



NORTH EAST LINCOLNSHIRE

Landscape Character Assessment, Sensitivity and Capacity Study

July 2026





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FPCR Environment and Design Ltd (FPCR), were originally appointed in April 2014 to undertake a Landscape Character Assessment of North East Lincolnshire Borough together with a Landscape Sensitivity and Capacity Study on land surrounding each settlement area contained within the Borough boundary. FPCR have updated the study in spring 2026 as part of the evidence base for the Regulation 19 Local Plan submission.

1.1 This is a Landscape Character Assessment, Sensitivity and Capacity Study prepared by FPCR Environment & Design Ltd on behalf of North East Lincolnshire Council. The study builds upon the landscape characterisation work undertaken at a national and local level and provides a further layer of assessment with regard to landscape sensitivity, and the capacity for the landscape to absorb change in the form of development.

1.2 The study has been prepared alongside the *North East Lincolnshire Landscape Character Assessment (NELICA, 2010)*, and the study should be read in conjunction with this report. The following are the principal documents which have been used in the preparation of this study (see **Section 9** for full list of references):-

- European Landscape Convention (ELC), Council of Europe (2000)
- National Planning Policy Framework (2024)
- National Planning Practice Guidance (2014)
- North East Lincolnshire Adopted Local Plan (2018)
- Landscape Character Assessment - Guidance for England & Scotland (2002)
- Landscape Character Assessment - Guidance for England & Scotland, Topic Paper 6 Techniques and Criteria for Judging Capacity & Sensitivity (2002)
- An Approach to Landscape Character Assessment (2014)
- Guidelines for Landscape & Visual Impact Assessment (GLVIA3) (2013)
- National Character Area Profile 41: Humber Estuary (2026)
- National Character Area Profile 42: Lincolnshire Coast and Marshes (2026)
- National Character Area Profile 43: Lincolnshire Wolds (2026)
- North East Lincolnshire Landscape Character Assessment (2010)
- Historic Landscape Characterisation Project for Lincolnshire (2011)
- Lincolnshire Wolds AONB Management

Plan 2013 – 2018 (incorporating The Lincolnshire Wolds Landscape Character Assessment (CCP414, 1993))

1.3 The study has been prepared by a team of Chartered Landscape Architects from FPCR, which has included a peer review on the assessments reached within the study during each stage of the project.

1.4 At the decision of North East Lincolnshire Council the study has not been subject to any stakeholder or public consultation, although the study has been subject to a series of reviews by Council officers.

1.5 The study does not preclude the undertaking of detailed Landscape and Visual Impact Assessments or 'Appraisals' (LVIAs) in accordance with current guidance for specific sites within a particular Landscape Type or Sub Unit as identified within the study. It is expected that LVIAs will provide a local scale assessment of landscape character and visual amenity, examining and assessing development proposals, which will be used to assist the decision making process.

Purpose of the Study

1.6 The purpose of the study is to provide a further understanding of the landscapes contained within the Borough in order to:-

- Provide the context for policies and proposals within the Local Plan for North East Lincolnshire; and to
- Provide an informed and reasoned evidence base in relation to future policy decisions and decision making.

Primary Objectives

1.7 Primary objectives of the study are to:-

- Provide an independent assessment of the landscape character within North East Lincolnshire based upon the existing



Landscape Character Assessment;

- Provide an assessment on the sensitivity of the landscape and the capacity for the landscape to absorb change in the form of new development;
- Undertake an assessment of the landscape immediately surrounding the settlements within the Borough, identifying landscape Sub Units together with broad descriptions and management prescriptions for each;
- Identify factors that have influenced landscape change in the past, and development pressures which are likely to influence change in the future;
- Identify a range of key issues that will support the Local Plan, outlining principles for the siting and design of new development, including the pattern, form and scale of built development and the provision of Green Infrastructure in order to reinforce and enhance landscape character;
- Promote awareness of the landscape character and its social significance and the importance of conservation, enhancement and restoration; and
- Establish a knowledge base upon which justified landscape related decisions can be made.

The Study

1.8 The study comprises the following sections:-

- **Section 1 – Introduction**
- **Section 2 – Methodology**
- **Section 3 – Landscape Context**
- **Section 4 – Overview of Landscape Character of the Borough**
- **Section 5 – Stage 1: Character of the North East Lincolnshire Landscapes**
- **Section 6 - Stage 2: Sensitivity & Capacity of the North East Lincolnshire Settlements**
- **Section 7 – Figures**
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The Assessment – A Two Stage Process

1.9 The assessment work has been carried out in the following two stages:-

1.10 **Stage 1** involves the review, refinement and broad assessment of Landscape Types within the Borough as identified within the existing *NELLCA*. It highlights what are considered to be the key characteristics of each Landscape Type, as well as providing a review of landscape condition and character. This provides an appropriate overview which leads into the Stage 2 process.

1.11 **Stage 2** comprises a more detailed assessment, focussing on the settlements within the Borough which are categorised into:-

1. The Urban Area and Main Towns

(Grimsby, Cleethorpes, Immingham);

2. Western and Southern Arc Villages

(Healing, Humberston, Laceby, New Waltham, Waltham); and

3. Rural Settlements

(Ashby-cum-Fenby, Aylesby, Barnoldby-le-Beck, Beelsby, Brigsley, East and West Ravendale, Habrough, Hatcliffe, Hawerby-cum-Beesby, Irby-upon-Humber, Stallingborough, Wold Newton).

1.12 Distinct landscape Sub Units are identified around each settlement area together with broad descriptions and management guidelines. The sensitivity of the Sub Unit and potential capacity to accommodate development has been assessed using a reasoned method of evaluation against a set of established criteria. Professional judgment has been used to assess the relative sensitivity and capacity in the context of the wider landscape character within which the Sub Unit is located. Land use, landscape guidelines and management strategies also form part of Stage 2.





2 METHODOLOGY

2.1 The Landscape Character Assessment, Sensitivity and Capacity Study of North East Lincolnshire has been prepared following the *Landscape Character Assessment Guidance for England and Scotland (LCA)* published by Natural England and Scottish Natural Heritage (2002), which identifies principles and good practice, together with *Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity*, also published by Natural England and Scottish Natural Heritage.

2.2 The basic work stages are outlined below:-

Inception Meeting and Data Review

2.3 An initial briefing meeting was held with North East Lincolnshire Council to refine the project requirements and outputs. This confirmed the level of detail, project plan and outputs to be produced. Relevant background data was received and reviewed and a preliminary site reconnaissance carried out.

STAGE 1: LANDSCAPE CHARACTER ASSESSMENT

Desk Study and Initial Mapping

2.4 All available published literature and mapping considered relevant to the study area was collated, reviewed and analysed. This includes North East Lincolnshire Council information and plans, such as the Proposals Map from the *Adopted North East Lincolnshire Local Plan (2018)* and proposed SHLAA¹ sites, together with relevant background Landscape Character Assessment studies at a national and local level.

2.5 GIS mapping data has been provided by the Council and is used throughout the document. This included information on principal environmental designations and features, such as the Lincolnshire Wolds National Landscape (NL), Scheduled Monuments, Conservation Areas, Listed Buildings, SSSI's², SINC's³, and Ancient Woodland. In addition to this, data was extracted from the *NELLCA* and the *Historic Landscape Characterisation Project for Lincolnshire (2011)*.

2.6 The context for the study has been defined through a desk based review of the broader landscape characterisation work undertaken by Natural England through its national landscape characterisation work, and at a local level by the *NELLCA*. Adjacent authorities' landscape character assessment studies have also been considered where they may have a bearing on the study area boundaries. This has included the *West Lindsey Landscape Character Assessment (1999)* and *East Lindsey Landscape Character Assessment (2011)*. A list of the key documents that have been considered in the preparation of this study is included at **Section 9**.

Landscape Character

2.7 Information has been combined through initial mapping and the layering of various elements within the landscape to provisionally identify areas of similar or common landscape character⁴ across the study area. Features such as land use, field size, pattern and regularity, settlement form and scale, woodland cover and vegetation, urban features and topography have all been studied to identify corresponding patterns of landscape character.

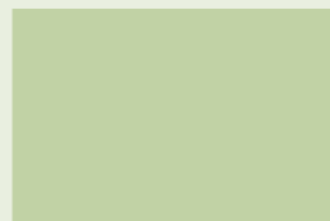
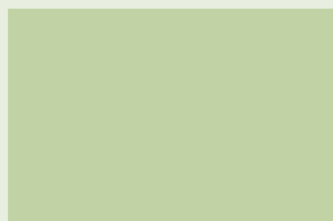
2.8 This analysis has established Landscape Types

¹ Strategic Housing Land Availability Assessment

² Sites of Special Scientific Interest

³ Sites of Importance for Nature Conservation

⁴ "A distinct, recognisable and consistent pattern of elements in the landscape that makes one different from another, rather than better or worse" (GLVIA3)



across the study area. These are principally based upon those that are identified within the *NELLCA*. Areas of uncertainty were highlighted through the initial desk based analysis and formed a focus for the Stage 1 field survey. These Landscape Types have been refined, where it was thought necessary, through the field evaluation exercise, but essentially correspond with those defined within the *NELLCA*.

Stage 1 - Field Survey

- 2.9 Comprehensive field work was carried out during June and July 2014, and has been updated in spring 2026. A field sheet was prepared for the survey and this informed the assessment to ensure a structured, reasoned and consistent record of baseline information for each Landscape Type, supported by a brief written description of landscape character. Representative photographs were also taken from selected locations to provide a visual record.
- 2.10 The Stage 1 field survey sheets were designed to record the following elements as part of the landscape classification exercise:-
- Landform and Hydrology;
 - Land Cover and Vegetation;
 - Field Pattern;
 - Field Enclosure;
 - Settlement Pattern;
 - Landscape Elements/Distinctive Features; and
 - Perception.
- 2.11 The survey data provided on each field sheet has been subsequently drafted into a policy sheet for each Landscape Type. These are included at **Section 5** while the completed field survey sheets for Stage 1 are included at **Section 8, Appendix A**.

