural character, with limited modern growth and well preserved cores. The largest settlements, Barton and Barrow, have also grown into sizable commuter towns, given their proximity to, and communications with, Grimsby, Scunthorpe and Hull. Around the periphery of Grimsby, the major city of the area, the historic pattern of settlement has been distorted. The settlements of Scartho, New Waltham, Humberston and Healing, once villages in their own right, now form an extended suburb of their larger neighbour. As Grimsby continues to grow it may be that these small towns will become incorporated into the conurbation.

The southern part of the character area, particularly around Humberston, owes its character to the tourist industry. There are a number of large caravan parks, which provide accommodation for holidaymakers to Cleethorpes, and these are very similar to those found further south near Skegness.

Landscape History

The nucleated settlement pattern of the area constitutes its earliest landscape feature. With the exception of New Holland and New Waltham, each settlement in the character area was already in existence by the time of the Domesday survey, and there is a notable prevalence of Danish place-names ending with the suffix *-by*. Each of these medieval settlements was set within the typical arrangement of two or three large, open fields, in which a set amount of land was allocated to each farmer within the larger unenclosed field. The arable land was supplemented by the common grazing land on the marshes. Interestingly, those parishes which were landlocked, such as Habrough, had their own marshland holdings in neighbouring coastal parishes, such as South Killingholme. The medieval open-field farming system was in use before the Norman Conquest and continued largely unchanged until the Enclosure Awards of the eighteenth and nineteenth centuries. In most cases, some small areas of the open fields were enclosed at an earlier date, and these ancient enclosures often survive to this day, in close proximity to the village core. The early enclosures were probably undertaken to increase the area of land upon which sheep or cattle could be grazed.

The monastery at Thornton was founded in 1139 as a priory, became an abbey, and grew to become a wealthy religious house. The boundaries of the abbey precinct remain well defined to this day, although the surrounding landscape does not appear to retain any features

associated with the complex. This is largely due to more recent land use which has overwritten previous landscape forms across the character area.

The Enclosure Awards resulted in radical change to the landscape, sweeping away the former open-field farming system and the unenclosed common grazing land across virtually the whole county. In this area the vast majority of parishes were subject to this process and the resulting landscape of planned, rectilinear fields is very well preserved. As well as creating a new pattern of fields, the Enclosure Commissioners also laid out new straight roads which can be seen running at right angles to the older roads linking the historic settlements of the area. Another feature of the new landscape was the establishment of new farm complexes away from the villages, from which farmers could more easily exploit their new holdings. This has created a secondary dispersed settlement pattern in areas that would previously have had no permanent inhabitants.

The enclosure of the land paved the way for new uses of the landscape. The trend from agricultural to industrial land-use began in earnest in the middle of the nineteenth century, with the construction of the Great Grimsby and Sheffield Junction Railway in 1848. This provided access to inland markets for goods produced in the region, initially for fish from Grimsby, but later for other products. The area around Barton-upon-Humber became known for brick and tile making. This industry had a profound impact on the landscape as it required the extraction of large quantities of clay from land immediately adjacent to the river Humber, leaving many large open pits. Once extracted the clay was fired using coal imported by boat, and the finished product was exported the same way. This process necessitated the expansion of Barton's port facilities, and the town expanded accordingly. As new construction materials came into use in the twentieth century the industry at Barton gradually declined, leaving only one active brickworks open today.

Barton Haven
©Pete Burnett

In 1913 the new deep-water dock at Immingham was opened, having been conceived and financed by the Great Central Railway Company. This enabled the large-scale import of coal to service the ironworks at Scunthorpe. This was an entirely new facility constructed in an area that had, until that time, been purely agricultural. The dock at Grimsby was also owned by the Great Central Railway Company, and together these facilities provided the framework for the future prosperity of the area.

The area has been subject to many changes since the Second World War. Rural landscape has been subject to the same processes of field consolidation and enlargement as the rest of the county, along with the associated dereliction of defunct isolated farms. Many of the larger villages of the area have expanded to accommodate commuters from the nearby cities. This process has been accelerated by the opening of the Humber Bridge in 1981. The

bridge itself is a major local landmark, and is visible from much of the south bank of the River Humber.

Legibility

The medieval pattern of settlement is very well preserved. No settlements in the area have suffered total desertion, and where settlements have shrunk, for example at Habrough or North Killingholme, well preserved earthworks remain. Although the former open fields have been completely enclosed, the ancient enclosures that can be seen on the periphery of the historic settlements often retain the sinuous boundaries that are indicative of early enclosure of arable strip farming.

The area is characterised by the extensive survival of planned enclosure, which has created a strongly rectilinear pattern in the landscape. The long, straight roads that were laid out during the same period are also well preserved throughout the area.

Although modern industrial developments might appear at first sight to have wiped out all traces of the landscapes that preceded them, closer inspection reveals a reasonably high degree of legibility of the planned enclosure landscape in which they sit. The Lindsey Oil Refinery, Immingham Docks and the Humber Sea Terminal were all constructed within such a landscape, and they all respect the orientation and rectilinear form of the underlying pattern of enclosure. Where internal roads exist, they tend to follow the lines of old field boundaries.

Drivers of Change

Agriculture
• Consolidation of planned enclosure landscapes to accommodate new farming techniques and crops
• Dereliction of isolated farm complexes
• Introduction of new crop types, such as tall-growing biomass fuels
• Transfer of arable land to pasture
• Destruction of historic earthworks, such as ridge and furrow, through ploughing

Climate Change
• New renewable energy production and infrastructure facilities
• Flood alleviation schemes
• Alterations to built fabric – e.g. solar panels, whitewashing, air-conditioning

Industry
• New port facilities and associated infrastructure
• Expansion of existing industrial capacity
• Dereliction of existing industrial facilities

Settlement
• Expansion of residential areas around existing villages
• Development pressure in the greater Grimsby area

Tourism & Recreation
• Expansion of tourist facilities and accommodation capacity to respond to greater future demand

3.4 Regional Character Area 4

The Wolds

ARS sub-province: CLNSC

Countryside Agency Countryside Character Areas:
41 Humber Estuary
42 Lincolnshire Coast and Marshes
43 Lincolnshire Wolds
44 Central Lincolnshire Vale

Total area: 1,126 km²

Percentage of project area: 16.1%
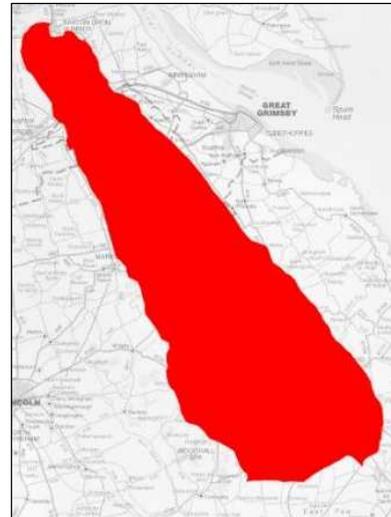
Description of Present Landscape

The Wolds is a plateau of high ground surrounded by 'typical' Lincolnshire lowlands on all sides, the Central Vale to the east, the Fens to the south, and the Coastal Marsh to the east. The area has a rolling, undulating form, strongly influenced by the many dry river beds that are found there. While the crests of the dry valleys provide views across long distances, the valley floors are very enclosed with restricted views.

The area is predominantly rural with a slightly higher proportion of fields than the rest of the county, and a correspondingly lower proportion of industrial types. Indeed, the Wolds is the least industrialised of all the character areas defined in this study.

The area has a very high proportion of woodland HLC types, especially of plantation woodland and estate woodland. This reflects the extensive woodland cover around Brocklesby Park and the surrounding estate, and large areas of modern plantation in the vicinity of Market Rasen. Elsewhere, woodland is found as discrete blocks of plantation, set within open farmland.

Modern lines of communication are primarily oriented roughly east-west, often following the course of dried up river-beds. However, there are some examples of north-south oriented roads, notably Caistor High Street and the Bluestone Heath Road, both possible ancient trackways.

Settlement in this area is typically nucleated, although a secondary dispersed character has developed as a result of extensive settlement

Derelict 19th Century farm complex near Tetford
© Tony Atkin

desertion and nineteenth-century farm building. As a proportion of the area there is less settlement than in the county as a whole, including both the 'settlement' broad HLC type and the 'civic and commercial' broad HLC type. This is particularly remarkable, as the area contains several major settlements, including Louth, Horncastle and Spilsby.

Although there are several areas of well-preserved planned enclosure, much of the rural landscape consists of large modern fields. These have been formed through a process of boundary removal which is often undertaken in order to facilitate the use of modern farm machinery. Boundary removal can also be the result of the consolidation of farm holdings by sale or inheritance. Another consequence of this process is the dereliction of unused farm buildings and, in some cases, entire farm complexes.

The most well represented HLC type is 'fields and enclosed land', covering 89.5% of the land area. This is mostly given over to arable cultivation, with some pasture retained in close proximity to settlements or to larger isolated farms. As a result of government-led agri-environment schemes, with subsidies available for participating landowners, some areas of arable cultivation are being laid to pasture.

Landscape History

The present landscape of the Wolds is primarily the result of the enclosure of a largely typical open field farming regime, and the subsequent changes to the associated nucleated settlement pattern. However, the manner in which the landscape was enclosed is quite different to similar landscapes, such as the Northern Cliff, with particular regard to the date and purpose of enclosure.

The earliest enclosures are to be found in close proximity to historic settlements, whether deserted or surviving. This is quite common in Lincolnshire and represents an historic trend from arable farming to livestock rearing. Typically this was undertaken in order to raise sheep for wool production, which could then be sold. However, in the Wolds, these ancient enclosures are both more extensive than in the county as a whole, and more widespread, indicating that livestock made a proportionally larger contribution to the medieval economy. Later enclosure typically follows the same planned form as elsewhere in the county.

The pastoral history of the area has historically been closely allied to the fortunes of the neighbouring marshes and fens. In the later medieval period, and in the post medieval period, wealthy Wold's farmers would rent grazing land on the marshes in order to fatten their stock on the rich grasslands close to the sea. The many east-west aligned roads and tracks, perhaps initially intended to provide access to the coastal

The Deserted Village of North Ormsby
©Lincolnshire County Council

salt industry, would have served as drove roads taking livestock between the two areas.

The remaining settlements in the area, small villages for the most part, tend to be found in former river valleys, perhaps as these would have been good places to sink wells. As well as the existing settlements, there are a large number of deserted or shrunken settlements which are identifiable from remaining earthworks.

Legibility

The Lincolnshire Wolds are remarkable for the depth of history identifiable in the landscape. There is a higher proportion of ancient enclosure than is found in most other areas, and there are many examples of well-preserved deserted or shrunken settlements. The visibility of the past is one reason why the area is popular with visitors and sought-after as a place to retire.

In much of the area previous rural landscapes are hidden beneath a current HLC type of 'planned enclosure'. However, in certain areas former open field strips have been fossilised, either in the form of ridge and furrow earthworks or in the boundaries of ancient enclosures, which typically reflect the sinuous shapes produced by strip farming. Although many historic field boundaries have been removed since the Second World War, the modern fields thus created occasionally retain enough of their original boundary morphology to provide a reasonably clear indication of their previous type.

