

# Area of Outstanding Natural Beauty

Information to support the request to vary the northern  
boundary of the Lincolnshire Wolds Area of Outstanding  
Natural Beauty



# Area of Outstanding Natural Beauty

## Foreword

The landscape of North Lincolnshire is a varied and valued asset with much of it recognised as having international, national, regional, and local importance, from the Humber Estuary to the hidden areas within the northern Wolds.

Location and geology have driven the development of North Lincolnshire through the millennia and are what makes it the valued region it is today:

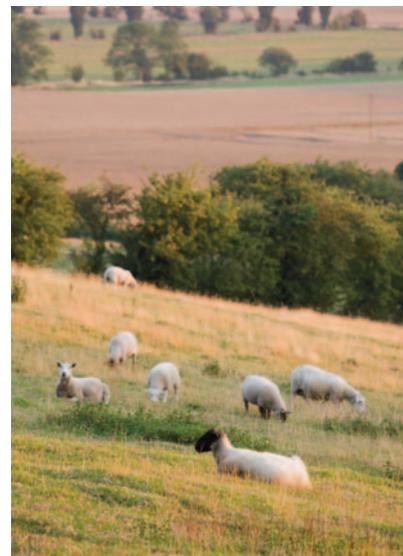
- An area of extensive settlement during the Roman Empire with strategic crossing points over the Humber Estuary, the mining and production of iron ore, extraction of clay and chalk, the canalisation of a major tributary to facilitate a key in-land trade route and innovative drainage techniques to create vast areas of low-lying agricultural land.
- The naturally occurring and 'excellent' grade of agricultural land on the higher areas of the county, prime coastal location for sea faring trade and visitors and a natural confluence of major rivers that can accommodate larger vessels and open vital trade routes into the surrounding wider regions.

All of these factors have influenced the settlement pattern across the county and as demand has grown the infrastructure has had to follow. A great deal of trade is still conducted across the sea and the major rivers, but the landward leg of the journey needed large and direct routes to meet the demand.

For centuries, communities have benefitted from North Lincolnshire's prime location and natural resources. There are still many areas, that hark back to a different time and offer interest and intrigue for those that value and seek it.

Panoramic views, hidden locations, a network of footpaths, from countryside, to river to shoreline, rare flora and fauna, engineering marvels of their age, unique historic structures and a sense of tranquillity are all within North Lincolnshire.

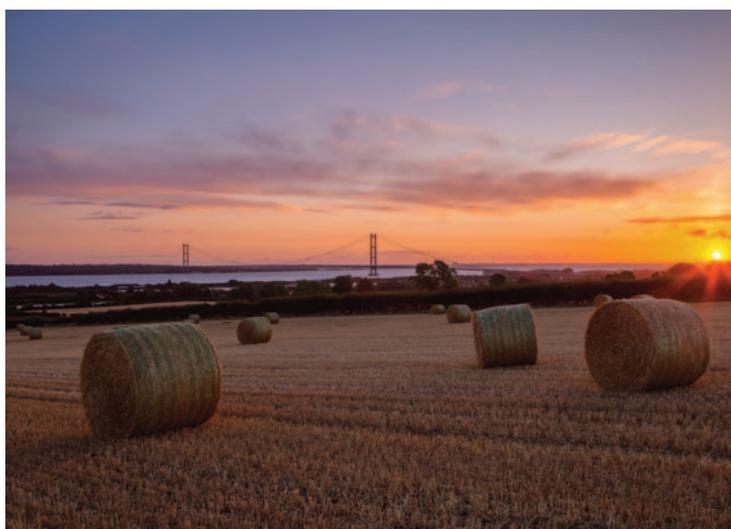
Many of us have already known this. For those that do not, an extension to the Area of Outstanding Natural Beauty (AONB) designation will broadcast this knowledge and allow us to share it with a wider audience. Moreover, North Lincolnshire can bring a valued addition to the existing AONB family and help to deliver and support the invaluable role that AONBs play in preserving and enhancing our nationally valued landscapes.