Stage 1: Character of the North East Lincolnshire Landscapes

Policy Sheets: Landscape Types

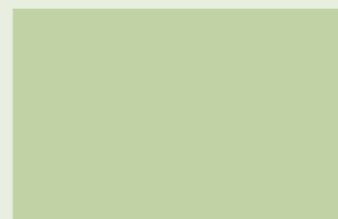
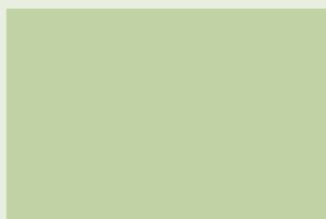
- 2.12 Landscape Types have been classified using data collated from the desk study and by the field survey work. The combination of professional judgement and existing physical mapped data has identified consistent Landscape Types and character across the study area.

- 2.13 Based upon the *NELLCA*, a total of 6 Landscape Types are identified. These are:-

- Landscape Type 1: Industrial Landscape;
- Landscape Type 2: Open Farmland;
- Landscape Type 3: Wooded Open Farmland;
- Landscape Type 4: Flat Open Farmland;
- Landscape Type 5: Sloping Farmland; and
- Landscape Type 6: High Farmland.

- 2.14 Each of these Landscape Types has been described. An analysis of their landscape character is captured through written text, supported by photographs as appropriate. The assessment follows a clear format under the following headings:-

- Context;
- Designations ;
- Key characteristics ;
- Location and boundaries;
- Landscape Character;
- Geology;
- Topography;
- Hydrology;
- Land Use and Settlement;
- Tree Cover/Vegetation;
- Historic Environment;
- Pressures for change/key issues;
- Condition;
- Character; and
- Landscape Guidelines/Management Strategies.



- 2.15 A map showing the location of the identified Landscape Types across the study area has been prepared using GIS mapping and is included at **Section 7, Figure 6**. Although the boundaries are clearly defined, it should be recognised that landscape character is not always dramatically different from one side of the boundary to the other. In some places, there are obvious changes in landscape character, while elsewhere, and more commonly, the change may be more subtle and transitional. In general, boundary lines for the Landscape Types should be regarded as indicative of broad landscape character. It is also important to remember that landscape character may alter over time as a result of changes within the landscape such as development, changes in land use, and agricultural practices.

STAGE 2: SENSITIVITY AND CAPACITY STUDY

- 2.16 The Landscape Types identified in Stage 1 provide the overarching landscape context for the Stage 2 process. The Stage 2 part of the study assesses the immediate landscape around the following settlements within the Borough, and considers landscape sensitivity and capacity to absorb change within these landscapes.

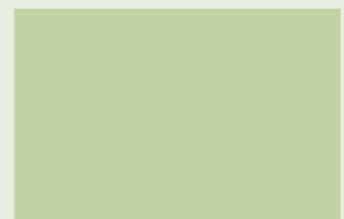
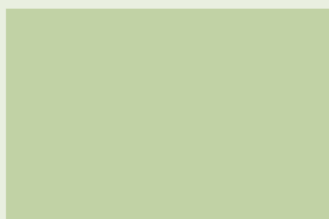
- **Category 1: The Urban Area and Main Towns**
 - Grimsby and Cleethorpes (dealt with together)
 - Immingham
- **Category 2: Western and Southern Arc Villages**
 - Healing
 - Humberston
 - Laceby
 - New Waltham
 - Waltham

• Category 3: Rural Settlements

- Ashby-cum-Fenby
- Aylesby
- Barnoldby-le-Beck
- Beelsby
- Brigsley
- East and West Ravendale
- Habrough
- Hatcliffe
- Hawerby-cum-Beesby
- Irby-upon-Humber
- Stallingborough
- Wold Newton

- 2.17 To begin this process, and to create a defined area for the assessment work, the landscape area around these settlements covers the immediate and local landscape close to the urban edge. An initial offset of approximately 1km was taken around the perimeter of each Category 1 and 2 settlement area. This exercise was then refined so that the extent and boundary of the landscape area followed logical physical features such as field boundaries, roads and watercourses. A similar approach was used for the Category 3 settlements, albeit given their smaller scale a landscape area of approximately 0.5km has been assessed around the perimeter of these settlements.

- 2.18 These landscape areas have been divided into distinct and logical Landscape Sub Units, based upon a combination of factors such as land use, physical boundaries and features as well as landscape character. These Sub Units have, in some cases, been subject to modification and verification during the field surveys.



Stage 2 - Field Survey

2.19 Comprehensive field surveys were carried out during June and July 2014 and have been updated in spring 2026. This was based upon the initial mapping from the desk study described above and the Stage 1 analysis. A field survey sheet was prepared, based upon the following aspects as stated in Topic Paper 6⁵ to enable an overall assessment of sensitivity of each Landscape Sub Unit as a precursor to making judgements about capacity:-

- *"Impacts upon particular aspects of landscape character including, landform, land cover, exposure and settlement pattern;*
- *Impacts on aesthetic aspects such as scale, pattern, movement and complexity of the landscape;*
- *Potential visibility of the development and the number of people of different types who are likely to see it;*
- *Scope to modify visual impacts by various appropriate forms of mitigation measures."* (5.5)

2.20 The field sheet has been used to inform the overall assessment. It provides a concise, structured and consistent record of baseline information, supported by a commentary that describes the character of the Sub Unit together with representative photographs to provide a visual record. The field sheets include the following:-

- Key landscape characteristics;
- Quality and condition;
- Overall sensitivity to change and capacity to accommodate development;
- Suitability for development and mitigation measures; and
- Other land use and management opportunities.

2.21 Landscape Character and Visual Amenity⁶ within each Landscape Character Sub Unit has been assessed. To assist the assessment exercise the field sheets are designed to record, and give a value to, each of the following criteria using a scale of 1 (High), 2 (Medium) and 3 (Low):-

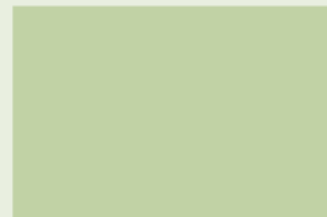
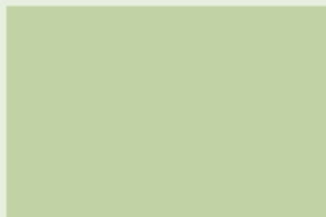
- Landscape Character
 - Landform, Land Use;
 - Land Cover and Vegetation;
 - Scale/Complexity;
 - Landscape Features;
 - Landscape Condition;
 - Townscape Setting/Urban Edge Character;
 - Tranquillity;
 - Landscape/Ecological/Historical Designations; and
 - Prevention of Coalescence, Recreational Use of the Landscape.
- Visual Amenity
 - Openness/Visibility; and
 - Key Views.

2.22 No absolute conclusion should be drawn from the values given, either individually or collectively. The values given for each criteria are simply an aid in which to help guide the judgements that are reached in terms of the relative landscape sensitivity of each Sub Unit, and this, in itself, only provides a broad indication of its overall potential capacity to accommodate change. Reasoned professional judgement has been at the forefront of this assessment exercise in accordance with the *Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (April 2013)* which state that:-

"While there is some scope for relatively objective matters...assessment must rely on qualitative judgements...there is a need for judgements that are made to be reasonable and based on clear and transparent methods..." (2.23, 2.24).

⁵ Landscape Character Assessment Guidance for England & Scotland, Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity

⁶ "The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area" (GLVIA3)



Sensitivity

- 2.23 In order to provide a judgment on sensitivity for each Landscape Sub Unit the following criteria and thresholds have been used:-

- **High:** Landscape areas of particularly distinctive or very positive character, with valued landscape features;
- **High - Medium:** Landscape areas of some distinctive or positive character, with some valued landscape features;
- **Medium:** Landscape areas of a reasonably positive character, with limited valued landscape features;
- **Medium - Low:** Landscape areas of some character, with few valued landscape features and evidence of some degradation of character or features; and
- **Low:** Landscape areas of a weak character, with very few, if any, valued landscape features value and evidence of degradation of character or features.

Capacity

- 2.24 In relation to judging landscape capacity and the capacity for the landscape to absorb change, Topic Paper 6 states the following:-

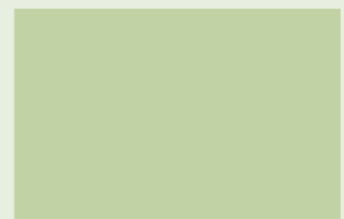
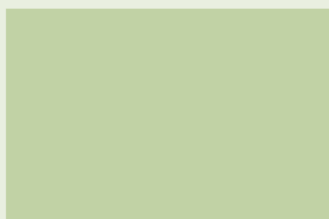
“Judgements can be made in terms of the relative value attached to different landscapes... based on the range of criteria set out in the Landscape Character Assessment guidance. These include landscape quality and condition; perceptual aspects such as scenic beauty, tranquillity, rurality, remoteness or wildness; special cultural associations; the presence and influence of other conservation interests... Weighing up all these factors may allow the relative value of particular landscapes to be assessed as an input to judgements about capacity. (6.4)

Reaching conclusions about capacity means making a judgement about the amount of change of a particular type that can be accommodated

without having unacceptable adverse effects on the character of the landscape, or the way that it is perceived, and without compromising the values attached to it. This step must clearly recognise that a valued landscape, whether nationally designated or not, does not automatically, and by definition, have high sensitivity. Similarly...landscapes with high sensitivity do not automatically have no, or low capacity to accommodate change and landscapes of low sensitivity do not automatically have high capacity to accept change. Capacity is all a question of the interaction between the sensitivity of the landscape, the type and amount of change, and the way that the landscape is valued. (6.5)

- 2.25 *It is entirely possible for a valued landscape to be relatively insensitive to the particular type of development in question because of both the characteristics of the landscape itself and the nature of the development. It may also be the case that the reasons why value is attached to the landscape are not compromised by the particular form of change. Such a landscape may therefore have some capacity to accommodate change, especially if the appropriate, and hopefully standard, steps are taken in terms of siting, layout and design of the change or development in question. For example, a capacity study may show that a certain specified amount of appropriately located and well-designed housing may be quite acceptable even in a highly valued and moderately sensitive landscape. This is why capacity is such a complex issue and why most capacity studies need to be accompanied by guidelines about the ways in which certain types of change or development can best be accommodated without unacceptable adverse effects”. (6.6)*

- 2.26 In order to provide a reasoned judgment on the capacity for each Landscape Sub Unit to accommodate change (development) the following criteria and thresholds have been used:-



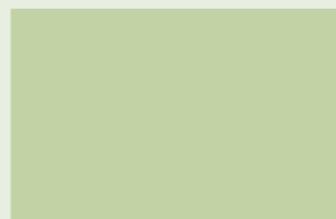
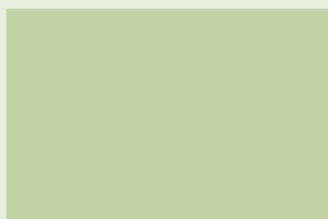
- **High:** Landscape areas that are potentially tolerant of significant change;
- **High – Medium:** Landscape areas that are potentially tolerant of change;
- **Medium:** Landscape areas that are potentially tolerant of some change;
- **Medium - Low:** Landscape areas that are potentially tolerant of limited change; and
- **Low:** Landscape areas that are potentially tolerant of very limited change.