Drivers of Change

Agriculture
• Further consolidation of farm holdings leading to abandonment of farm buildings and field boundary loss
• Transfer of land from arable to pasture – food prices, legislation agri-environment
• Possible destruction by ploughing of non-scheduled historic earthworks, e.g. ridge and furrow

Climate Change
• Development of renewable power generation facilities within the area or visible from it
• Associated power transmission facilities, such as pylons or sub-stations
• Potential flood risk from increased upland rainfall flowing downhill to lower ground
• Introduction of biofuel crops, such as fast-growing trees or other tall vegetation

Industry
• Increase of industrial capacity from current low levels, especially near larger settlements
• Industrial re-use of former farm buildings – workshops, small units
• New utilities and infrastructure to accommodate population growth

Settlement
• New planned residential developments, especially around major settlements
• Infill of vacant village plots or gardens
• New isolated housing away from historic nucleated villages

Tourism & Recreation
• Increased resident population will require new recreational amenities
• Increased domestic visitor numbers may result from foreign travel becoming more expensive
• New transport infrastructure to accommodate visitors to and through the area
• Increased light pollution from new developments may impact locally-valued dark skies

3.5 Regional Character Area 5

The Clay Vale

ARS sub-province: CLNSC

Countryside Agency Countryside Character Areas:
41 Humber Estuary
44 Central Lincolnshire Vale
45 Northern Lincolnshire Edge with Coversands
46 The Fens

Total area: 642.8 km²

Percentage of project area: 9.21%
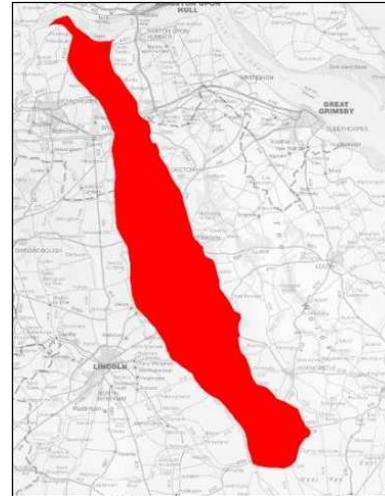
Description of Present Landscape

The Clay Vale is an area of low-lying ground between the Lincolnshire Wolds, to the east, and the gentle westward slope leading up to the Northern Cliff. To the south, it is bounded by the fens. The character of the area is strongly defined by the rivers and streams that drain through it from neighbouring areas. The area is divided roughly in half by a watershed between the River Ancholme to the north and the Barlings Eau to the south. Numerous small streams run from the neighbouring high ground along east-west paths to these major watercourses. The Ancholme drains into the River Humber to the north and thence into the North Sea. The Barlings Eau drains into the River Witham, which forms the southern boundary of the character area. The presence of these two major water courses has led to an accumulation of heavy clay soils over the course of time, which has in turn strongly influenced the types of farming and husbandry that can be practiced in the area. In certain places, notably around Market Rasen, the clay has also been overlain with wind-blown sand deposits.

To the north of the A1103, an area roughly corresponding with the Ancholme Valley, the area is very sparsely settled. There are very few historic settlements in this part of the character area, and isolated farmsteads are equally limited in their distribution. The rural landscape is predominantly comprised of rectilinear drained fields which are often waterlogged in the winter months. These fields, known as Carrs, are found along the length of the river and are typically named for the parish in which they lie. Their flatness affords wide views across the width of the valley with few vertical intrusions. The fields are typically bounded with hedges, indicating former use as grazing land, although the hedges are now typically overgrown and no longer stock-proof. The straightening of the River Ancholme left its former course in existence, forming several islands of these Carr fields between the two watercourses.

The central part of the character area, between the A1103 to the north and the A158 Wragby Road to the south, is characterised by a greater number of settlements, both nucleated villages and isolated farms. The prevailing character of the fields is modern, resulting from large scale post-war hedge removal. This process has created a landscape of broad, open views, with Lincoln Cathedral as an important distant landmark. Although the main lines of communication are oriented approximately east to west, there is an important network of single track lanes connecting most of the villages in the area. Some of these have the

characteristic length and straightness of enclosure roads, whereas others are more sinuous, potentially indicating an earlier period of origin.

South of Wragby Road, the area is remarkable for the widespread survival of the historic Limewoods. These are a significant regional asset both in heritage and biodiversity terms. There are also several modern conifer plantations, typically planted to make use of the unproductive coversand soils, and the main roads are bounded by trees and hedges, restricting views across the landscape. The fields in this part of the vale are a typical mix of ancient enclosure, planned enclosure and modern fields. Where historic boundaries remain they are usually marked by hedges rather than ditches. The southern part of the character area is on the edge of the Witham Fens, with the River Witham itself forming the western boundary of the area. There are several ruined abbeys along the course of the river, of which Bardney Abbey is a particularly fine example. There is a higher proportion of nucleated settlements in this part of the character area than is found further north, and these are distributed evenly throughout the area.

Landscape History

The earliest recognisable settlements in the character area are the abbeys that were founded along the fen edge, to the south of Lincoln. Bardney Abbey, one of the best preserved examples, was founded in the late seventh century, but destroyed after several Viking raids. It was refounded after the Norman Conquest, and there were other new foundations at Stixwould, Tupholme and Kirkstead. These religious communities may have made early attempts to alter the course of the River Witham, and to drain some of the nearby fens. It is also likely

Ruins of Tupholme Abbey, near Southrey
© Ron Strutt

that they controlled crossing points across the river and the fens, perhaps exacting tolls from travellers. The monasteries in this area were heavily involved in the production of wool, and in its export via the port at Boston, which would have been accessible via the River Witham.

The southern part of the character area, as well as being notable for the presence of many ruined abbeys, is also much more wooded than the rest of the area. This is largely due to the presence of the historic Lincolnshire Limewoods. The presence of woodland in the central part of Lincolnshire is recorded in the Domesday survey, and it is possible that some of the Limewoods, especially in the vicinity of Chamber's Farm Wood, are medieval in date.

The majority of settlements in the character area are small villages, most of which were in existence by the time of the Domesday survey in 1086. These communities appear to have been typical examples of nucleated settlements, set in the midst of open fields which have left many examples of ridge and furrow earthworks throughout the area. However, given the heavy clay soils of the character area, and the difficulty in working such soils, it is likely that there was a significant pastoral component to the medieval farming regime.

There are several examples of shrunken villages, and some examples of total settlement desertion. The settlement of Burreth, for example, was probably deserted in the fifteenth century, and had connection to the abbey at Tupholme. Close by is the deserted settlement of Osgodby, which was associated with Bardney Abbey, and may have been a monastic grange. This settlement may have been deserted after the dissolution of the abbey in 1538. Although there are many causes of settlement desertion, these examples illustrate the impact of the abbeys upon the historic character of the area both while they were active and in the effect their dissolution had on the surrounding landscape

The Ancholme Valley, in the north of the character area, was at one time a fenland area. Although useless for typical arable farming, the land would have been quite productive of grass for common grazing and haymaking. There would also have been managed wet woodland, as suggested by the 'carr' place-names that remain on modern maps. The Ancholme itself has been subject to improvement works, mainly for navigation purposes, since the thirteenth century. Beginning in the seventeenth century, attempts were made to drain the surrounding land as well, and to this end a new channel was cut for the river Ancholme running in a predominantly straight line from Bishopbridge to the Humber. The path of the old river can still be traced, meandering to either side of the new cut. Drainage of the northern area led to enclosure of the land in a typically planned rectilinear fashion, but the lack of isolated farmsteads in the area suggests that farmers remained in the villages, perhaps because of the risk of flooding on the newly-drained land.

During the nineteenth century a natural spring was discovered near Coningsby and the settlement of Woodhall Spa was created to take advantage of the growing fashion for 'taking the waters'. The village centre has a strongly Victorian character, and has a regular grid-shaped plan. The village is surrounded with plantation woodlands, and much of the modern development around the periphery is interspersed with both individual trees and copses. This means that even new housing stock retains the essential woodland character of the village.

The conflicts of the twentieth century have left their mark on the landscape of the character area in the form of several military airfields. There are disused bases at Bardney, Woodhall Spa and Wickenby, and an active Royal Air Force fighter base at Coningsby. The latter is famous for its role in the Dambusters raid, and crews from the base are routinely sent on active combat duty to this day. Indeed, the airfield has a significant and widespread impact on the wider landscape due to the frequent appearance of its aircraft, while on training flights across the area.

Modern Fields near Baumber
© Richard Croft

Legibility

The former fenland landscape of the Ancholme has been all but swept away. The only hints of its former character are the Old Ancholme and the fact that some of the drained fields are waterlogged over the winter months. The drainage landscape is well preserved, due to the difficulty of removing drainage infrastructure in order to consolidate fields.

Although the central part of the area has been subject to extensive consolidation of fields, the resulting pattern is strongly reminiscent of the pre-enclosure landscape. There are wide views across large areas, with very few hedges or blocks of woodland to interrupt the line of sight, a situation which strongly recalls the former moorland that made up a large proportion of this area.

The southern area retains strong legibility of many previous landscapes. Most of the former abbeys along the banks of the Witham are marked by well preserved earthworks, and, in some cases, standing masonry. Although the farmland in this area is largely made up of eighteenth century enclosures and modern fields, there are some well preserved examples of ancient enclosure to be found spread throughout the landscape.

Drivers of Change

Agriculture
• Expansion of modern farm buildings around historic farmsteads
• Dereliction of historic farm buildings
• Subsidies for transferring land from arable to pasture

Climate Change
• Expansion of existing power facilities in the Ancholme Valley
• Creation of new renewable energy facilities and infrastructure (e.g. wind power)
• New crops for bio-fuel/biomass energy
• New food crops to cope with altered climate patterns
• Substantial flood risk to low-lying farmland

Industry
• Expansion of industrial facilities near larger settlements

Settlement
• New housing around existing settlements
• Infill of vacant plots/new builds in residential gardens

Tourism & Recreation
• Increased footfall at heritage sites along the Witham
• Facilities and infrastructure for boating and canoeing along the Ancholme

3.6 Regional Character Area 6

The Trent Valley

ARS sub-provinces:
CLNSC
CTRNT

*Countryside Agency Countryside Character Areas:*
39 Humberhead Levels
45 Northern Lincolnshire Edge with Coversands
48 Trent and Belvoir Vales

Total area: 682.9 km²

Percentage of project area: 9.79%
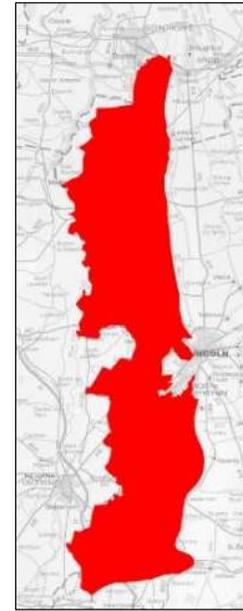
Description of Present Landscape

This area is primarily rural in character. The eastern edge is formed by the scarps of the Northern and Southern Cliff. The western edge of the area is formed by the River Trent in the north, and by the county boundary in the south. The entire area is characterised by nucleated settlements and isolated farmsteads. The nucleated settlements to the north of Lincoln are arranged in two distinct north-south lines: aligned along the eastern Trent bank and, to the east, along the line of the shallow ridge which leads up to the Northern Cliff scarp. The character of the nucleated settlements to the south of Lincoln fall into two distinct categories: those to the immediate west and south of Lincoln are much more scattered, of smaller size and less frequent in nature than those to the north of Lincoln; those in the far south of the zone are larger in size and more frequent forming a crescent following the edge of the low lying ground through which the River Witham flows. Isolated farmsteads are found throughout the area, with equal distribution, but, due to the lower frequency of nucleated villages, appear more dominant in the central part of the area.

The fieldscapes in the area comprise a balanced mix of field types. Close to the historic settlements at the edge of the area, there is some survival of ancient enclosures of the former open field systems. Survival of ancient enclosure is more prevalent north of Lincoln, apart from an extensive area in the vicinity of Haddington and Aubourn. There is also a strong survival of planned enclosure landscapes across the character area, and the modern fields, produced through a process of consolidation in the twentieth century, retain much of the rectilinear character of the underlying planned enclosures. Most of the modern fields and planned enclosures have a strong east to west orientation, evident from the long boundaries that have survived the process of consolidation.

West Burton Power Station
© Ian Paterson

Although outside of the county, views throughout the area are dominated by the visibility of the Trent valley power stations and associated infrastructure.

Settlements are generally small, scattered villages linked by a network of small, quiet country lanes, which contrast markedly with the busy A1 and A46 roads which both traverse this character area. The villages are, on the whole, closely linked to the underlying geology and topography with many located on slight rises. There are two distinct lines of settlement in the north of the character area which generally follow the line of current and former River Trent terraces, and a crescent of settlements in the south of the character area which follow the line of River Witham terraces.

Landscape History

Whilst there is evidence from excavation and aerial photography of occupation and utilisation of the landscape in this character area from the prehistoric and Roman periods, there is little surviving visible evidence of this in surviving landscape features, apart from the alignment of two Roman roads and possibly the line of the Foss Dyke canal which may be of Roman construction. The two Roman roads are the main road from Lincoln to Newark, the A46, which follows the line of the Fosse Way, and the present A1500, Tillbridge Lane, which follows the alignment of the Roman road which linked Ermine Street, north of Lincoln, with the crossing point of the River Trent at Marton and Littleborough. Many of the present parish boundaries still respect the line of the A46, and the Foss Dyke, suggesting that these features remained important elements in the landscape into later periods.

The organisation of the present landscape probably has its origins in the early medieval period, although it is difficult, from the material available, to draw a coherent picture of the precise settlement pattern and chronology, and therefore of land utilisation, during this period for this character area. The area around Stow, in the northern part of the character area, was the administrative centre of a large block of estates which belonged to the Bishops of Dorchester (later the Bishops of Lincoln) at this period. St Mary's, Stow is a large church which is highly visible from the surrounding countryside, and records show that it served as a Minster Church for the Lincolnshire part of this diocese. It is possible, therefore, that not only parish boundaries but also perhaps some of the farmsteads in this area date from this period. It is also clear that most of the current settlement names were in use as the names of manorial estates at the time of the Domesday Survey of 1086, although these manors many not necessarily have been located on the same site as the existing settlements; nevertheless, settlements following spring lines are likely. In addition, the important Anglo-Saxon town of Torksey was already established as a river port in this period.

St. Mary's Church, Stow
© Richard Croft

The process of enclosure of the open fields and commons, and the draining of the Witham and Till fenland, probably started in a limited and piecemeal fashion during the medieval period. This gathered pace in the eighteenth and nineteenth centuries with the enclosure movement. Within this character area approximately 60% of the parishes were enclosed by

Act of Parliament, with the remaining being enclosed privately. Some of the present road network is probably contemporaneous with planned enclosure, particularly in the fenland areas.

The advent of the Second World War saw the establishment of three airfields in the Character area. None of these is now in use by the Royal Air Force, although one is still in use as a civilian airfield.

After the Second World War there was extensive consolidation of the fieldscapes within the character area, with the removal of hedgerows and field boundaries to allow the use of increasingly heavy farm machinery. Although outside the county, the Trent Valley power stations and their associated infrastructure, constructed in the 1950s and 1960s, are visible from many vantage points within the Trent Valley.

Legibility

Legibility of the medieval landscape is evident in the survival of the linear settlement pattern and long east-west orientated field and parish boundaries. Some ridge and furrow, visible as extant earthworks and as crop marks on aerial photographs, is present within the ancient enclosures near to settlements.

Legibility of the post medieval landscape is evident in the good survival of planned enclosure and isolated farmsteads across the character area, which gives the area its dispersed character.

The modern landscape shows field consolidation inductive of contemporary agricultural practices. Most modern housing is centred on ancient settlements, but these settlements retain their historic character.

Drivers of Change

Agriculture
• Further field consolidation
• Changes to the crop regime, mainly for bio-fuels
• Closure and dereliction of farms

Climate Change
• Changes to the crop regime, mainly for bio-fuels
• Construction of windfarms/micro-hydro generation
• Loss of tree species

Industry
• Potential loss of existing power stations in Nottinghamshire as new sources come on-line
• Creation of new aggregate extraction sites or expansion of existing ones

Settlement
• Modern development within and around settlement edges
• New housing development around Gainsborough

3.7 Regional Character Area 7

The Southern Cliff

ARS sub-provinces:
CLNSC
EWASHW
CEMID
CTRNT

Countryside Agency Countryside Character Areas:
46 The Fens
47 Southern Lincolnshire Edge
48 Trent and Belvoir Vales
74 Leicestershire and Nottinghamshire Wolds
75 Kesteven Uplands
92 Rockingham Forest

Total area: 1,168 km²

Percentage of project area: 16.7%
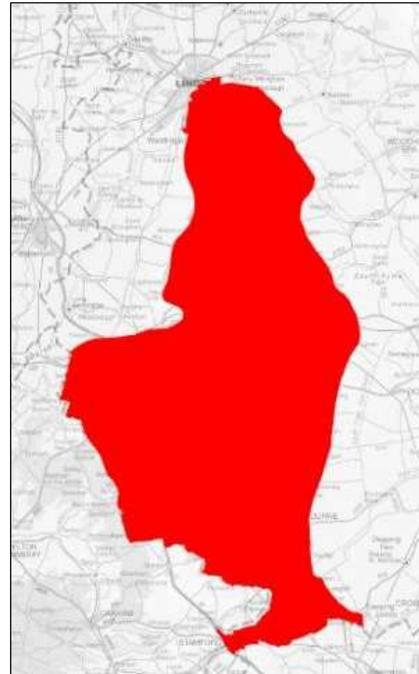
Description of Present Landscape

The northern part of the area is situated on the same geological formation as the Northern Cliff; a north-south aligned west-facing limestone scarp, with a gently eastward sloping aspect. To the south, the upland character broadens out to join with the Nottinghamshire-Leicestershire Wolds. The area to the east of the limestone cliff sits above colluvial clays at the edge of the fens.

Although the Southern Cliff is part of the same geological formation as the Northern Cliff, the settlements found on it are arranged quite differently, both in their built form and in their location within the landscape. The historic villages of the area are constructed mainly of local limestone, excavated from the Cliff itself. This has resulted in a greater survival of older buildings than in other areas, where mud-and-stud was prevalent as a building material up until the advent of readily available brick and tile. Indeed, the area is notable for the extensive preservation of such historic towns as Stamford and Market Deeping. Later extensions to these stone-built towns are generally of brick, but there have been recent attempts to use stone cladding on modern estates and public buildings.

Sudbrooke Hill Farm
© Simon Mortimer

There is a distinctive line of settlements traceable along the Cliff from Lincoln southwards to Grantham. This line appears to follow the curvilinear course of the Cliff, but is not limited to the top of it. It may be that the settlements were established along a spring-line, as can be found at the edge of the Wolds. South of Grantham, the settlements follow the line of the Roman road, Ermine Street, which at this point joins with the A1. On the eastern edge of the character area, there is another line of settlements following the fen edge, with parish holdings extending out of the character area into the fens. Settlements in the central part of the area, that is to say the area bounded by the A52, the A1 and the A15, are more scattered than the rest. These villages are connected by a spider-web network of minor roads and their position may be governed by the past or present courses of the East and West Glen rivers.

The rural landscape of the area is today one of mixed farming, with a high proportion of surviving parliamentary planned enclosure to be found throughout. The northern part of the area is largely arable, with large rectilinear fields laid out on the top of the Cliff. The fields here are typically large, with unmaintained hedges that in places have grown into rows of trees. Along the main north-south roads there are stretches of stone walling that, in places, also form the east-west field boundaries. This pattern extends from Lincoln in the north to Ropsley, near Grantham, with a similar landscape to be found on the heathland to the west of the area, on the Lincolnshire-Leicestershire border around Skillington and Stoke Rochford. The southern half of the area is more undulating in form, in contrast to the broad plateau of the heath. There is a marked similarity to the landscape of the Wolds, in that the undulations appear to be formed by dry river valleys, the courses of which can often be traced in the sinuous woodland plantations found along many of the valley bottoms.

The hills and valleys of this landscape are more suited to pastoral farming, and there is a greater occurrence of pasture in this part of the area. Hedges in the pastoral area are better maintained, and most are stock-proof. To the east, where the limestone scarp dips beneath the clays at the fen edge, a well preserved landscape of parliamentary enclosure can be observed, and this landscape, like the upland heath, is largely arable. Due to the drainage processes involved in the creation of this farmland, the fields are largely bounded by ditches rather than hedges. This, combined with eastward views over the fens, gives the eastern fen edge settlements a more open aspect than the rest of the character area.

Swinstead Valley
© Tim Heaton

The area is well wooded, with a mixture of ancient woodland and more recent plantations. The large country estates in the area have also enhanced the woodland cover of the area through the planting of shelter belts, screens and game coverts. There is a greater occurrence of woodland in the rolling hills of the south than on the heath. There is less woodland cover on the eastern slopes at the fen edge, perhaps indicating the greater arable productivity of the soil in this part of the area.

The area is notable for the high proportion of stately homes and associated landscape parks. These are found throughout the character area, but especially in the area south of

Grantham. Some of these parks are open to the public, with the National Trust property at Belton being a popular destination for visitors.

This area is perhaps the best-connected part of the county. Grantham, the most populous town of the area, is situated on the A1, the A52 and the main railway line to London. Stamford, another important town, is also on the A1, and has a rail link to Peterborough. The modern character of these towns, and of their neighbouring villages, is heavily influenced by these factors. There is a higher proportion of modern residential estates in the area than in the county as a whole, resulting from the enhanced transport links of the area which allow commuters to live in a rural landscape and travel to work in London or Peterborough.

Landscape History

As with the Northern Cliff, the earliest discernable landscape features are the Roman roads, in this case Ermine Street and Mareham Lane. The town of Ancaster is in origin a Roman settlement and may owe its continuity of occupation to its strategic position on a natural gap in the Cliff. Later villages appear, from their names, to be a mix of Anglo-Saxon and Danish foundations, however the general patterns, as described above, appear to have been in existence by the time of the 1086 Domesday survey.

Although much of the land was unsuitable for arable cultivation, the pre-enclosure farming regime appears to have been centred on the traditional open strip field system. Settlements along the spring line in the west and the fen edge in the east had extensive open fields and large commons on the upland heath and on the fens, respectively. By contrast, settlements in the central upland area south of Grantham appear to have had smaller open fields with large areas of ancient enclosure, much of which has been lost to modern field consolidation.

The dry northern heath and the rolling Kesteven countryside have, historically, been much favoured for the raising of sheep. Indeed, the wool trade was responsible for much of the historic wealth of the area, which is evident in the widespread survival of stone farm buildings from the seventeenth and eighteenth centuries. A particularly important example of this type of building is Woolsthorpe Manor, the home of Sir Isaac Newton, now a property of the National Trust.

The wealth generated by the wool trade also allowed the establishment of several large estates by local aristocrats, and each has had a significant impact on its local area. The parks created new 'designed landscapes' that allowed the owners to demonstrate their wealth and taste to their peers, and gave them privacy within their own estates. In some cases former villages were removed from the landscape during the seventeenth and eighteenth centuries in a practice known as 'emparking'. In other cases, the natural growth of villages was considered displeasing to the landowner and the village was rebuilt to reflect his tastes. In order to accommodate

Estate Cottages, Londonthorpe
© Richard Croft

displaced villagers, many landowners built 'estate villages', such as Manthorpe near Belton, and Edenham near Grimsthorpe, which are characterised by uniformity of architecture, regular plot sizes and the frequent use of family crests or monograms on buildings. Such villages are usually situated outside the boundaries of the designed parkland landscapes. Estate buildings also occur individually in historic villages situated close to some estates.

The enclosure movement of the eighteenth and nineteenth centuries was a major force for change throughout the area. Although much of the uplands had already been enclosed privately by this time, large areas of open field arable land remained, and were removed from the landscape by the Parliamentary Enclosure Acts. The heathland along the top of the cliff was enclosed largely by various Acts of Parliament, creating the rectilinear formations seen there to this day. The fen edge settlements retained their ancient farming regime until the enclosure and drainage acts created the current landscape of drained fens to the east and enclosed commons to the west.

Today, the area retains strong elements of its historic character. However, the large areas of ancient enclosure found on the uplands have been very much diminished by the post-war trend towards larger fields, which allow efficient cultivation by machine. This is a direct result of the recent trend from pastoral farming to arable land, which has changed much of the appearance of the landscape, especially within former parkland. This process has been slowed in recent times, and there is now a movement in the other direction, as subsidies have been made available for pasture.

As with the Northern Cliff, this area has been used extensively by the Royal Air Force. However, there are few surviving bases in the area and former bases have been subject to demolition or dereliction.

The popularity of the area with commuters has put pressure on local towns and villages, some of which have expanded rapidly and sometimes without regard to the historic character of the older buildings. Modern housing estates, both social and private, can be found especially around the major towns, Stamford, Grantham and Sleaford. The smaller villages of the area are often affected by new development on their edges or by modern in-fill within their core areas.

Legibility

Despite the many changes to the landscape over the centuries, each period has left a recognisable mark on the landscape of the Southern Cliff. The earliest features are Roman, and the line of Roman roads can still be traced across the landscape. The small town of Ancaster retains the location of its Roman antecedent, although little of the Roman town remains above ground today.

The early post-Roman character of the landscape is only visible in the pattern of settlements throughout the area. It is possible to distinguish between Anglo-Saxon and Danish settlements on the basis of their names, and formations such as the spring-line and the fen edge are still readily identifiable. Some of the ancient woodland identified in the area may be very ancient indeed, and it has been observed that Kesteven, the Saxon kingdom from which the area takes its name, may be derived from the Celtic '*coed'* for' woodland'. Whether there is any remaining pre-Roman woodland or not, the area is still remarkable for its woodland cover, and this is at least indicative of earlier landscapes.

The wool trade, upon which the wealth of the area was built, is identifiable by the irregular field shapes, and by the evident historic wealth indicated by the many surviving stone houses of the local yeomanry. The large parks and houses of the aristocracy are also

indicative of the wealth of the area, and many of these houses have been preserved either by private individuals, as at Grimsthorpe, or by bodies such as the National Trust.