- 2.27 The complex interaction of the landscape components within each Landscape Sub-Unit has been given due consideration in terms of sensitivity and capacity. For example, one Sub-Unit may be visually well contained from the wider landscape on account of settlement, land form and tree cover, but comprise a number of sensitive ecological features or highly valued elements. Whereas another Sub Unit may be visually more open and prominent within the wider countryside but lacking in inherent landscape features of value as a result, for example, of agricultural intensification. Both examples potentially result in a similar value and judgment.
- 2.28 Throughout the process the judgments reached in terms of descriptions on landscape character and visual amenity, as well as on sensitivity and capacity have been made by experienced Chartered Landscape Architects. Also as part of the process, the judgments reached have been examined as part of a peer review.
- 2.29 The survey data provided on each Stage 2 field sheet has been subsequently drafted into a policy sheet for each Landscape Sub-Unit as outlined below, these are included at **Section 6** while the completed field sheets for Stage 2 are included at **Section 8, Appendix B**.

Stage 2: Sensitivity and Capacity of the North East Lincolnshire Settlements

Policy Sheets: Landscape Sub-Unit

- 2.30 A total of 45 Landscape Sub Units within Categories 1 - 3 are identified across the study area. Each of these Landscape Sub Units has been described and their landscape character captured through written text, supported by photographs as appropriate. The analysis follows a clear format under the following headings:-
- **Description of Sub Unit;**
 - **Key characteristics;**
 - **Overall Sensitivity to Change;**
 - **Capacity to Accommodate Development;**
 - **Potential for Built Development; and**
 - **Land Use/Management/Green Infrastructure (Opportunities and Recommendations.**
- 2.31 A map has been prepared using GIS mapping to show the location and boundaries of each Landscape Sub Unit together with their sensitivity and capacity. These are included at **Section 7, Figures 7 and 8**. Further sensitivity and capacity plans specific to each Category and settlement area (Categories 1 and 2 only) are included at **Figures 9 – 26**.
- 2.32 It is intended that the policy sheets produced for each Landscape Sub Unit should be used to inform and help define future planning policy, as well as providing guidance as part of the decision making process for future planning applications. However, it is important to note that any future development proposal with regards to its type, form and scale would need to be considered on its individual merit based on appropriate technical work to include, amongst other issues, a consideration of landscape, ecology and heritage matters. The study also provides information and guidelines for prospective developers and land managers.





1 INTRODUCTION

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4 OVERVIEW

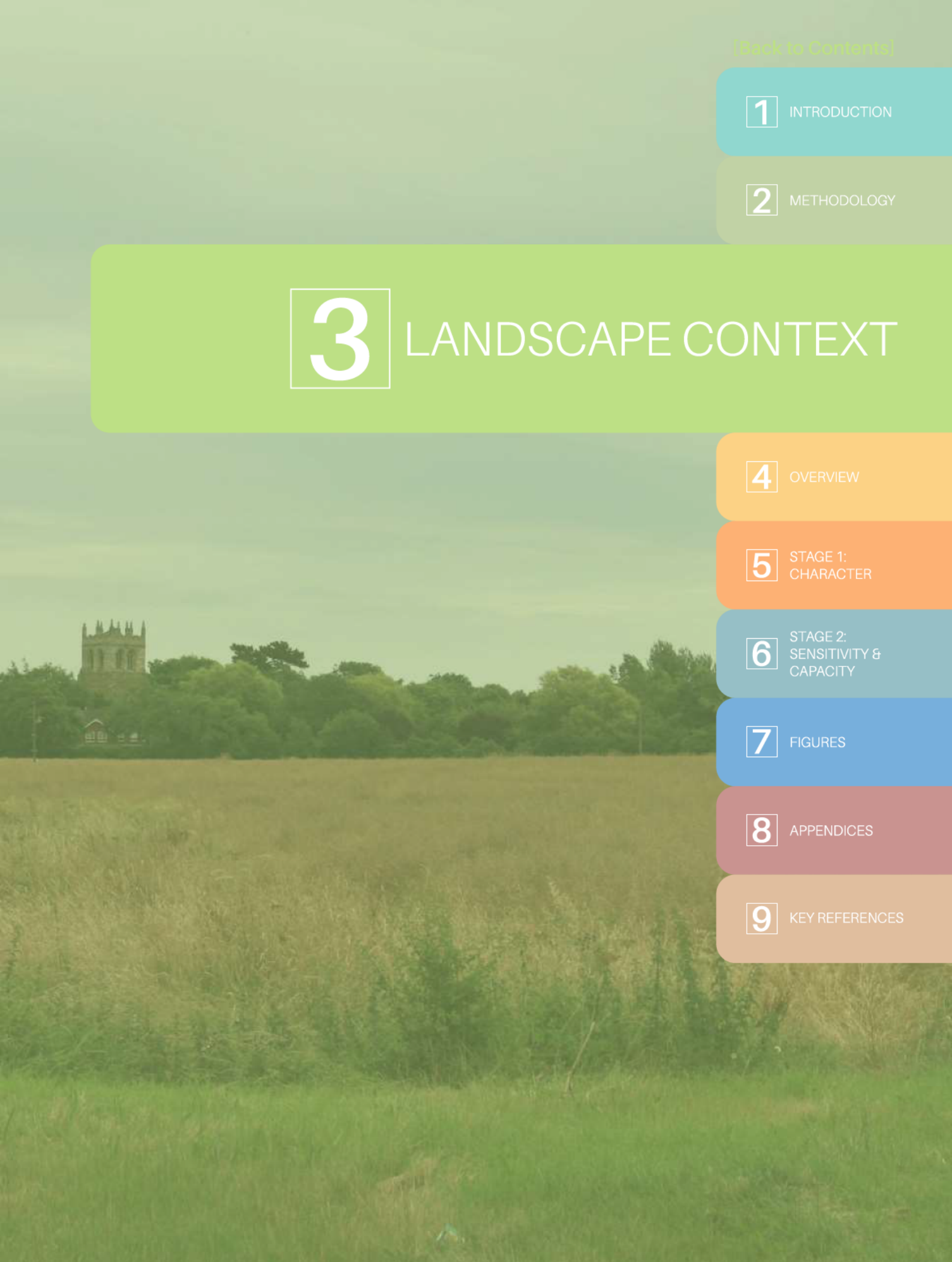
5 STAGE 1:
CHARACTER

6 STAGE 2:
SENSITIVITY &
CAPACITY

7 FIGURES

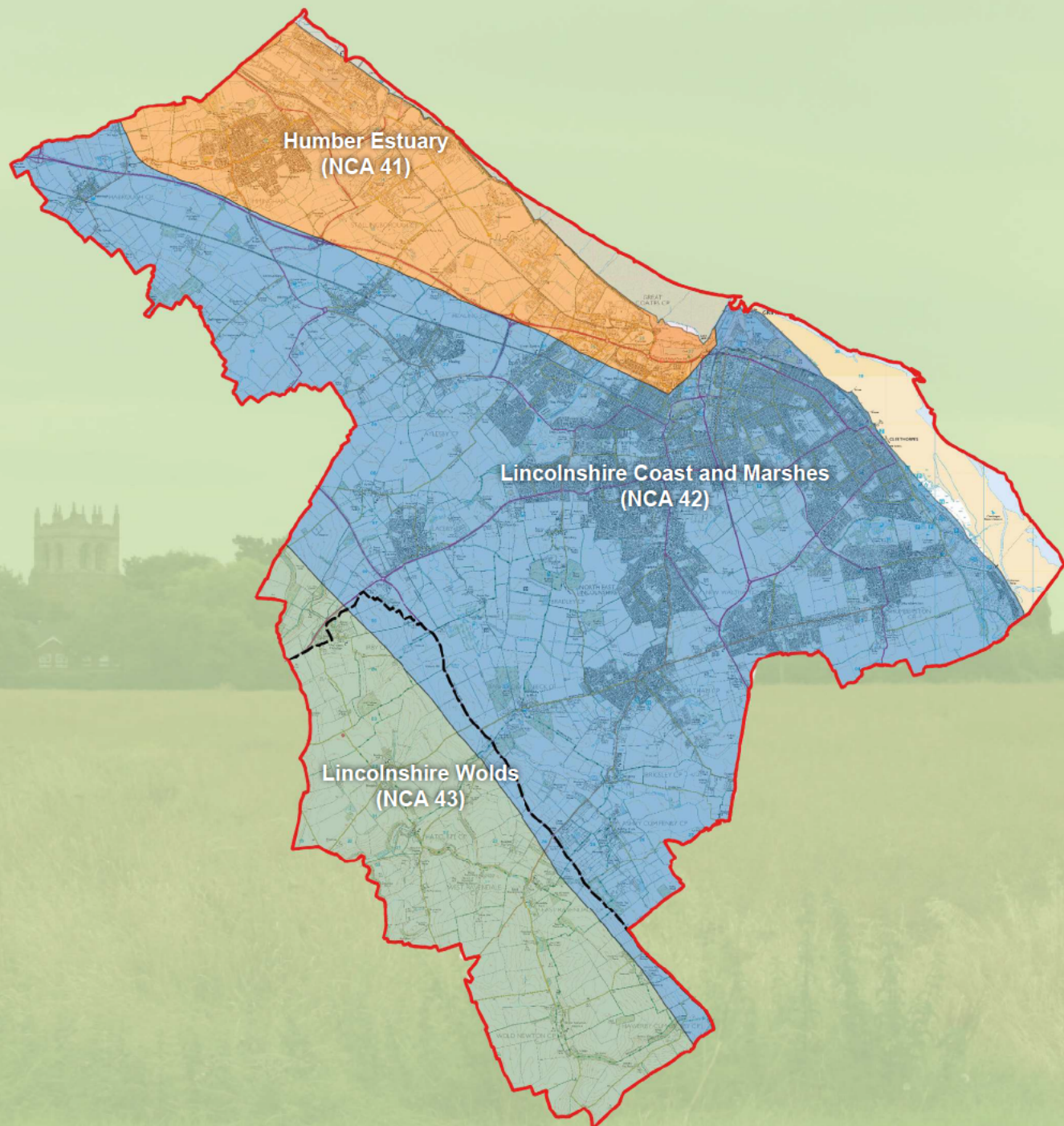
8 APPENDICES

9 KEY REFERENCES



3 LANDSCAPE CONTEXT

National Character Areas Key Plan



North East Lincolnshire Borough covers 192 square kilometres (74 square miles) of which 41.5 square kilometres (16 square miles) is covered by the Lincolnshire Wolds National Landscape designation for its landscape quality.