Drivers of Change

Agriculture
• Consolidation of historic fields through loss of boundaries
• Neglect of surviving ancient hedgerows
• Change of use from arable farming to pasture

Climate Change
• Loss of traditional woodland species
• New methods of energy production, especially micro-generation facilities on historic buildings
• Infrastructure for energy transmission from more northerly areas
• Introduction of new crops, if current varieties prove unsuitable to warmer, drier weather

Industry
• Expansion of industrial facilities around major settlements
• Change of use of old farm buildings from agriculture to light industry
• Possible closure of RAF bases and dereliction of disused airfields

Settlement
• Further expansion pressure throughout the area from an increased commuter population
• Growth of existing population requiring affordable housing
• Dereliction of isolated farm buildings and agricultural units

Tourism & Recreation
• Increased visitor numbers to stately homes and parks throughout the area
• Traffic through the area on major roads, e.g. A1, A15

3.8 Regional Character Area 8

The Grazing Marshes

ARS sub-provinces:
EWASH
CLNSC

Countryside Agency Countryside Character Areas:
42 - Lincolnshire Coast and Marshes

Total area: 544.7km²

Percentage of project area: 7.81%
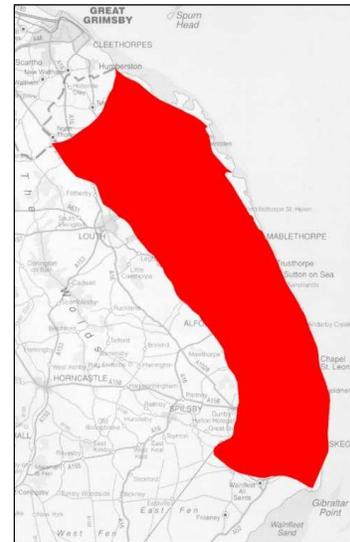
Description of Present Landscape

The landscape of this area is predominantly flat with generally wide, open views across long distances. In the south of the area, especially around Burgh-le-Marsh, these views are compromised somewhat by the 'Bocage' effect of hedged roads and paths, which tend to restrict visibility from the main lines of communication. There are, however, fewer large blocks of woodland in the area than are found in the county as a whole, and woodland as a proportion of the landscape is less well represented.

There is a strong maritime influence on the landscape with much of the agricultural land having been reclaimed from the sea over several centuries. There are several active and relict sea banks in the area aligned parallel to the coast. Much of the coast is made up of salt marsh and dune systems which are well preserved. This preservation can be attributed to the presence of the Royal Air Force bombing ranges along the coast and, more recently, to the establishment of a number of nature reserves. The marshes, along with other areas of rough grassland on the seaward side of the defences, are used for grazing by local cattle farmers.

Settlement in the area is predominantly dispersed. There are many small, isolated farms throughout the area and villages often have a long, straggling pattern, with large plots, and wide gaps between them. There are some examples of classic nucleated villages, but these are relatively fewer in number than in the neighbouring

Saltfleetby All Saints
©Lincolnshire County Council

upland areas. In general, more ancient settlements tend to be found on areas of relatively higher ground, with newer settlement features found in areas of more recent drainage. Despite the dispersed character of the settlement in this area, there is a higher proportion of settlement in this area than the average for the county.

The area is dominated by rural character types and has a notably higher proportion of ancient enclosure than the county average. There is significantly less planned enclosure, however, and modern fields are no more prevalent in this area than in the county as a whole. Although there are exceptions, arable land is generally found in the 'modern fields' or 'planned enclosure' landscape types, while pasture is limited to ancient enclosures in close proximity to historic settlements.

The Lincolnshire coast is well known for its seaside resorts, which are in many ways the economic backbone of the area. Skegness, Mablethorpe and Ingoldmells are the main resort towns, and each has a large hinterland of caravan parks. Much of the pre-nineteenth century character of these towns is no longer visible, having been subsumed beneath a facade of amusement arcades, holiday shops and fast food restaurants. The holiday industry is seasonal, and the towns experience an annual cycle of booms during the summer months and busts in the winter. From October to April, the character of the towns changes from bustling tourist honeypots to one of shuttered desertion.

Ingoldmells in January
© Ian Paterson

Landscape History

The landscape in this area can be divided into two broad areas: the Middle Marsh, and the Outmarsh. These areas are closely connected by historical land use and farming practices, but are the result of distinctly different processes.

The Middle Marsh is that area of higher ground running from Louth in the north to Burgh-le-Marsh in the south, and lying between the foothills of the Wolds and a rough line from Fulstow to Alford. The Outmarsh is that land between the Middle Marsh and the sea. The Middle Marsh is relatively higher than the Outmarsh, and is characterised by a greater proportion of nucleated historic settlements.

Much of the land in the Outmarsh area owes its existence to the various phases of drainage and reclamation that have taken place over the centuries, whether planned or as the by product of other land use. The earliest phase of reclamation that can be seen is the result of medieval salt making along the former coast lines. These are identifiable by the parallel lines of settlements running down the coast from north to south. The process of salt making created, as a by-product, large quantities of spoil, made up of sand and silt, which was disposed of on large mounds. As the saltern mounds grew in size and number, so the sea receded, and new settlements were founded on the reclaimed land in order to continue the salt making process. The newer settlements are identifiable from names such as Somercotes, suggestive of a temporary settlement (somer = summer, cotes = huts), and

Marshchapel, which indicates a satellite chapel of a parish church. Other names, such as Theddlethorpe St Helen and Saltfleetby St Peter, further indicate the establishment of 'daughter settlements' in newly reclaimed marsh.

This phenomenon is less pronounced in the south of the area, between Mablethorpe and Skegness. Here, the dominant process of reclamation and drainage appears to have been the result of more familiar processes, such as Parliamentary Acts and private agreements. This area also lost land through erosion to the sea during the medieval period. Aside from the major settlements, such as Skegness and Mablethorpe, this part of the area is characterised by dispersed settlement types, such as isolated farmsteads, and string villages of predominantly nineteenth-century character. This is the result of a planned process of drainage and enclosure with the establishment of farmsteads on newly drained land.

The larger settlements of the coastal area have grown as a result of the tourist industry, and this is strongly reflected in their built character. Although historic elements are visible in these resort towns, most of the buildings, either residential or civic, date from the late nineteenth century onwards.

Legibility

The former salterns in the northern part of the character area have been largely ploughed out in the mid to late twentieth century. However, their presence can still be inferred from the sinuous boundaries of the fields in which they used to be found. These boundaries have survived as they represent the course of ancient creeks that once flowed around the base of saltern mounds, and have since become a vital part of the local drainage system. Hence they cannot be removed without causing flooding. Therefore, although the salterns no longer exist, their influence in the landscape can still be read in the pattern of ancient enclosure near the coast.

The landscape of the eighteenth and nineteenth centuries is strongly legible in the extensive survival of planned enclosure field types. The associated pattern of isolated farmsteads is also well preserved, although changing farming methods have led to some dereliction of ancillary farm buildings and to the erection of large modern barns.

Drivers of Change

Agriculture
• Further consolidation of field boundaries
• Fluctuating food prices causing changes between arable and pastoral uses
• Bio-energy crops with different appearance

Climate Change
• New energy production infrastructure – wind turbines, transformers, power lines
• Alterations to housing fabric – whitewash, air-conditioning, building materials, solar panels
• Changes to sea level – flood risk, construction of defences, managed retreat

Settlement
• Expansion of larger settlements – Burgh-le-Marsh, Louth, Skegness
• Infill of straggling linear villages and hamlets
• Decline of isolated farms – Disuse of ancillary buildings, abandonment

Tourism & Recreation
• Expansion of resort facilities along recreational coastline
• Associated expansion of caravan parks
• Enhancement of roads and public transport for increased numbers of visitors

3.9 Regional Character Area 9

The Fens

ARS sub-provinces:
EWASH
CLNSC

*Countryside Agency Countryside Character Areas:*
44 – Central Lincolnshire Vale
46 – The Fens
47 – Southern Lincolnshire Edge

Total area: 1,052Km²

Percentage of Overall Project Area: 15.1%
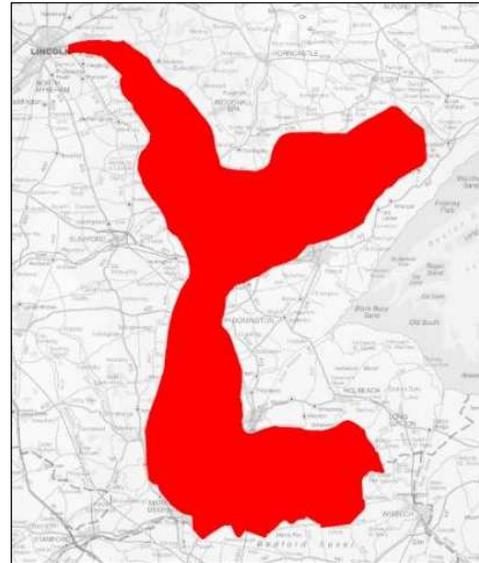
Description of Present Landscape

The Lincolnshire Fens represents a large proportion of the southern half of the county. The area is well defined to the north and west, as in these directions there is a clear edge, defined by higher ground. To the south, the boundary is partially formed by the River Welland, but also meanders across the countryside for great lengths, presumably following the course of long-forgotten rivers, until it joins with the River Nene. The eastern edge is defined by the Townlands, a silt bank upon which many of the historic Wash settlements are situated.

At first glance, the area appears to be quite uniform in character. The landscape is the most rural in the county, and is mostly made up of arable fields. These fields are typically rectilinear, with boundaries formed from drains rather than hedges. The drains form a network of channels, from individual field drains, to large, navigable artificial channels such as the Forty-Foot Drain. The flat landscape is relieved by occasional small blocks of woodland, raised roads and tracks, and the occasional isolated farmstead. The character area is the least settled in the county as a proportion of its area, largely due to the lack of nucleated settlements.

However, there are subtle differences across the landscape, most of which are influenced by the length of time since drainage. The long tongue of fenland reaching up to Lincoln along the river Witham is sparsely populated, with only a handful of isolated farms along its length. The fields are arranged in a strongly rectilinear pattern, perpendicular to the primary east-west aligned farm tracks. In most cases, these tracks terminate at the river. The only vertical intrusions in this otherwise flat landscape are the isolated farmsteads and their associated modern barns, which are often situated some distance away from the residential farm buildings.

Red House Farm, Branston Fen
©Ian Carrington

The few trees to be found in the area are also found near and around the farmsteads and there are no hedges in evidence as field boundaries. The overall effect of the flatness of the landscape, and the lack of tall objects therein, is to emphasise the impact of the sky. This is above all a lonely landscape, with wide unrelieved areas of flat farmland standing in stark contrast to magnificent cloudscapes and dark night skies.

A broadly similar landscape prevails along the fen edge from Bourne to Heckington, between the Southern Cliff character area and the South Forty-Foot Drain. The drained fenland in this part of the area is arranged along a series of east-west aligned farm tracks leading from the settlements on the high ground to the newer isolated farmsteads in the fen itself. The parishes themselves have elongated rectangular shapes on an east west alignment, with each parish having a share of the upland in the Southern Cliff and the fens to the east.

The fens to the south of Spalding, and to the east of the Forty-Foot Drain, are somewhat different in character to those of the north and west. The farm tracks and field boundaries are predominantly straight and regular, but are not parallel, instead forming a radial pattern around the South Holland Main Drain. Although the area is still characterised by the preponderance of isolated farmsteads, there are also several small settlements of a dispersed and linear character, such as Holbeach Drove and Sutton St Edmund. The exception to this settlement pattern is the small town of Crowland which, while retaining many historic features, such as its partially ruined abbey and the famous Trinity Bridge, has been enlarged and expanded by the addition of modern residential estates.

Landscape History

Before drainage, the landscape of the fens was one of rivers, meres and seasonally inundated land. Successful exploitation of the landscape would have required an intimate knowledge of its workings, but would have provided all the necessities of survival. Fishing and wildfowl hunting would have provided a good source of food, while the inundated fens would have provided excellent grazing for sheep and cattle in the summer months. The natural growth of reeds and the ready availability of thick mud provided the raw material for house building. This way of life probably existed before the Roman conquest, and continued until the mid eighteenth century.

Although the traditional Fenland way of life was sustainable for the inhabitants and even provided enough surplus production for trade outside the area, it was observed, by Sir Joseph Banks among others, that the land, when drained, would be eminently suitable for cultivation. The earliest attempts to drain the landscape were in the Roman period, when a small area was drained by the construction of the Car Dyke. Early drainage was achieved by the construction of new watercourses, such as the Forty Foot Drain, but as the land dried and the peat shrank, the water began to reclaim the land. Wind power was extensively used to pump water away, but full stable drainage was finally achieved

Lade Bank Pumping Station
©Richard Croft

using coal-fired steam pumps in the eighteenth and nineteenth centuries.

The individual drainage projects were undertaken by various parties. The Witham Fens were the subject to an Act of Parliament in 1762, which created the Witham Drainage General Commissioners, which had oversight of the drainage process. The Witham was divided into districts, to which each parish could elect a commissioner. Parliamentary Acts were obtained as necessary, and drainage of the Witham Fens was largely complete by 1850. The Holland Fen was drained separately in 1767, also by Act of Parliament. The East, West and Wildmore Fens were drained in 1803, by a single Act of Parliament.

The Fens to the south of Spalding have a rather different history of drainage. The earliest reclamations appear to have been undertaken by the settlements on the Townlands, which built dykes and drains to the south-east. The place-names, such as Holbeach Drove, indicate that this engineering work was undertaken in order to provide access to grazing land for cattle. Once the initial stages of drainage had been completed, the parallel lines of drains, dykes and drove roads were infilled by many perpendicular drains, creating numerous small thin fields, known as dylings. Although these fields have been subject to a great deal of consolidation over the past fifty years, the essential pattern remains intact to this day.

Although the most far-reaching changes to this landscape occurred centuries ago, the landscape has continued to evolve during the last fifty years. Since the Second World War the increasingly mechanised nature of agriculture has necessitated the removal of field boundaries to create larger fields that can more easily be worked by machinery, such as combine harvesters. The trend towards mechanisation has also reduced the number of people employed by the agricultural sector, which has affected the survival of farmsteads and associated buildings, some of which are now falling into disrepair.

Legibility

The historic wetland natural heritage of the Fens has largely been lost under the modern landscape of intensively farmed arable land. However, the successive phases of drainage, and the techniques used to keep the land dry, can all be identified in the area today. The hierarchy of drainage channels in the area remains largely unchanged from its nineteenth-century form, although individual field drains are much reduced in number.

The southern part of the Fens retains a well preserved pattern of medieval enclosure, especially immediately to the south of Spalding. This is despite the extensive loss of field boundaries over the last few decades. Later planned enclosure is also well preserved throughout the area, and even where many boundaries have been lost the essential rectilinear character of the landscape is highly legible.

The ongoing struggle to keep the land dry is demonstrated by the large numbers of windmills found throughout the area. At various points along the drains, there are surviving examples of nineteenth-century pumping stations, further indicating the historic processes of drainage.

Drivers of Change

Agriculture
• Introduction of tall-growing bio-mass crops • Consolidation of fields leading to loss of historic patterns • Change of use from arable to pasture

Climate Change
• Flood alleviation schemes – storage pools, pumping facilities, dykes • New crops capable of dealing with drought

Industry
• Construction of new energy production facilities – especially wind power • Creation of associated energy infrastructure, such as pylons and substations

Settlement
• Dereliction of historic isolated farm buildings • Infill developments in straggling linear villages

Tourism & Recreation
• Few existing tourist destinations in the area • Possible expansion of roads (e.g. A52) to accommodate higher levels of through-traffic between the Midlands and the coast

3.10 Regional Character Area 10

The Wash

ARS sub-province: EWASH

Countryside Agency Countryside Character Areas:
46 – The Fens

Total area: 660.3 km^2

Percentage of Overall Project Area: 15.1%
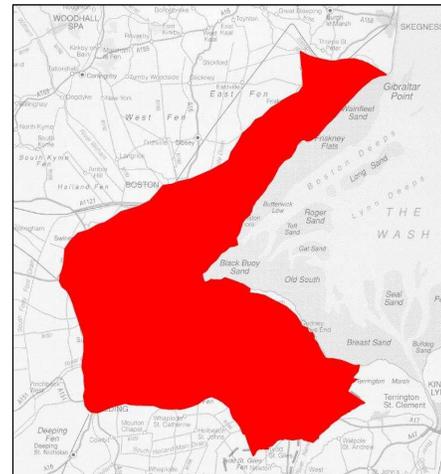
Description of Present Landscape

The Wash is a large estuarine complex on the east coast of Lincolnshire. It is fed by the Rivers Witham, Welland, Steeping, Great Ouse and Nene, which are themselves fed by numerous drains and streams across the East Midlands. The western edge of the character area is dominated by a silt ridge which stands about 4m above sea level. The land between this ridge and the Wash Estuary itself is typically at or below sea level, with earthen banks at regular intervals parallel to the coast marking the extent of former coastlines.

The shoreline of the Wash has changed dramatically over the last thousand years, not least because of human influence. Although the shape of the coast has changed naturally as a result of changes in sea level, rainfall and climate, much of the dry land of the character area owes its existence to successive periods of artificial drainage for agricultural purposes. The rural landscape is one of broad, open views with occasional vertical intrusions from buildings or features, such as the tower of St Botolph's Church in Boston, wind power facilities or relict sea banks. Roads are typically elevated from their surroundings by up to a metre, and even this modest height allows views over great distances, especially on the drained marshland.

Large Modern Field at Croft Marsh
© Richard Croft

The area is predominantly agricultural, with the highest proportion of modern fields by area in the county, which is indicative of the high rate of field boundary loss. There is also a surprisingly high proportion of surviving ancient enclosure. Perhaps the most striking element of the modern landscape is the occurrence of very large modern fields, sometimes referred to as 'prairies'. These large flat arable fields are almost industrial in character, with parallel lines of uniform crops, such as lettuces or brassicas stretching away into the

distance. The enormous quantities of produce grown require a large infrastructure for processing, and the rural landscape is punctuated by industrial complexes such as canneries and freezing plants. The main roads of the area are often busy with large articulated lorries carrying the produce to distant markets, and these can be seen for miles around.

The flat open expanses of the coastal farmland have proved suitable for the construction of wind farms. This is not a new development, as wind power has been used in the area for centuries, both for milling grain and pumping water, and remains of these windmills can be seen in villages across the character area. However, modern wind power generators are generally much larger than historic windmills and tend to be built in groups, as at Gedney Marsh. The wind farms are visible over great distances, and, as elsewhere in the county, have proved controversial.

Settlements are typically found on high ground, particularly on the silt ridge known locally as the Townlands, extending from Wainfleet in the north, around the coast to Boston, Spalding, Holbeach and Long Sutton. The formation continues across the county boundary to Kings Lynn and around the eastern edge of the Wash, and is roughly parallel to the current coast of the Wash. The Townland settlements are typically nucleated in character, although there has been some development along the main roads that threatens to merge some of the smaller settlements with their larger neighbours, and some ribbon development along the historic drove roads leading north from the Townlands to the drained marsh. The major settlements tend to have a broad mix of housing types from a variety of periods. The historic cores are generally surrounded by increasingly more recent housing, with modern residential estates on the periphery.

Away from the main settlements there is a relatively high proportion of dispersed rural settlement. This was historically made up of isolated farmsteads and associated cottages but new dwellings have been added at a steady rate over the last century. Although parts of the drained marsh can feel isolated due to the large fields and vast skies, it is generally possible to see at least two farmsteads from any position in the landscape, and often five or six, making the landscape a little more intimate than it might at first appear.

Landscape History

The modern landscape of the area has been created by the interplay of two factors. The first is the struggle to drain and retain land from the encroachment of the sea. The second is the exploitation of the rich, fertile land gained by doing so.

It is likely that the entire character area has only existed as dry land since the end of the Roman period. At some point in the centuries following the departure of Roman authority, the land on the seaward side of the Townlands was drained either by human activity or by receding sea levels. The Townlands themselves may have existed as islands before this point, but there is little evidence for extensive occupation until the

Inland View from Friskney Sea-Bank
© Ian Paterson

Anglo-Saxon settlement of the area. By the time of the Domesday survey, the main settlements of the Townlands were in existence in some form. The survey also recorded the presence of salterns along the length of the coast, whose mounds may have been partly responsible for the next phase of reclamation recorded by the fourteenth century. This strip of former marsh, running parallel to the silt bank on the seaward side, is likely to have formed by accretion after numerous high spring tides, which would eventually have left the land dry enough to enclose and surround with a sea-bank. At this point the reclaimed land was most likely to have been used for year-round pasture, with the salt marsh on the far side of the bank providing further grazing when not inundated by the sea.

The process of gradual accretion followed by defence and enclosure continued gradually for several centuries. This resulted in a series of sea banks, which can still be seen in the landscape today. The subsequent phases of enclosure are also indicated by the pattern of field boundaries, which become increasingly more planned and straight the closer they are to the coast. In many places, the former courses of creeks are preserved within the field pattern, presumably still forming an important part of the drainage system. An interesting variation on this theme can be seen at Friskney and Wrangle Tofts, where the field boundaries continue their long straight course across several sea-banks. Taken together with the line of settlement from which these fields emanate, this pattern indicates a continuity of ownership over a considerable period of time, with initial plots, laid out at the back of small farmsteads along what is now the A52, being extended each time a new phase of enclosure was completed.

Over the last century, much of the farmland of the area has been turned to arable cultivation. The fertility of the land has been augmented by the adoption of modern farming techniques, but the same techniques require increasing use of machinery, such as tractors and combine harvesters. In order to accommodate the machinery, farmers here, as elsewhere in the county, have consolidated their fields by removing some of the historic boundaries. This has resulted in the creation of large 'prairie' style fields across the character area.

The battle against the sea has been an important part of the historic development of the area. This battle continues, but has recently become more urgent with the impending challenges presented by climate change. It is predicted that sea levels will rise sufficiently to threaten much of the low-lying farmland of the character area in the next fifty years. In order to combat this threat new techniques have been employed, such as the managed retreat at Freiston Shore. As the current policy is that no more land should be surrendered, other methods will need to be employed, such as enhancing existing sea-defences, building new sea walls and adding to the existing array of pumping stations. The threat of climate change has also led to the construction of wind farms across the area, with notable examples at Gedney Marsh and Bicker Fen. These can have a significant visual impact within the landscape, but do not typically damage historic landscape elements, such as field boundaries or standing archaeology. Sub-surface archaeology is, of

Wind Farm at Gedney Marsh
© Glyn Drury

course, as vulnerable to the erection of wind turbines as it is to any other ground disturbance.

Although less than optimal as a site for airfields, the landscape of the Wash nevertheless experienced the effects of the twentieth century conflicts. The remains of pill boxes and other defensive installations can still be seen throughout the character area, having been constructed in order to slow the advance of a potential German invasion force.

Legibility

Despite the many changes to the landscape, much of its historic character remains evident to this day. The marshland that once covered the entire area is still visible from the outermost sea wall, and indeed is a major tourist attraction, as it provides a habitat for large numbers of migratory birds. There are several specific nature reserves, and the whole estuary has been designated as a National Nature Reserve.

Away from the semi-natural landscapes of salt marsh, the rest of the area is entirely man-made. The various phases of drainage can be identified in the field patterns and relict sea-banks and former creeks are seen throughout the area. Despite the removal of many field boundary ditches, the underlying patterns remain well preserved. This is largely due to the inadvisability of removing too many drains in a landscape that is largely below sea level.

Drivers of Change

Agriculture
• Introduction of tall-growing bio-mass crops
• Consolidation of fields leading to further loss of historic patterns around settlements
• Creation of large 'prairie' fields on drained marsh

Climate Change
• Flood alleviation schemes – storage pools, pumping facilities, dykes
• Enhancement of existing sea banks
• Introduction of new crops capable of dealing with drought

Industry
• Construction of new energy production facilities – especially wind power
• Creation of associated energy infrastructure, such as pylons and substations

Settlement
• Regeneration of historic settlements - Boston, Spalding
• Expansion of residential areas around larger settlements
• Ribbon development along main connecting roads
• Infill developments in straggling linear villages

Tourism & Recreation
• Wider appreciation of biodiversity leading to increase in Nature Tourism
• Local economic regeneration through promotion of tourist destinations

4 User Guide

4.1 Background Information

4.1.1 Introduction

The Lincolnshire HLC dataset enables the user to understand more fully the historical development of a given area. Starting with the present, and working backwards through time, it is possible to see what the landscape is now, what it was in the past, and how the former landscapes have influenced and shaped those we see today.