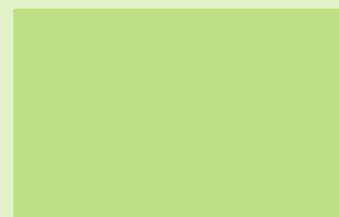
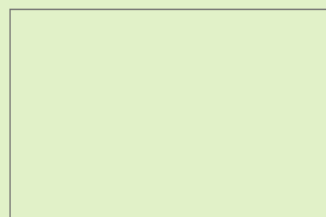
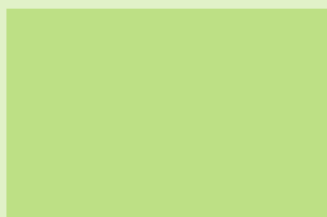
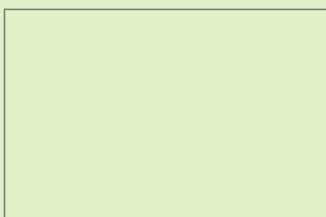
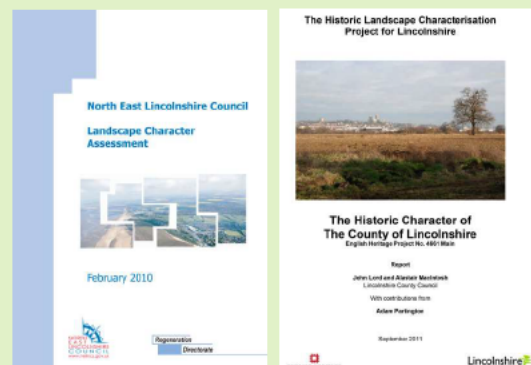
Background

3.1 North East Lincolnshire Borough covers 192 square kilometres (74 square miles), the extent of which is illustrated at **Section 7, Figure 1**. The area is one of contrast and diversity with two of the country's major ports at Grimsby and Immingham, foremost national and international companies in the South Humber Bank employment area and one of the east coast's most popular seaside resorts at Cleethorpes. The coastal area is also internationally recognised as a natural habitat of importance through its designation as a Site of Special Scientific Interest, Special Protection Area, Special Area of Conservation and Ramsar Site for migrating birds and waterfowl. Inland are quiet villages and pleasant countryside including the Lincolnshire Wolds, a designated National Landscape (NL), which covers 41.5 square kilometres or 16 square miles of the Borough.

3.2 The population of the Borough is approximately 160,000 with the main centres of population having been established close to the banks of the Humber. More than three-quarters of the Borough's population live in the main urban area of Grimsby and Cleethorpes while some 15% live within the western and southern arc settlements of Humberston, Waltham, New Waltham, Laceby and Healing. Immingham, an independent town surrounded by large scale employment and industrial development, accommodates approximately 6% of the area's population. The remaining 2% of residents live in the rural area with over half of these in Stallingborough and Habrough. A proportionately small number of people reside in the small villages and hamlets scattered throughout the rural area.

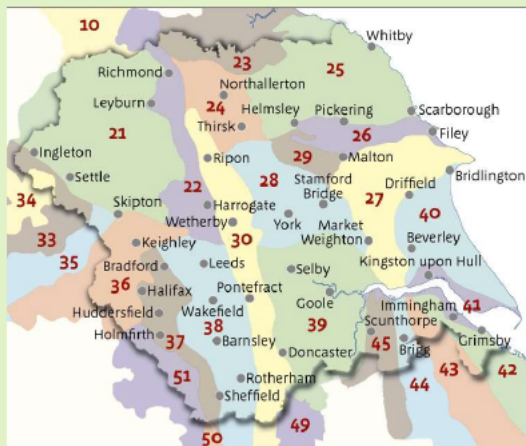
3.3 Published landscape characterisation studies relating to the landscape character of North East Lincolnshire, undertaken at both national and county level, provide the context for this assessment and include:-

- **National Character Area Profiles (2026);**
- **Landscape Character Assessment (2010) published by North East Lincolnshire Council;**
- **Lincolnshire Wolds Area of Outstanding Natural Beauty Management Plan 2018 - 2023 published by the Lincolnshire Wolds Countryside Service and the Lincolnshire Wolds Joint Advisory Committee; and**
- **The Historic Landscape Characterisation Project for Lincolnshire (2011) published by Lincolnshire County Council.**

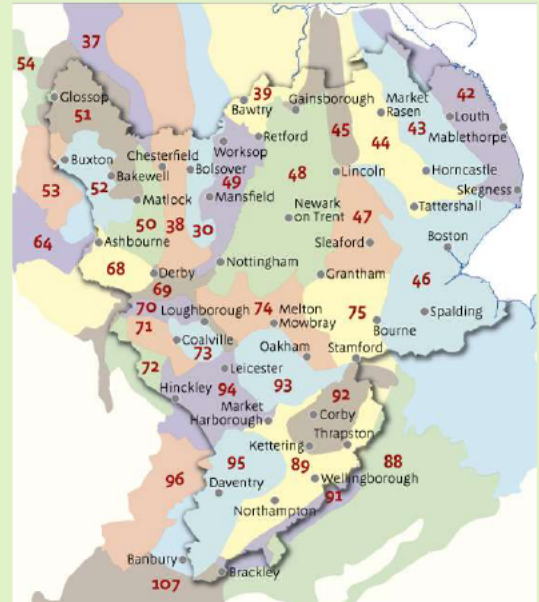


National Context

- 3.4 Natural England has undertaken landscape characterisation and broad scale assessment of the entire country. This included the assessment of physical, historic and cultural influences, buildings and settlement, land cover and changes in the landscape to formulate 159 National Character Areas (NCAs). These are published as a series of NCA Profiles which are grouped into the main geographical zones of England. The NCA Profiles applicable to North East Lincolnshire Borough are included within two geographical zones; NCAs in Yorkshire and the Humber; and NCAs in the East Midlands as indicated below and at **Figure 4**.



National Character Area 41: Humber Estuary



National Character Area 42: Lincolnshire Coast and Marshes
National Character Area 43: Lincolnshire Wolds

- 3.5 A summary of the NCAs within North East Lincolnshire is outlined over the following pages, however the individual NCA Profiles should be referred to for more detailed information (refer to **Key References, Section 9**):-

NCA 41: Humber Estuary

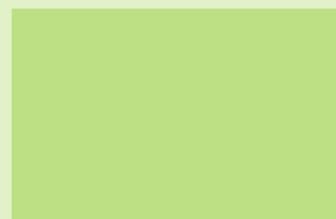
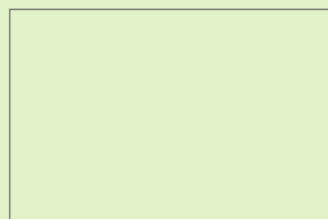
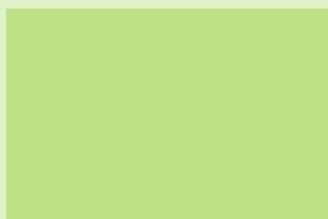
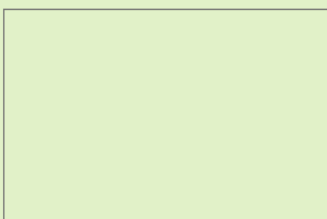
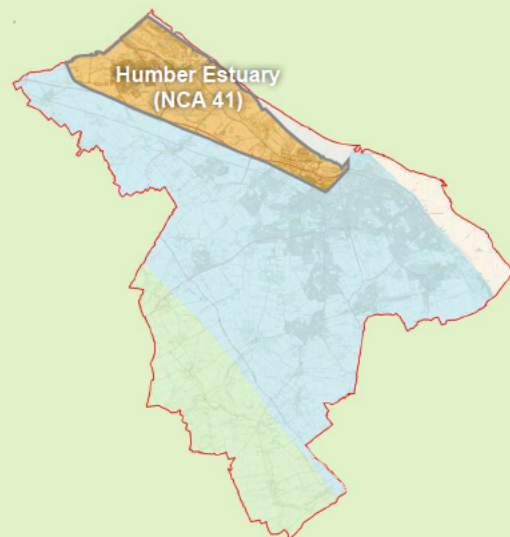
- 3.6 The Humber Estuary NCA covers the northern part of the Borough encompassing the town of Immingham. It is a relatively small area within the overall NCA however a number of the characteristics apply.

"The Humber Estuary NCA focuses on the open and expansive waters of the Humber where it flows into the North Sea and the adjacent low-lying land... This is a low-lying estuarine landscape, with extensive stretches of intertidal habitats including mudflats, salt marsh and reedbeds, coastal dunes and wetlands along the side of the estuary. The estuary is of international significance, as a Ramsar site and is designated as a Special Protection Area for the large flocks of overwintering, migratory and breeding birds. The estuary is also designated as a Special Area of Conservation for its geomorphology and range of intertidal habitats, its lampreys and breeding colonies of grey seals. The area is particularly important for its dynamic geomorphological processes...."

The adjacent land has largely been reclaimed, resulting in large fields bounded by ditches, which form high-quality arable cropping land. There is very little woodland in the rural areas, where the many ditches form important networks linking the few other semi-natural habitats.

There are strong contrasts within this landscape. Much of it is open and expansive, with long views and tranquil and remote places...or quiet rural areas dominated by farming. These areas contrast with the large towns such as Immingham, with the industrial complexes, and with the estuary itself which is a busy trading route.

Key challenges include integrating the development pressures associated with the towns and ports with the protection and enhancement of the landscape and the internationally significant habitats and species. Rising sea levels are another big challenge which, when combined with flood flows in the many big rivers that flow into the estuary, can cause major flood events. Addressing the coastal squeeze that is affecting the important intertidal habitats is another challenge, as is understanding and allowing the natural dynamic estuarine processes..."



3 LANDSCAPE CONTEXT

- 3.7 **NCA 42: Lincolnshire Coast and Marshes**
The Lincolnshire Coast and Marshes NCA encompasses the majority of the Borough landscape and, although it is a relatively small part of the overall character area, several of its characteristics are directly applicable.

"This area is characterised by a wide coastal plain which extends from Barton-upon-Humber in the north, across to Grimsby at the mouth of the Humber and south to Skegness. The area is bounded by the North Sea along its eastern edge and by the Lincolnshire Wolds to the west. The wide coastal plain incorporates three distinctively different but closely interconnected areas which run broadly parallel with the edge of the Wolds. To the west is the Middle Marsh which comprises a softly undulating arable landscape with a greater number of woodlands and hedgerows than other areas. To the east lies the Outmarsh, an open landscape of arable land, mixed with rich pasture divided by narrow dykes. The Outmarsh has changed in character and was once as grassy as Romney Marsh or the Somerset Levels. It has gradually turned into an area which is predominately arable, particularly since effective pump drainage was introduced in the 2nd half of the 20th century, following the 1953 floods.

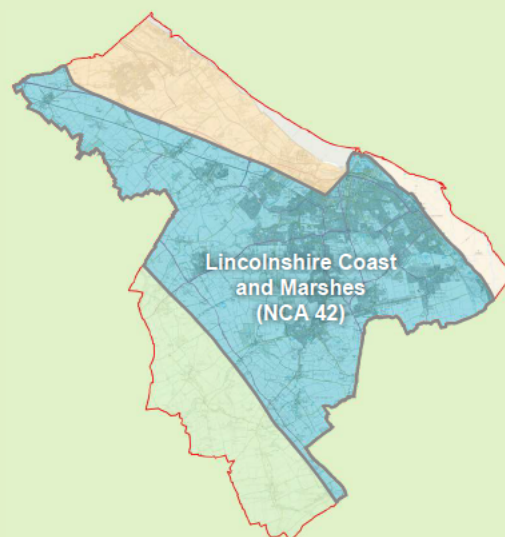
Finally, there is the open, wild and ever-changing landscape of the coast itself, which is subject to continuous erosion and accretion. It has extensive stretches of intertidal habitats including salt marsh, coastal dunes and wetlands...Half of the coast is internationally recognised for its biodiversity and in particular the bird species that it supports. There are adjacent estuaries; to the north the Humber Estuary and to the south, the Wash and the area is of international significance as a Ramsar site, with half of the NCA coast designated as a Special Protection Area for the large flocks of overwintering migratory and breeding birds. Several National Nature Reserves follow this part of the Lincolnshire coast and some key species exist, including an important breeding colony of grey seals. Most settlement is concentrated on the coast, around Grimsby and the resorts of Skegness, Mablethorpe and Cleethorpes, whose fine sandy beaches and low rainfall have attracted holiday-makers for generations. The extensive caravan parks, particularly around Skegness, are very distinct from the rest of the area. There are no cities within the NCA; however, the settlement

pattern is very built up around Grimsby which is an important trading route at the mouth of the Humber and was once the largest fishing port in the country. Southwards from Grimsby the settlement pattern is dispersed while inland there are nucleated settlement patterns, with many smaller villages...

Much of the agricultural land of the Outmarsh has been reclaimed from the sea over many centuries. Food production is important within the NCA with cereals, root crops, oilseed and a very small amount of vegetables grown. There is also mixed farming and pastoral land grazed by cattle and sheep with areas of grazing marsh.

A complex series of rivers flow slowly east across the plain to the sea, some natural, some manmade, such as the many drains and ditches which combine to form important networks linking with other semi-natural habitats. The chalk streams which occur are important for their unique biodiversity. The underlying chalk bedrock acts as a major aquifer, supplying water to homes and industry in the wider region.

The investment in coastal protection has been significant on this part of the east coast and includes hard defences...The rising sea levels, when combined with river flooding can potentially cause major flood events in the low-lying areas and there is a need for combined action in coastal areas to address flood risk. Major flooding has occurred in the area and fluvial flooding is managed by a network of over 30 pumping stations across the NCA..."



NCA 43: Lincolnshire Wolds

- 3.8 The Lincolnshire Wolds NCA covers the southernmost part of the Borough which forms a small section of the overall NCA and designated National Landscape however several characteristics apply.

"The Lincolnshire Wolds NCA is a long, narrow band of rolling agricultural land dominated by a west-facing chalk escarpment approximately 50m high. The area is characterised by a range of varied yet unified features including open, arable plateau hill tops, chalk escarpments, deep dry valleys with sinuous beech woods and isolated ash trees punctuating the skyline. The area is sparsely settled with many villages hidden within the folds of the landscape and modest country houses and farmsteads.

The landscape of the Wolds is strongly influenced by the underlying geology and the later glacial action that reshaped it. The solid geology is largely made up of a sequence of sandstones, clays, sandy limestones, ironstones and chalk deposited between 155 and 95 million years ago during the late Jurassic and Cretaceous periods. The chalk is capped in places by glacial deposits, while glacial meltwater channels have craved away parts of the Wolds to leave steep valleys. To the south-east, the overlying glacial till creates a rounded edge to the Wolds, and towards the southern end the chalk cap has been removed to reveal the Lower Cretaceous sands, clays and ironstones which form a series of low hill with gravel terraces. A variety of local materials, some of which are used as building material, are found across the area including sandy limestone, sandstone, ironstone and chalk, with striking red chalk being notable.

The soils closely reflect the underlying geology. Shallow, lime-rich soils predominate across the chalk plateau but many valley bottoms have lime-rich loamy soils. Sandy loams and heavier clay soils and localised wet areas in valleys reflect local sandstone geology and Jurassic Kimmeridge Clays.

Woodland cover is generally sparse but the trees and woods remain an important component of the landscape. The open skies and long views add to the character, creating an area recognised as a place of tranquillity and inspiration.

Sixty-two percent of the area lies within the nationally protected landscape of the Lincolnshire Wolds Area of Outstanding Natural Beauty,⁷ which was designated in 1973 in order to conserve and enhance the natural beauty, outstanding views and tranquillity.

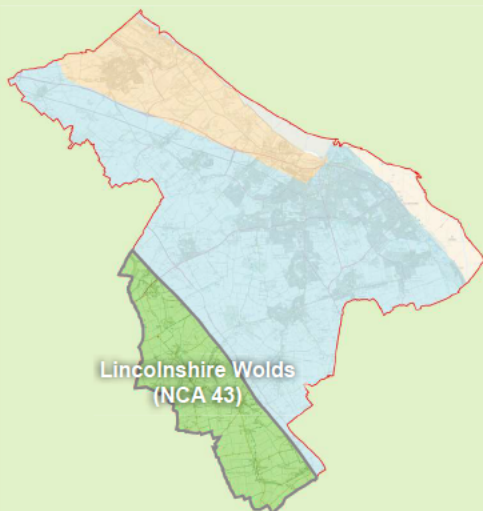
The NCA is an important food producing area and consists of a commercially farmed, predominantly arable landscape. Semi-natural habitats cover only a small area and are often under pressure. There is a nationally important assemblage of farmland birds which include skylark, lapwing, turtle dove and tree sparrow.

The chalk aquifer is one of the main aquifers of the East Midlands, providing a major regional resource of freshwater. The resulting springs and chalk streams and interconnected blow wells found throughout the Lincolnshire Wolds provide a nationally important wildlife habitat.

The Wolds is a treasure trove of heritage dating back many thousands of years. There are many ancient burial sites with monuments including Neolithic long barrows and bronze-age round barrows. There is also evidence of Roman occupation and a number of Roman roads are still in use. An interesting aspect of the historic environment is the high concentration of deserted medieval villages and the remains of these are often still visible in the landscape. There are over 100 abandoned settlements, representing one of the highest concentrations in the country. Remnants of ridge and furrow can also be seen, showing a legacy of medieval ploughing and cultivation in an open field system. Another aspect of the historic environment is numerous moats indicating a defensive purpose...

The area has inspired many artists, writers and poets including Tennyson... This part of Lincolnshire attracts increasing numbers of visitors and a variety of cultural and community activities continue today in celebration of the Wolds' rich local heritage."

⁷ Now renamed the Lincolnshire Wolds National Landscape.



Lincolnshire Wolds Area of Outstanding Natural Beauty Management Plan 2018 - 2023

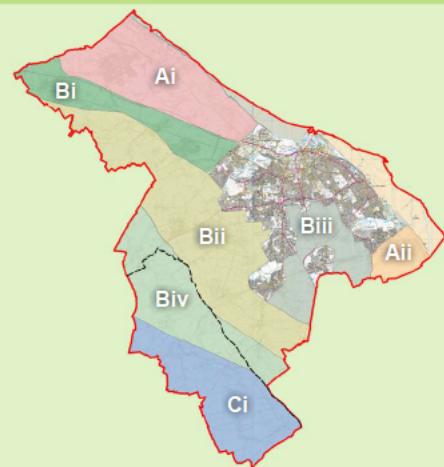
- 3.9 This document comprises of a management strategy and action plan to ensure the long term protection and enhancement of the National Landscape (NL). It identifies the qualities and significance of the NL together with the importance of its features and sets a vision for the future of the designated landscape. The management strategy includes policies which incorporate specific objectives to help achieve this vision while the five year action plan sets out what needs to be done, when and by whom in order to achieve these objectives and the overall vision. The document also sets out how the condition and management of the NL will be monitored.