Using a range of sources, the data has been produced according to a nationally recognised methodology, which has been developed over the past twenty years by English Heritage, in partnership with many local authorities.

Although Lincolnshire is among the last of England's historic counties to benefit from this programme, it should be noted that the methodology is now mature, and that many uses have now been found for HLC data as a result of earlier projects.

4.1.2 The Theoretical Framework

Each HLC project undertaken to date has been conducted according to an established set of principles and guidelines developed by English Heritage. While there are often significant differences of focus and methodology between each project, they are all firmly rooted in the same principles.

4.1.3 Guiding Principles for HLC – English Heritage

- **Present not past:** it is the present day landscape that is the main object of study. Landscape as history not geography: the most important characteristic of landscape is its time-depth; change and earlier landscapes exist in the present landscape.
- **Landscape not sites:** HLC-based research and understanding are concerned with area not point data.
- **All aspects of the landscape,** no matter how modern, are treated as part of landscape character, **not just 'special' areas.**
- Semi-natural and living features (woodland, land cover, hedges *etc.*) are as much a part of landscape character as archaeological features; **human landscape – bio-diversity is a cultural phenomenon.**
- Characterisation of landscape is a matter of **interpretation not record, perception not facts;** understand 'landscape' as **an idea**, not purely as an objective thing.
- **People's views:** it is important to consider collective and public perceptions of landscape alongside more expert views.
- Landscape is, and always has been, dynamic: **management of change, not preservation** is the aim.
- The process of characterisation should be **transparent**, with clearly articulated records of data sources and methods used.
- HLC maps and text should be easy to understand, **jargon free** and **easily accessible** to users.
- HLC results should be **integrated** into other environmental and heritage management records (e.g. SMRs or HERs).

4.1.4 Sources

The current landscape type is defined using a combination of modern spatial data. The primary source is the Ordnance Survey 1:10000 map. This is supplemented by aerial photographs and internet resources such as Google Maps and Street View. Previous landscapes are identified using old Ordnance Survey maps, primarily the 6 inch first edition

County Series maps from about 1880. Earlier landscapes are identified from Parliamentary Enclosure maps, where available, the Lincolnshire HER and other documentary sources. It is also possible to identify former land use from place-name evidence and from features in the landscape, such as street patterns and field boundaries.

4.1.5 Methodology
The Geographical Information System (GIS)
In order to understand the make up of the landscape we have today, HLC Project staff broke the landscape down into smaller areas of consistent types. These smaller areas, variously known either as *records* or *polygons*, are recorded within a computer database. The HER database application (HBSMR) is used, linked to a computerised mapping system. The area under investigation is defined using the map, and a line is then drawn around it to form a *polygon,* ranging in size from 1 ha to 300 ha.

This *polygon* is linked to a *record* in the database element of the application, in which the textual data is held. This textual data includes a description of the area, how it has developed over time, and any definable attributes of the area. This procedure is then repeated for every definable area of consistent landscape type across the entire county, resulting in seamless coverage.

Character Areas
As well as the individual records, the Lincolnshire HLC project has defined two other levels of interpretation, *Zones* and *Areas.* These are intended to provide a narrative of landscape processes over a wider area. There are ten *Areas,* roughly corresponding to the Joint Character Areas defined by Natural England. These *Areas* are further subdivided into *Zones*, of which there are forty-five. This includes the three cities of Lincoln, Scunthorpe and Grimsby, which have not been included in the *Areas*.

The *Areas* and *Zones* were defined using a combination of analysis of the HLC data, field visits, and documentary research. Each *Area* is characterised by a dominant historical process which, in combination with variations of topography, geology and settlement patterns, has given rise to a specific and identifiable modern character. Within each *Area* there are three to five smaller *Zones*, which derive from variations to the dominant character type.

It is intended that the descriptive statements of the *Areas* and *Zones* should provide a basis for informing decisions that affect large areas of the landscape. Each statement includes a description of the current character and a narrative statement of historical development, along with a brief summary of potential forces for change that may affect each *Area* or *Zone*.

4.2 HLC Data – Advice to End-Users

4.2.1 How can HLC data be used to assess the impact of a development?
There is no single correct way to use HLC data. There are, however, guidelines available from several sources. English Heritage have produced a document called *Using Historic Landscape Characterisation* which provides examples of how HLC data has been used in the planning process. The Highways Agency has also published a guidance document, *Assessing the Effect of Road Schemes on Historic Landscape Character*. These documents provide a good starting point, but are not an exhaustive guide to the methods available.

HLC data can also be useful when studied alongside other datasets, such as geology maps or digital terrain models. It is always a good idea to consult with local authority officers who maintain the data, and may be able to advise on the availability of compatible datasets, or provide information about other projects that have used HLC in the area. The important first

step is to define the study area. Once this has been achieved, other methods such as definition of attributes like sensitivity can be attempted, perhaps by adopting a pre-existing model such as the one used by The Greater Norwich Development Partnership and Norfolk County Council.

Web links:
Clark, J., Darlington, J. and Fairclough, G., *Using Historic Landscape Characterisation*, (English Heritage, 2004)
http://www.english-heritage.org.uk/publications/using-historic-landscape-characterisation/

Highways Agency, *Assessing the Effect of Road Schemes on Historic Landscape Character* (Highways Agency, 2007)
http://www.helm.org.uk/server/show/nav.19605

Norfolk County Council, *Historic characterisation and sensitivity assessment: GNGP preferred option growth areas*, (Norfolk County Council, 2009)
http://www.gndp.org.uk/resources/document-finder/?downloadIndex=H

4.2.2 How should a study area be defined?
It is not likely that a development will only impact upon the specific HLC units that fall within its physical footprint. The character of the surrounding landscape may also be affected. In order to take this into account it may be useful to prepare a wider study area. At its most simple, the study area may comprise a buffer around the known footprint of a development. If this method is used, the buffer should be large enough to encompass all HLC units that might be affected by the development. Many GIS software packages allow more sophisticated analysis of topography than this and, if there is sufficient ancillary data, it may be more appropriate to define an area of influence around the development. Perhaps you might use a viewshed analysis to define the areas from which the development will be visible. If the development has other measurable effects, such as noise or smell, you might use the estimated area of those effects as well. Once an area of effect has been defined, it may then be advisable to widen the area still further, in order to provide a comparison.

4.2.3 Why is a larger study area needed?
Any development will have an impact on the HLC units directly under its footprint, and is likely to have an effect on neighbouring units as well. In order to understand the effect of the proposed changes on the landscape as a whole, it is necessary to understand the wider context of the proposed development. For example, a larger study area will reveal whether the HLC types in the area of effect are characteristic of the wider study area, or if they represent a rare type, locally speaking. Furthermore, a study that is limited to the footprint of a development has more to do with site-specific analysis than the landscape scale information provided by HLC.
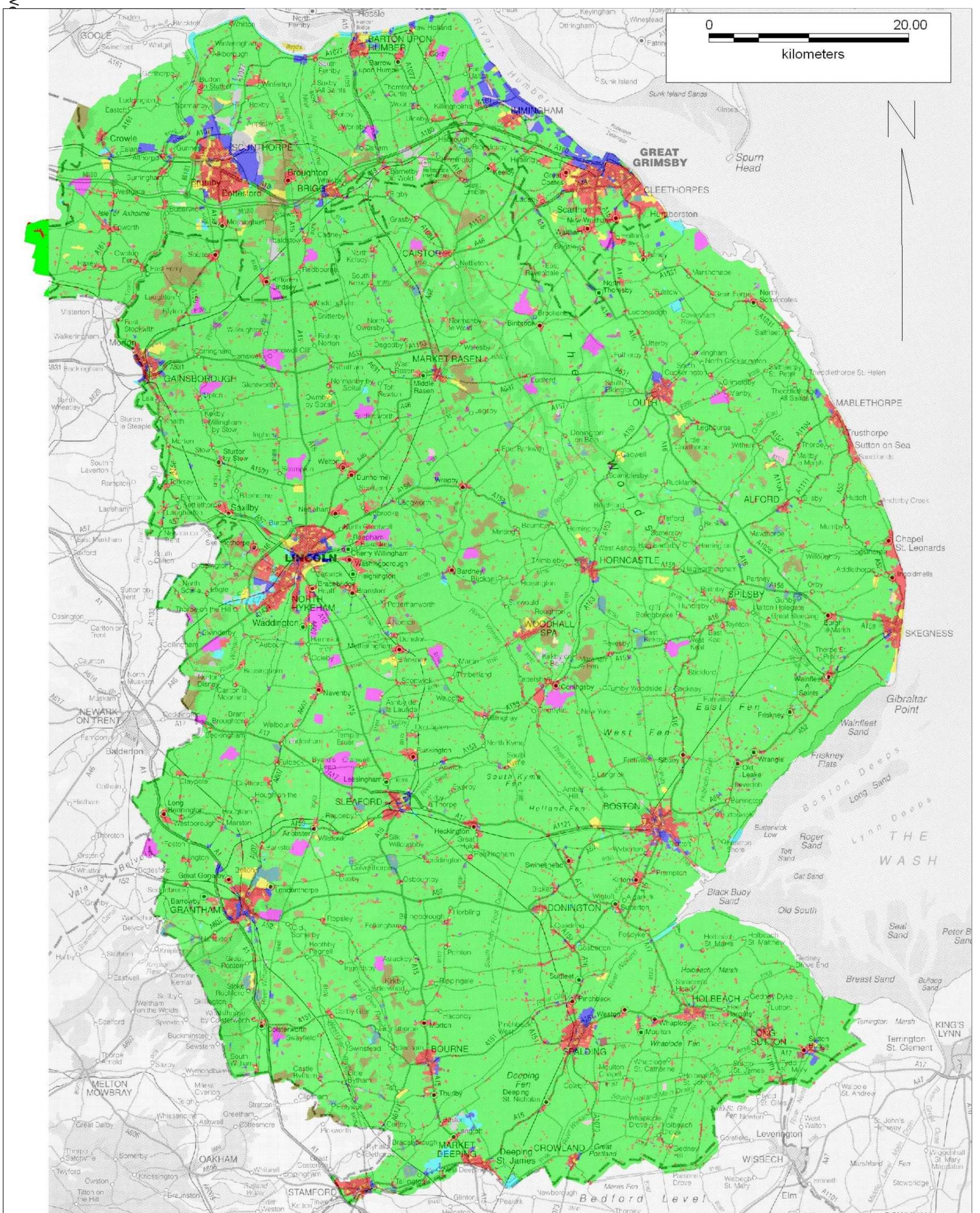
Figure 1. Broad Type data with indicative raster map data
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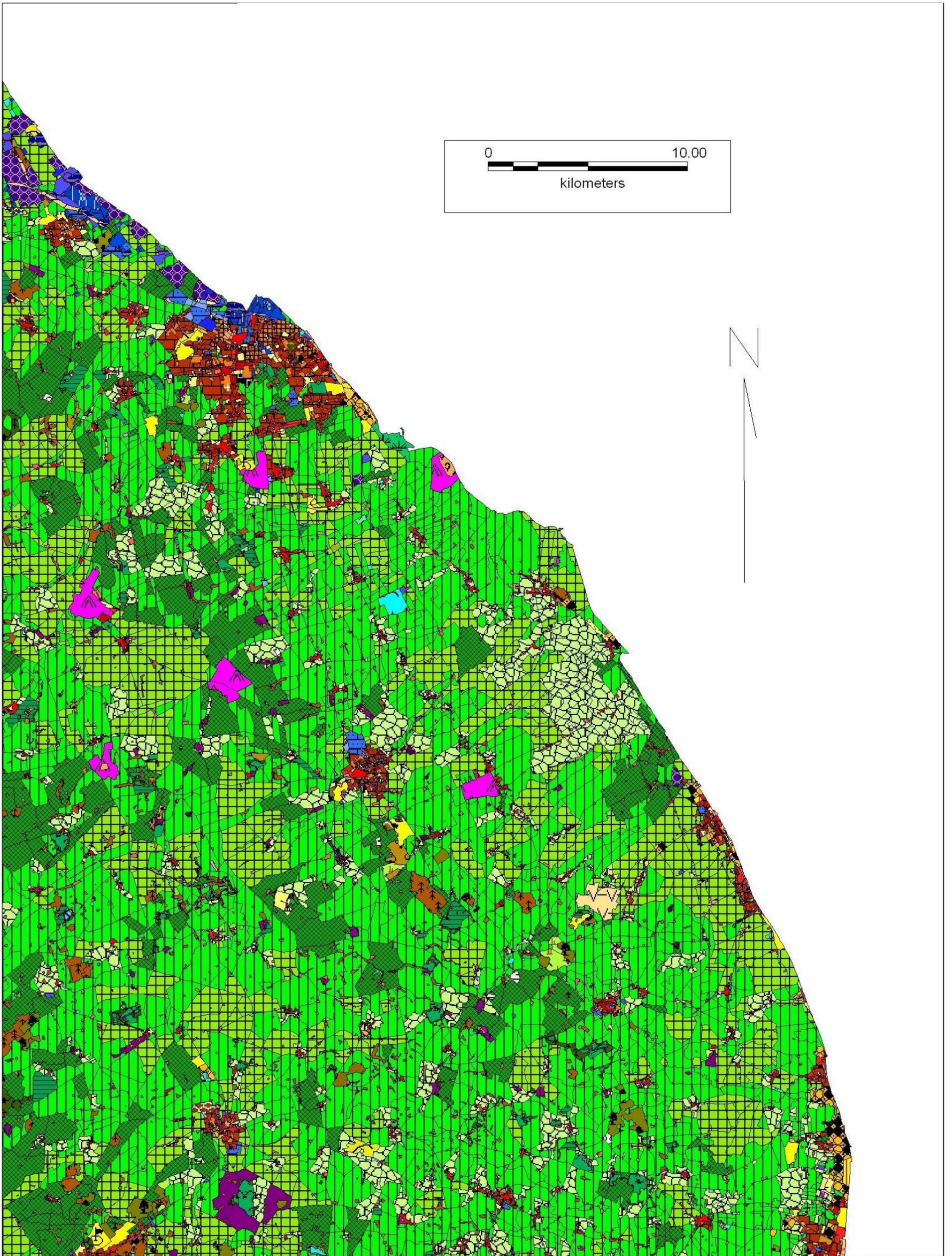
Figure 2. HLC Type data for North-East Lincolnshire
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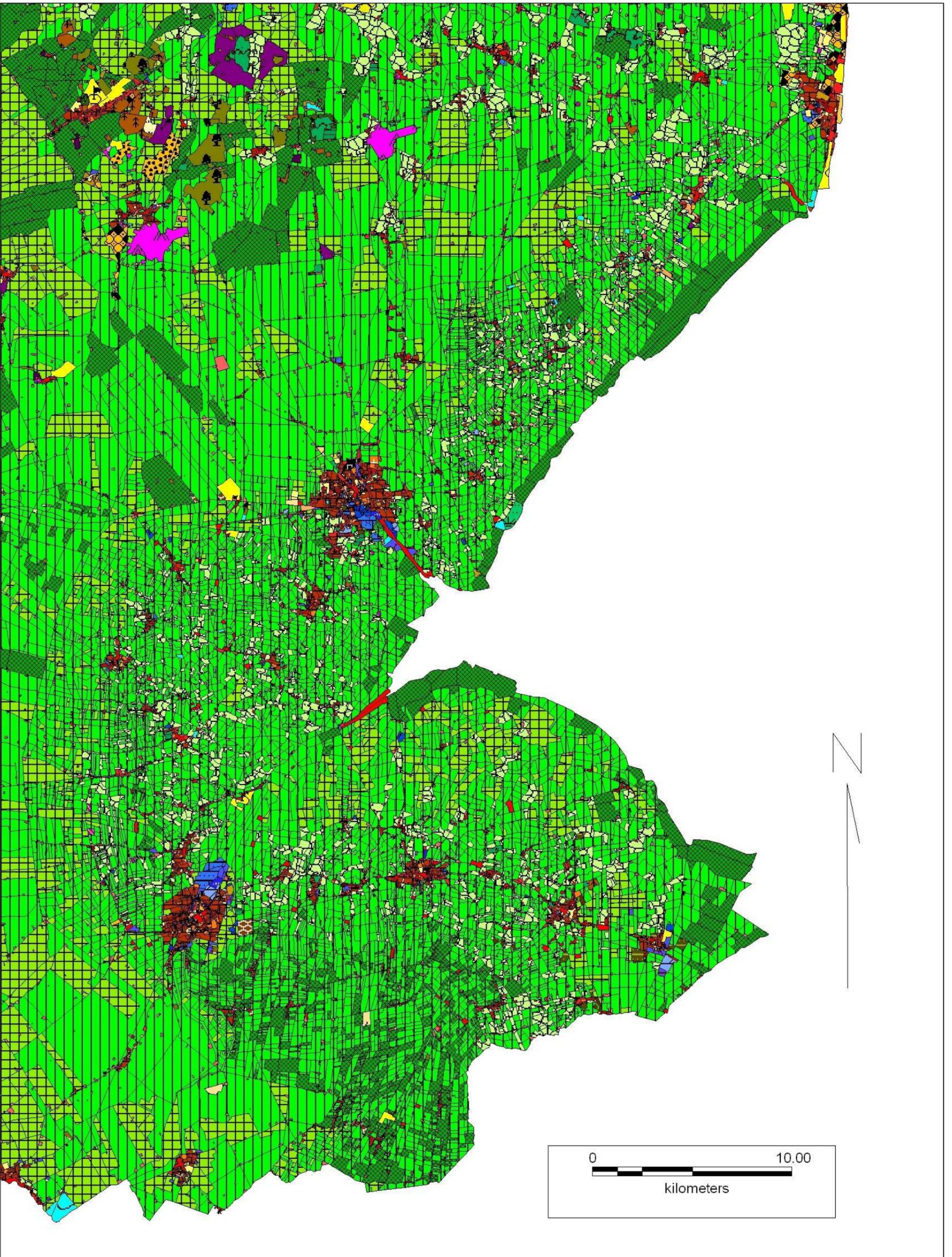
Figure 3. HLC Type data for South-East Lincolnshire