Local Context

- 3.9 The *North East Lincolnshire Landscape Character Assessment* was prepared in 2010 by North East Lincolnshire Council. The work is based upon a previous landscape character assessment of Humberside County as well as the Natural England NCAs. The assessment remains applicable and has formed the basis for this study.
- 3.10 The NCAs are sub-divided into six Local Landscape Types (LLTs) which are described as, "units of land with distinct patterns of land use, topography, enclosure, ecology and vernacular". These are:-

Ai – Humber Estuary, Flat Open Farmland
Aii – Humber Estuary, Flat Open Farmland

Bi – Lincolnshire Coast and Marshes, Open Farmland
Bii – Lincolnshire Coast and Marshes, Wooded Open Farmland
Biii – Lincolnshire Coast and Marshes, Flat Open Farmland
Biv – Lincolnshire Coast and Marshes, Sloping Farmland
Ci – Lincolnshire Wolds, High Farmland



North East Lincolnshire Landscape Character Assessment Local Landscape Types

The Historic Landscape Characterisation Project for Lincolnshire

- 3.11 This study involved collation of detailed data on present and historic land use across Lincolnshire. The data was made available in GIS format and is referred to as part of the desk top study to assist in identifying landscape patterns and more sensitive historic landscapes. While some elements of the data are presented within this report, the *Historic Landscape Characterisation Project* should be referred to separately for more detailed and specific reference information.

Surrounding Authorities and Other Reference Material

- 3.12 The North East Lincolnshire Borough abuts the district boundaries of North Lincolnshire to the north, West Lindsey, located to the west, and East Lindsey to the south. Landscape Character Assessments have been undertaken for both East and West Lindsey districts and have been referred to in order to identify any potential cross boundary issues.

Other reference material which is helpful in understanding the local landscape character includes information that has been prepared relating to *Chalk Stream Management* (refer to Key References included at Section 9).

1 INTRODUCTION

2 METHODOLOGY

3 LANDSCAPE
CONTEXT

4 OVERVIEW

5 STAGE 1:
CHARACTER

6 STAGE 2:
SENSITIVITY &
CAPACITY

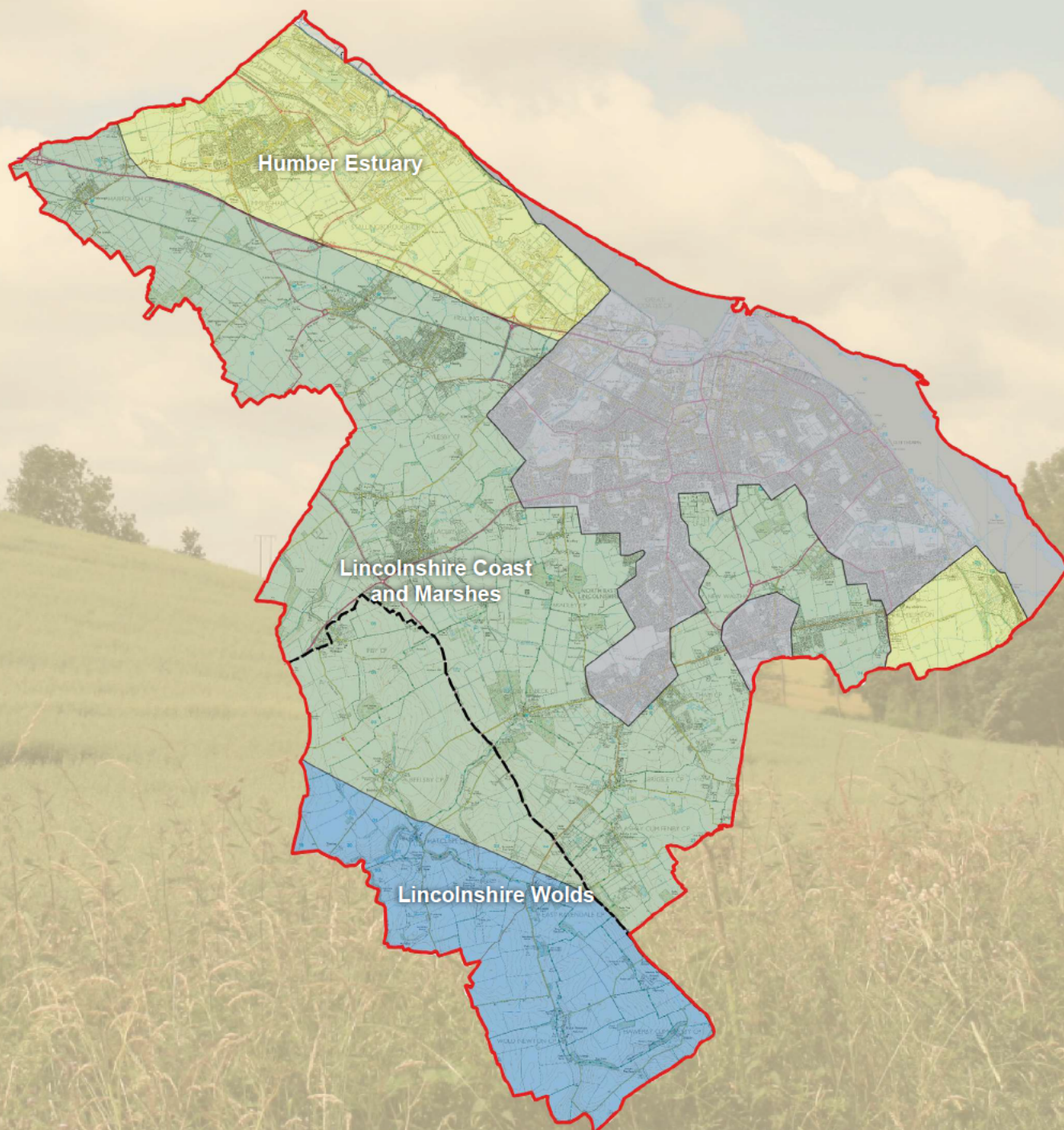
7 FIGURES

8 APPENDICES

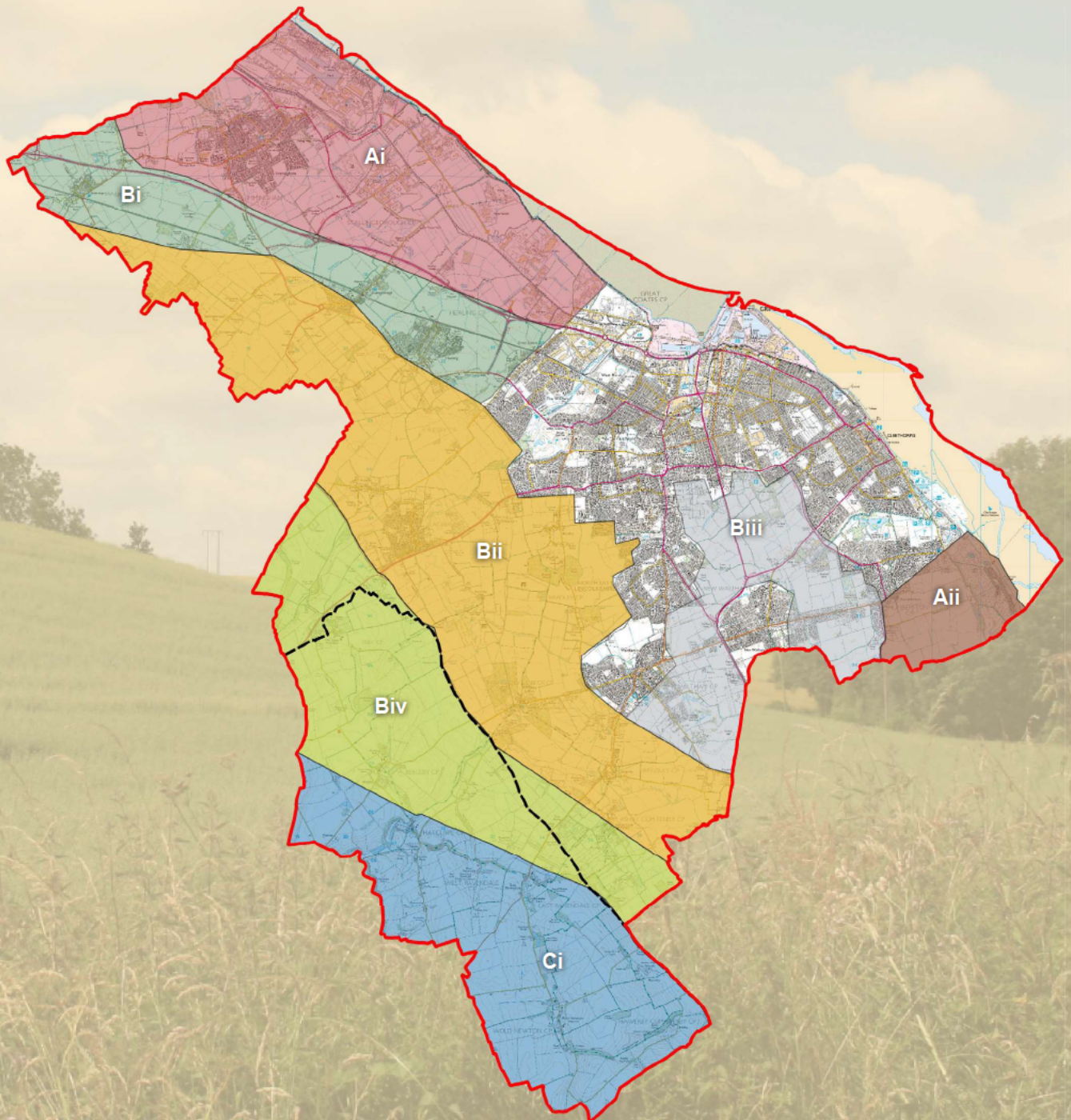
9 KEY REFERENCES

4 OVERVIEW OF THE LANDSCAPE CHARACTER OF THE BOROUGH

North East Lincolnshire Character Areas (2010) Key Plan



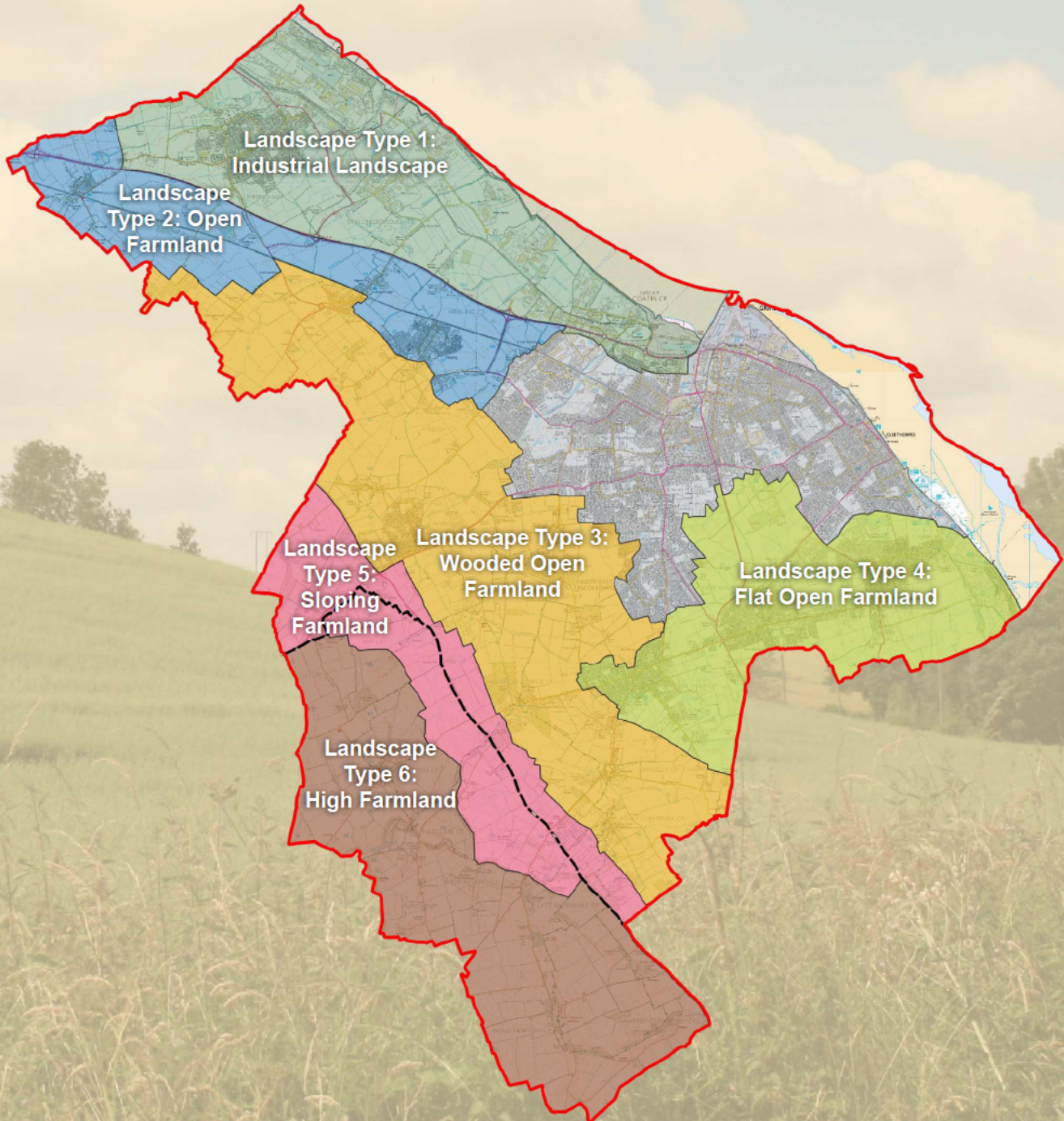
North East Lincolnshire Local Landscape Types (2010) Key Plan



4 OVERVIEW OF THE LANDSCAPE CHARACTER OF THE BOROUGH

North East Lincolnshire Landscape Types Key Plan

(boundaries have been based upon North East Lincolnshire Local Landscape Types (2010) and refined slightly)



The following overview is extracted from the North East Lincolnshire Landscape Character Assessment (2010) .

4.1 The following overview of the three character areas covering the Borough is extracted from the *North East Lincolnshire Landscape Character Assessment (2010)* providing a summary of the underlying physical factors which fundamentally affect the landscape character of the Borough. These are the physical, human and ecological influences as well as visual characteristics of the landscape.

4.2 The following figures should be referred to throughout this section:-

- Figure 29: Regionally Important Geological and Geomorphological Sites
- Figure 30: Topography
- Figure 31: Ecological Designations
- Figure 32: Land Use
- Figure 33: Settlement Patterns
- Figure 34: Historic Landscape Designations

HUMBER ESTUARY

Physical Influences

4.3 The Humber Estuary is a recent geomorphological feature; its present form has been created since the last Ice Age by processes that occurred during the late Quaternary Period. At its maximum the ice advanced along the eastern edge of the Wolds plugging the mouth of the estuary and impounding a large lake over the Vale of York and the Goole Crowle lowlands. In the post-glacial period this lake, now unplugged, discharged eastward, through a gap approximately at the position of the Humber Bridge, across the muddy boulder clay wastes. It formed a deep channel with a side shallow valley flowing out into the North Sea which at this time was dry. As sea level rose, the wide valley became flooded and the estuary slowly developed, so that around 6000 years ago the estuary's current form was largely established.

4.4 Many of the poorly drained alluvial soils around the estuary are now of high agricultural value. This is largely due to the extensive drainage improvements carried out over the past few centuries, including the cutting of new drainage channels, enlarging and diverting existing watercourses, construction of flood alleviation berms, sluices and installation of pumps. Soils of the area were also extensively modified from the mid-18th century onwards by the practice of warping, i.e. the seasonal impoundment of tidal silts. This practice owed much to the influence of Dutch engineers. Warping increased the fertility of the land such that most of the land close to the estuary is now of grade 1 and 2 status and is used for arable, root crop and market garden production. Although warping is no longer practised, the drains remain useful for land drainage and are still locally prominent by virtue of their raised grass flood defence embankments. It has been estimated that around 78% of the estuary's original salt marsh has been converted to arable production in recent centuries, although a substantial area has been preserved. In addition, over 5000 hectares of intertidal wetland has been reclaimed.



- 4.5 The hydrological dynamics of the Humber Estuary are immensely complex and its future development very difficult to predict, depending as it does to a large extent on relative sea level changes that may occur. It is likely, if present predictions of global warming and its consequences prove correct, that the estuary and its environs may be about to undergo a major transformation. Many commentators raise concern about the age and condition of many of the estuary's flood defences. Their deteriorating condition, combined with anticipated sea level rise, is increasing the potential for overlapping and flooding. Current management plans for the estuary seek ways to reconcile these threats through policies such as managed realignment. These are regarded as soft engineering coastal defence techniques and may include sustainable flood defence by recreating eroded salt marsh and mud flat habitat. The Humber is a pioneering estuary in this regard. The long term issues of flood defences around the estuary is being addressed under the Environment Agency's Flood Risk management Strategy 2008. In North East Lincolnshire the strategy contains plans to improve the defences as necessary. (4.1.4 – 4.1.6)

Human Influences

- 4.6 The Humber Estuary has provided a resource for settlement and industry as well as a means of communication and trade for several thousand years. This fact is reflected in the presence of approximately 19 Scheduled Monuments and archaeological sites through the whole estuary area^a. Tidal erosion has exposed archaeological finds suggesting considerable human activity during prehistoric times. Of these, by far the most important are the few Bronze Age boats and several log boats that have been discovered on the Humber foreshore. These boats have contributed to the knowledge of early boat

building in north-west Europe. Additional archaeological and palaeoecological evidence suggests that early settlement clustered around the higher land above the estuary. These elevated and drier positions allowed exploitation of the low-lying surrounds and with gradual clearance of the woodlands allowed the development of pastoral and small-scale agriculture.

- 4.7 The Humber was a northern frontier of the Roman Empire for some 20 years. New Romano-British settlements grew along the Humber, taking advantage of the new trading routes and by the 3rd and 4th centuries the area was densely populated and wealthy. The Humber continued to play an important role in the development of trade and commerce throughout the medieval period and contributed to the growth and prosperity of a number of market towns. The 16th and 17th centuries saw the fortunes of many of these towns begin to fluctuate due to a decline in water borne trade, competition between market centres, localised famines or epidemics and improved land based transport and communications. Selective urban growth continued during the 17th century often favouring those towns with access to water communications.
- 4.8 In the 18th century, widespread enclosure and improvements in farming methods significantly increased agricultural productivity in the region. Extensive drainage improvements and warping brought most of the soils to grade 1 and 2 status and the area prospered. Similar to other areas in the vicinity many buildings are constructed from locally produced red brick and pantile materials. Proximity to the coast also results in the distinctive use of cobble and brick-cobble materials.

^a Approximate estimate for the number of Scheduled Monuments and archaeological sites across the wider Humber Estuary area, rather than within North East Lincolnshire.



OVERVIEW OF THE LANDSCAPE CHARACTER OF THE BOROUGH

4

- 4.9 Erosion of the older patterns of urban development began in the 20th century with the spread of industry and the establishment of the port, oil storage and chemical industries at Immingham and along the 'south bank'. (4.1.7 – 4.1.11)

Ecological Influences

- 4.10 The area is well known for its nature conservation value. Practically all the intertidal mud flats are designated as part of the Special Protection Area on the basis of their European value for birds. Although the estuary edge supports much industry and urban development and receives high inputs of agricultural chemicals by way of its feeder rivers, nevertheless the extent of mud and the volume of through-flow mean that a rich invertebrate fauna can still be supported.
- 4.11 Above the high water mark most land is of lesser conservation value, having been subject to extensive industrial or agricultural improvement. Within these areas however many features of local ecological importance persist. Such features include relict lines of salt marsh and reed bed vegetation along tidal channels, marshy grassland and water-filled clay pits. Left over from the brick industry these pits support open water, reed bed, scrub and grassland and are of ornithological value.
- 4.12 Agricultural land within the character area is a secondary habitat for wintering waders and waterfowl, offering winter feed and high tide roosting. (4.1.12 – 4.1.14)

Visual Characteristics of the Landscape

- 4.13 The Humber Estuary is an expansive, flat and low-lying landscape in which agriculture, industrial/urban and semi-natural habitat land uses combine to provide local variety in an otherwise simple, sometimes bleak landscape. The estuary itself can sometimes present a somewhat sombre appearance, particularly at low tide when extensive areas of mud flat are exposed. In contrast, at high tide the estuary has a brighter, more attractive coastal feel. The dynamics of tides, changing weather, bird life and visible activity on the estuary sometimes combine to create a vibrant scene. However, in many areas views of the water are blocked by flood alleviation berms and the estuary's presence is perceived only through the more subtle influences such as the taste and smell of salt laden air.
- 4.14 **Two Local Landscape Types** are identified:-
- 4.15 **Industrial Landscape** - is visually intrusive, stretching from the north-western edge of Grimsby up to and around Immingham. It is dominated by on-shore oil and gas refineries and other large scale industrial units and extends inland to the A180.
- 4.16 **Flat Open Farmland** – lies to the south-east of Cleethorpes and Humberston, at the outer limit of the estuary. (4.1.15 – 4.1.16)
- 4.17 **NB.** The NCA boundary for Humber Estuary has since been amended to exclude this area of land which now falls within Lincolnshire Coast and Marshes NCA. This LLT has therefore been amalgamated with the Flat Open Farmland LLT identified within Lincolnshire Coast and Marshes (refer to 4.31) for the purposes of this study.