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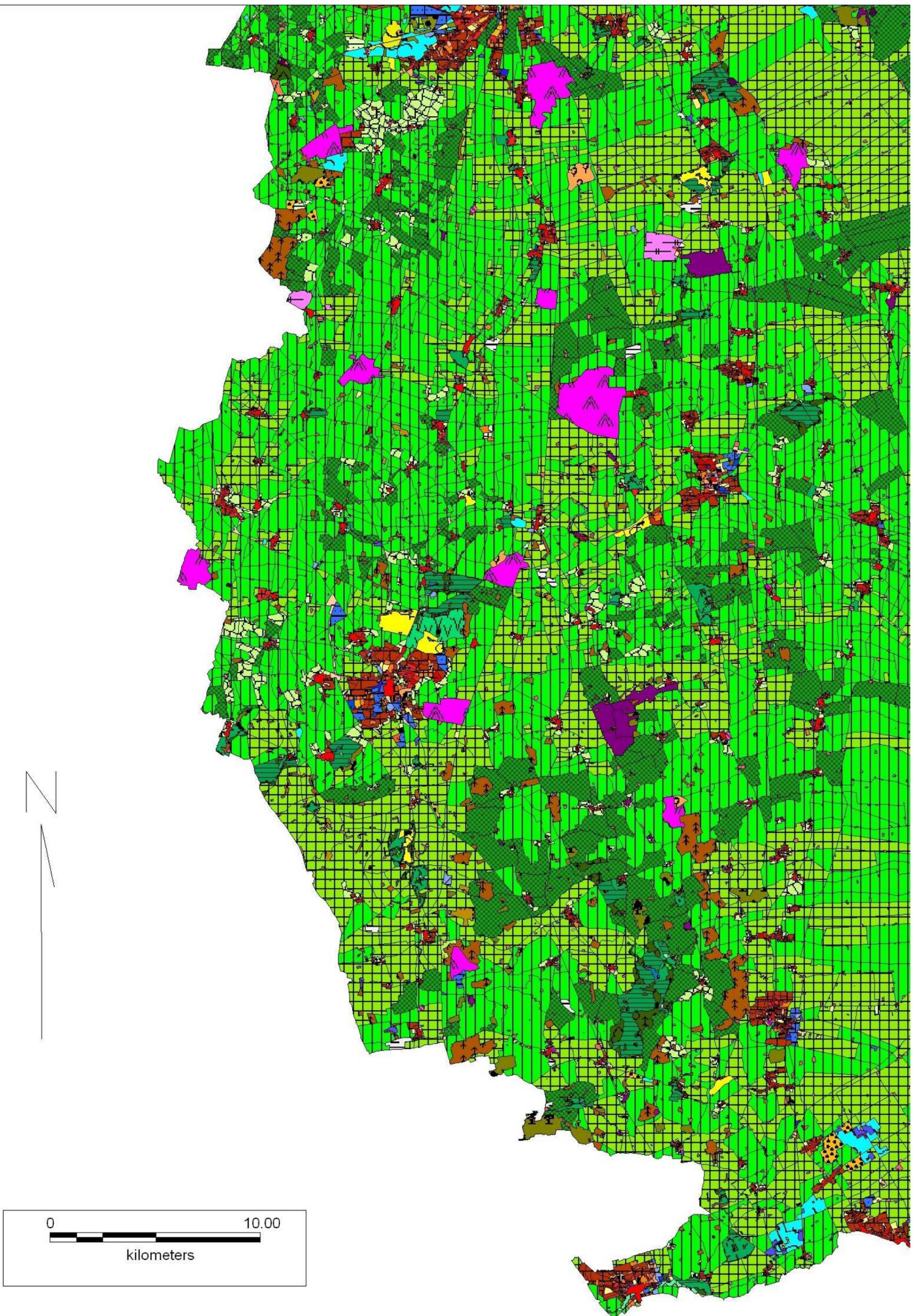
Figure 4. HLC Type data for South-West Lincolnshire