LINCOLNSHIRE COAST AND MARSHES

Physical Influences

- 4.18 Although underlain by the Cretaceous Chalk deposits that dip eastward from their outcrop along the Lincolnshire Wolds, the parent material of this part of North East Lincolnshire is predominantly glacial boulder clay. Deposited by North Sea ice during the last glaciation, this till is 20 metres thick in some places. Unlike the similar aged till deposits to the north of the Humber, the till here does not extend to the coast and consequently does not form sea cliffs.
- 4.19 Soils derived from the glacial till form extensive tracts of good generally fertile arable land, although the drainage is not always satisfactory and often impeded. The characteristic undulating topography frequently results in a pattern of better drained upper slopes and less well drained depressions. Narrow strips of heavy, poorly drained clay, derived from alluvium, occupy many of the valleys which cut through the drift terrain. Most of these soils are of agricultural grades 2 and 3. The disposition of arable and pasture land closely reflects these soil variations. (5.1.3 – 5.1.4)

Human Influences

- 4.20 Patterns of human settlement through this character area mirror those of the Lincolnshire Wolds. The relatively elevated land lying above the coastal marshes proved attractive to early settlers. Here, early settlements are concentrated along the valleys which offered shelter and a reliable water source. Streams such as Waithe Beck were especially attractive and today still form the focus of village and farm settlement.
- 4.21 The western edge of the area abutting the Wolds lies at around 50-60 metres AOD and is marked by a line of hamlets and farmsteads situated along the spring-line, mainly in the valleys. Other villages and hamlets through the area have a

more scattered arrangement. Like the other areas of the Wolds, the dip slopes have seen major, permanent settlement since Saxon times. Most villages have Saxon or Danish origins, although the particular density of villages ending in 'by' such as Beelsby and Hawerby indicate the Danish were the main settlers.

- 4.22 In recent historical times the coastal zone marking this area's eastern edge was in a general state of flux. The Iron Age coastline lay along a line approximated by the A1031 south of Cleethorpes and the villages of Killingholme, Halton and Goxhill to the north. Palaeogeographic evidence suggests that a wide intertidal zone of brackish marshes and creeks existed. Anglo-Saxon and Danish settlers slowly drained this land and by the 11th century much of it had been reclaimed for agricultural and pastoral purposes.
- 4.23 Through the medieval period and into the 18th century the land was extensively used to fatten animals driven off the Wolds. (5.1.5 – 5.1.8)

Ecological Influences

- 4.24 In common with most farmed landscapes derived from glacial deposits of boulder clay, gravels and sands, drainage and cultivation have led to losses of most grassland and woodland of interest. Nevertheless, pockets of the natural woodland of slightly base-rich derivation remain. These are found in the form of certain mature hedges, streamside woodlands and the ground flora of replanted farm woodlands.
- 4.25 Typical canopy species include pedunculate oak, ash, alder with an understorey of hawthorn, hazel, field maple and wych elm, the last usually found as underwood suckering from cut stools or diseased elms. Indicator field layer species include dog's mercury, ramsons and enchanter's nightshade.



OVERVIEW OF THE LANDSCAPE CHARACTER OF THE BOROUGH

4

4.26 The Lincolnshire Drift is relatively less fertile than the majority of the Humber region and consequently there is a higher proportion of hedges, un-channelled streams, permanent pasture and woodland than elsewhere in the former county. This provides a number of local wildlife refuges. (5.1.9 – 5.1.11)

Visual Characteristics of the Landscape

4.27 The Lincolnshire Coast and Marshes forms a transition zone between the higher Wolds and the coast. It is an unexceptional agricultural landscape without a strong sense of place or setting. Areas close to the A180 are often affected by traffic noise which can have a detracting influence on the quality of the landscape character.

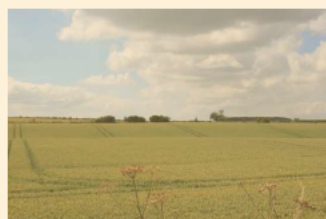
4.28 A total of **four Local Landscape Types** are identified:-

4.29 **Open Farmland** – extends northwards from the outskirts of Grimsby. Its western edge runs parallel with the main railway line and its eastern edge follows the A180.

4.30 **Wooded Open Farmland** – lies to the west and north-west of Grimsby and Cleethorpes. Its northern extent lies on the Borough boundary near Habrough and its southern extent at the Borough boundary near Holton-le-Clay. The Borough boundary and the A18 mark its western edge and the outskirts of Grimsby and Cleethorpes, the B1210 and main railway line its eastern edge.

4.31 **Flat Open Farmland** – this small area lies to the south of Cleethorpes and Grimsby, extending south to the Borough boundary.

4.32 **Sloping Farmland** – this landscape occurs between the Borough boundary in the vicinity of Irby-upon-Humber to the north and Ashby-cum-Fenby to the south. Barton Street (A18) defines its eastern edge. This is the most extensive Landscape Type lying on higher ground abutting the Wolds at its western edge. It is characterised as being open and arable, with significant outer views afforded by its openness and elevation. On the lower slopes, extending to the flatter, more low-lying coastal districts are areas of Open Farmland and Wooded Open Farmland, distinguished by the relatively higher disposition of larger woodland blocks in the latter. (5.1.12 – 5.1.15)



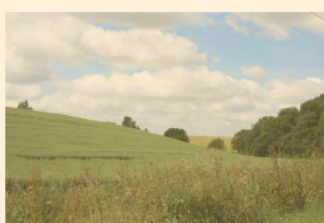
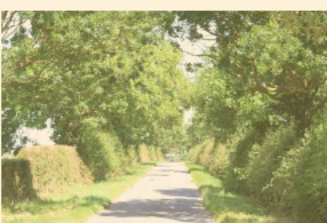
LINCOLNSHIRE WOLDS

Physical Influences

- 4.33 Geologically the Lincolnshire Wolds are more complex than the Yorkshire Wolds to the north of the Humber. This complexity derives from the fact that the chalk deposits are thinner, approximately 50 metres thick. Due to this, along the lower escarpment slopes to the western edge of the Wolds, and in the deeper valleys, underlying Cretaceous sand, clay and ironstone outcrop affect the overlying soils, vegetation and land use.
- 4.34 Ice did not extend across the Wolds during the last glaciation. The intensity of climatic and periglacial conditions however led to the softening and rounding of the hills. Following de-glaciation, complex fluvio-glacial and Aeolian sands banked up against the Wolds escarpment whilst, in the east, a complex depositional environment of lakes, rivers and deltaic spillways washed across the Wolds dip slope leading to the accumulation of sands and gravels in the eastern valleys, many of which were over-deepened during this period. A further process at this time resulted from sea level changes induced by isostatic and eustatic changes.
- 4.35 The complexity of the area's solid geology and drift deposits is reflected in the overlying soil and land use patterns. Plateau tops exhibit high chalky soils (grade 2) which lend themselves to arable cropping, whilst on the escarpment and valley sides, the Jurassic rocks give rise to deeper, more varied soils. Local pockets of boulder clay result in heavy, seasonally waterlogged soils, more suited to pasture.
- 4.36 The deposits of wind-blown sands produce sandy, brown earth soils. The free-draining nature of these render repeated arable cropping difficult without high inputs of fertiliser. (6.1.3 – 6.1.7)

Human Influences

- 4.37 The Lincolnshire Wolds have seen recurrent patterns of settlement over several thousand years. During prehistoric times the Wolds were extensively cleared of trees and many defensive, burial and boundary structures put in place. Unfortunately, few of these sites are visible due to repeated cultivation of the land.
- 4.38 Recurrent settlement in Roman, Anglo-Saxon and Danish periods is evidenced by roads, place names and the presence of medieval villages. The Domesday survey records that by 1086 much of the Wolds was under arable cropping, under the open field system. From the 12th century, many villages were deserted due to changes in land use, plague and population movements. Most of the visible evidence of these villages has now been lost, except to the trained eye.
- 4.39 Parliamentary Enclosure patterns and 20th century agricultural intensification have had significant influence on the Wolds landscape, contributing to the dominance of large fields bounded by low hedgerows. New Georgian manor parks and farm granges were built, often away from the villages. Enclosure Award roads (or drove roads) with their characteristic wide open verges were constructed to transport sheep both between markets and to the coastal marshes for fattening. (6.1.8 – 6.1.10)



Ecological Influences

- 4.40 The Lincolnshire Wolds have been intensively farmed and the extent of semi-natural habitat is very limited. The habitats that remain of interest are chalk grassland, ancient or long-established woodlands and wet flushes. Such habitats are very restricted in size and occurrence.
- 4.41 Unimproved natural grassland is potentially non-existent in the Wolds (within North East Lincolnshire) although re-colonisation of exposed chalk faces in old quarries, road and rail cuttings and thin-soiled road verges has often led to the development of an interesting calcareous grassland flora.
- 4.42 The woodlands of the Wolds tend to be of a planted origin, but support calcicole species such as ash, sycamore and beech. They often provide local refuges for birds and mammals. (6.1.11 – 6.1.13)

Visual Characteristics of the Landscape

- 4.43 A range of historical and geological influences act together to produce a landscape that has an overall coherence of character and internal diversity of type. In broad terms, visual characteristics common across the Wolds are the sweeping and rolling terrain, openness of views, dominance of arable land use with its seasonally changing colours and textures, drove roads, thin chalky soils and the shelterbelt woodlands of the valleys.
- 4.44 The area of the Lincolnshire Wolds LCA within North East Lincolnshire lies to the south-west of Grimsby and Cleethorpes. It has been identified as having a **single Local Landscape Type; High Farmland**. (6.1.14 – 6.1.15)