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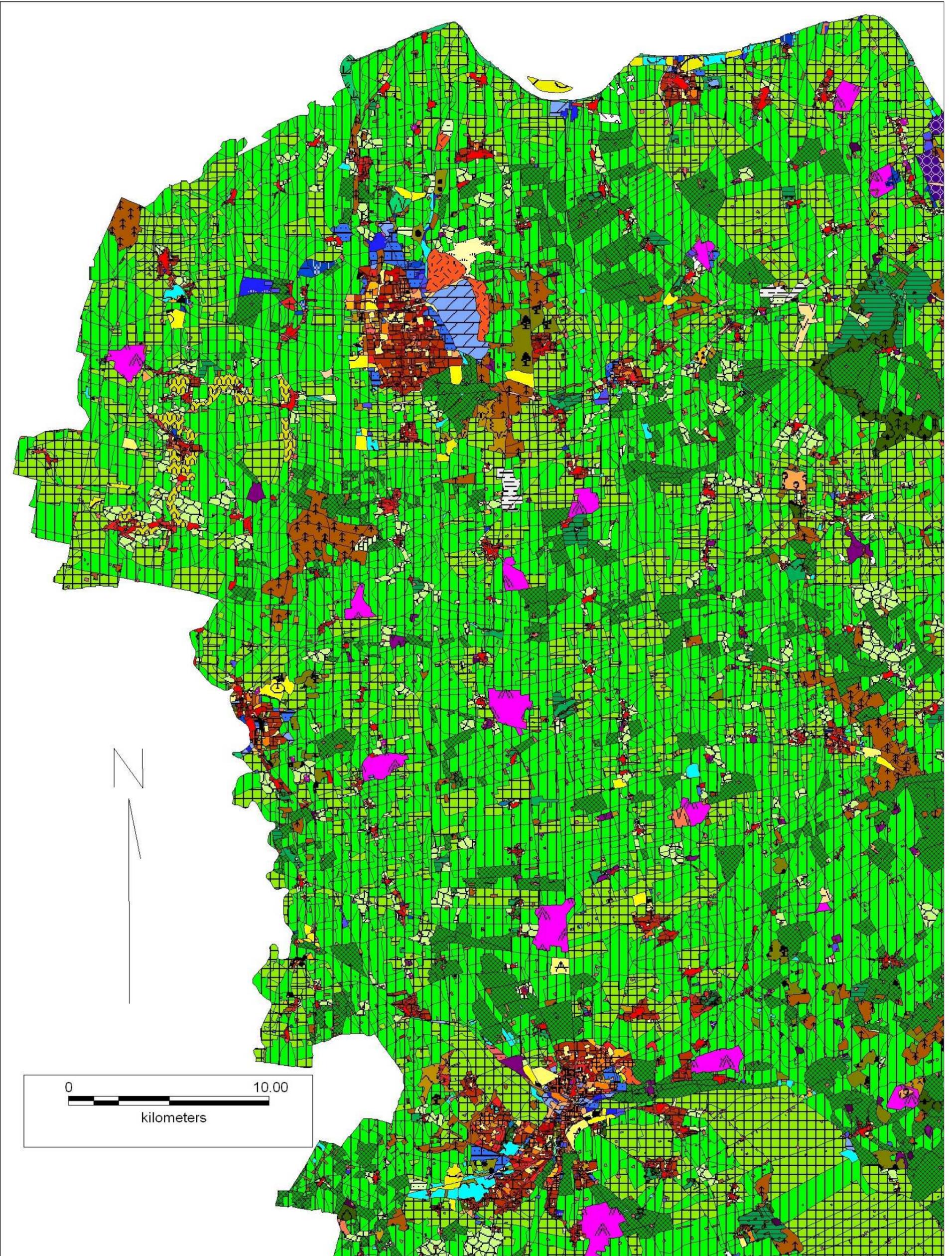
Figure 5. HLC Type data for North-West Lincolnshire
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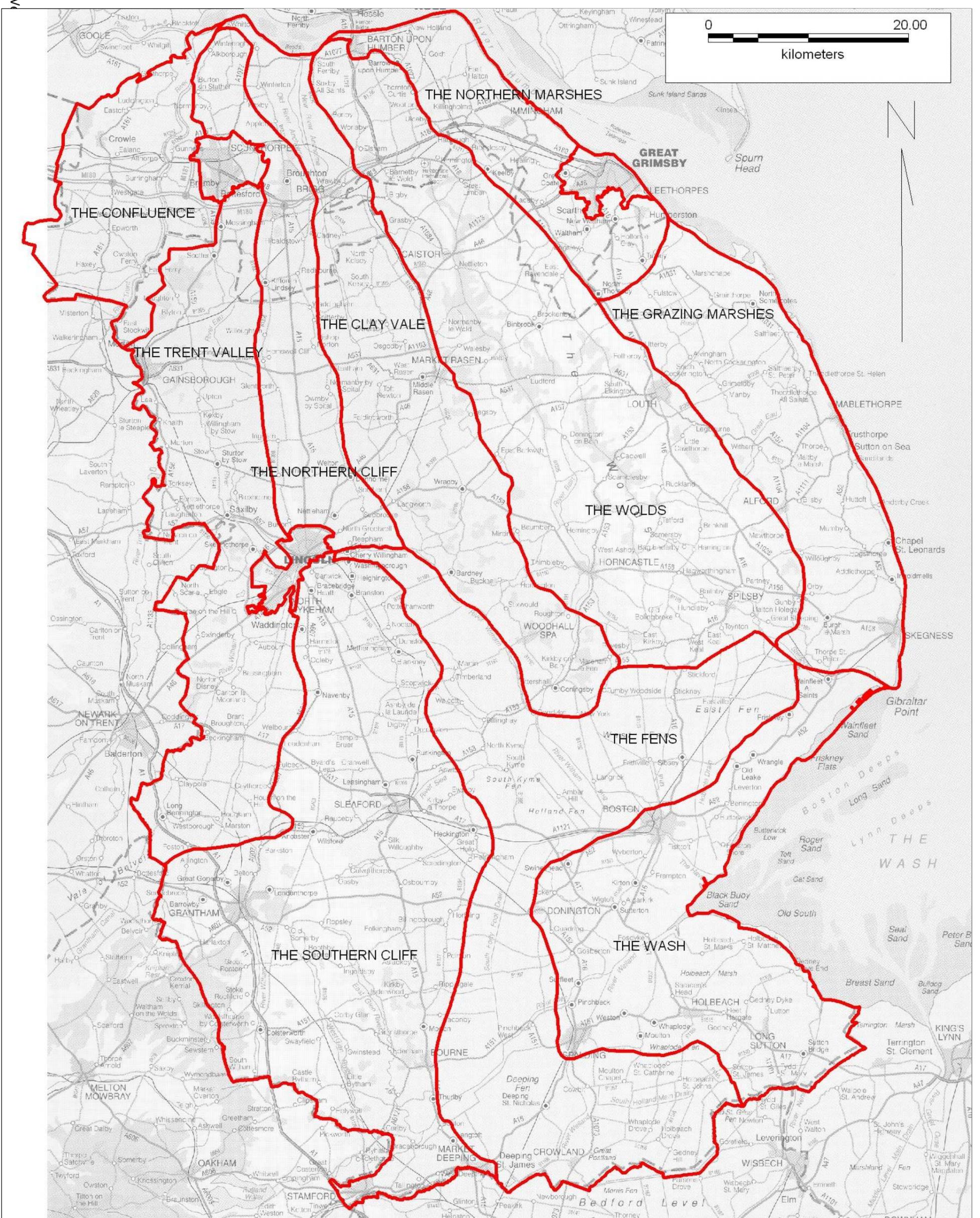
Figure 6. Historic Landscape Character Areas with indicative raster map data
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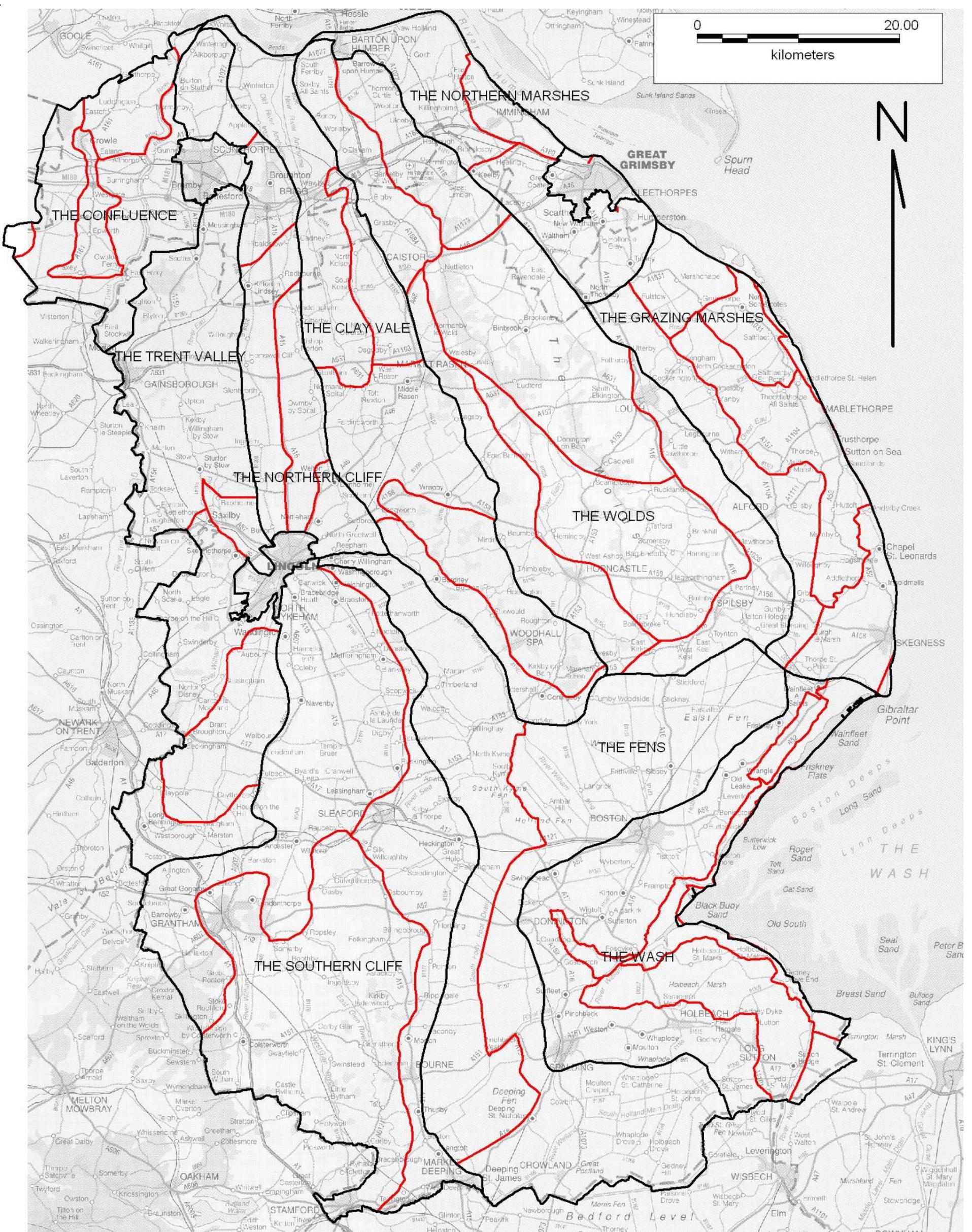
Figure 7. Historic Landscape Character Zones with indicative raster map data
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Broad Type	County	Northern Cliff	Southern Cliff	Wolds	Clay Vale	Coastal Marsh	Northern Marsh	Confluence	Valleys	Fens	Wash
Agriculture	0.15	0.16	0.09	0.18	0.22	0.13	0.17	0.11	0.17	0.14	0.10
Civic	0.33	0.19	0.30	0.10	0.14	0.16	0.45	0.21	0.20	0.03	0.51
Communication	0.17	0.08	0.13	0.21	0.10	0.52	0.50	0.17	0.07	0.07	0.04
Extraction	0.37	1.40	0.35	0.37	0.46	0.02	0.28	0.04	0.32	0.14	0.00
Fields	87.66	80.79	85.65	89.54	87.28	90.88	77.48	88.96	87.47	96.80	91.59
Historic Earthworks	0.23	0.47	0.15	0.37	0.38	0.21	0.54	0.00	0.26	0.06	0.06
Industry	1.06	1.12	0.71	0.21	0.44	0.31	6.11	1.54	0.35	0.27	1.32
Military	1.11	3.43	2.05	0.91	1.06	0.68	1.55	0.68	1.23	0.17	0.00
Orchards	0.17	0.05	0.09	0.07	0.02	0.05	0.15	0.02	0.12	0.15	0.85
Parkland	0.47	0.83	1.12	0.85	0.22	0.12	1.00	0.03	0.24	0.03	0.12
Recreational	0.75	0.92	0.74	0.39	0.53	0.68	2.15	0.92	0.74	0.22	0.34
Settlement	3.74	3.91	3.76	1.78	2.44	4.81	6.67	3.23	2.99	1.29	4.41
Unenclosed Land	0.10	0.55	0.05	0.00	0.05	0.09	0.00	0.13	0.01	0.00	0.00
Water and wetland	0.45	0.31	0.32	0.11	0.42	0.62	0.86	0.87	0.72	0.34	0.48
Woodland	3.25	5.77	4.50	4.90	6.24	0.71	2.08	3.08	5.12	0.28	0.17

Table 1. Percentage of each Character Area covered by each Broad HLC Type

Type	County	Northern Cliff	Southern Cliff	Wolds	Clay Vale	Coastal Marsh	Northern Marsh	Confluence	Valleys	Fens	Wash
Ancient Enclosure	4.81	2.16	1.99	6.67	3.43	12.50	3.83	3.98	3.83	1.26	11.07
Modern Fields	52.31	54.43	44.33	48.15	53.54	52.80	41.00	56.42	58.57	60.23	66.05
Parliamentary Planned Enclosure	19.44	16.38	26.93	18.54	12.63	21.23	22.60	22.52	14.85	25.33	6.60
Private Planned Enclosure	9.97	6.82	10.30	14.16	17.07	3.99	8.21	2.67	9.75	9.74	7.75
Medieval Village Earthworks	0.14	0.39	0.06	0.30	0.23	0.11	0.22	0.00	0.14	0.01	0.00
Military Airfield	0.99	3.43	1.74	0.79	0.88	0.59	1.54	0.68	1.07	0.17	0.00
Landscape Park	0.38	0.58	0.79	0.79	0.21	0.11	0.91	0.02	0.21	0.03	0.11
Historic Settlement Core	0.58	1.11	0.75	0.48	0.54	0.48	1.08	1.03	0.73	0.12	0.30
Isolated Farmstead	0.39	0.38	0.28	0.35	0.34	0.46	0.36	0.42	0.25	0.48	0.50
Planned Residential Development	1.25	1.27	1.68	0.27	0.50	0.81	2.97	0.45	0.93	0.16	1.99
Ancient Woodland	0.59	1.17	0.69	0.41	2.38	0.18	0.36	0.00	0.52	0.02	0.00
Plantation Woodland	1.95	3.35	2.79	2.80	3.40	0.47	1.36	2.93	3.52	0.23	0.11

Table 2. Percentage of each Character Area covered by a selection of key indicator HLC Types

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