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## Executive Summary

This technical report sets out the evidence based case for varying the Lincolnshire Wolds AONB boundary into the area of North Lincolnshire. It includes an Evaluation Area which the evidence highlights as meeting the Natural Beauty factors. It supports, and should be read in conjunction with, North Lincolnshire Council's formal request to Natural England to consider making a Variation Order to the existing Lincolnshire Wolds AONB boundary.



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## 1 Introduction

### 1.1 Background

This document has been prepared by North Lincolnshire Council, with the support of JBA Consulting, as a formal submission requesting Natural England to undertake a boundary variation review to the existing Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB).

JBA Consulting was commissioned in April 2018 to undertake a review of the 1999 North Lincolnshire Landscape Character Assessment.

In October 2018, North Lincolnshire Council requested that JBA assist the Council's aspirations to have land

within the county designated as an Area of Outstanding Natural Beauty (AONB).

JBA subsequently developed a methodology and undertook an exercise to assess the suitability of the landscape which could be considered as part of a boundary variation to the Lincolnshire Wolds AONB. The supporting data, evidence base and methodology utilised as part of this exercise is presented in more detail within the subsequent sections of this document.

In association with JBA Consulting, North Lincolnshire Council has identified an Evaluation Area based on the evidence sources and natural beauty evaluation framework. This Evaluation Area is set out below.



## 2 PART ONE - Defining an Evaluation Area

### 2.1 Interpretation of Natural England's guidance

Under the Countryside and Rights of Way Act 2000 (CROW Act), Natural England can make orders to designate an Area of Outstanding Natural Beauty (AONB) or vary the boundaries of existing ones. The purpose of these designations is to protect the land to conserve and enhance its natural beauty.

Natural England has produced a document that outlines their general approach to designation as well as a suggested method for the practical assessment of landscapes in designation decision-making.

The document is entitled 'Guidance for assessing landscapes for designation as National Park or Area of Outstanding Natural Beauty in England' (the Guidance) and states in the Foreword:

This guidance is intended, primarily, for use by Natural England specialist staff to help identify whether land is likely to meet the statutory criteria for AONB or National Park designation. We are, however, making it available on request to external audiences who may find it useful as an aid to understanding how decisions to designate are reached.

In the introduction section of the Guidance, Paragraph 1.2, it states:

The assessment process described in this document effectively constitutes the second phase of a potential designation or variation project. This guidance will only be used once a decision to commit to undertaking a designation assessment has already been reached by Natural England.

Natural England consider a number of important operational factors as to whether a designation assessment is undertaken:

In coming to this earlier decision Natural England will have regard to a range of factors including:

- The extent/quality of evidence submitted that land might meet designation criteria;
- The reason(s) for the proposal;
- Evidence of local consensus that designation is appropriate;
- Benefit/positive impact of proposal balanced against the likely cost of designation;
- The relative importance of the proposal compared against other corporate priorities.

Natural England has published an 'Evaluation Framework for Natural Beauty Criterion for the designation of AONBs' (Appendix 1 of the Guidance) which is defined as a Technical Criteria - Natural Beauty.

Notwithstanding the statement from Natural England stating that the guidance will only be used once a decision to commit to undertaking a designation assessment has been reached, the extent/quality of evidence is clearly considered important in the early decision making. JBA and the council have applied the rigour and transparency of this process to consideration of each of the Natural Beauty criteria at this pre-commitment stage. The intent is to produce a robust, evidence-based submission that will enable seamless and efficient progress to move forward into the second phase of consideration of the variation project. This should also help with making process for changing the boundary simpler, easier and quicker.

### 2.2 Interpretation of Natural Beauty

In section 6 of the Guidance, Natural England sets out both the Principles and Practical application of Natural Beauty.

There are 6 defined factors, divided into sub-factors which are judged by demonstrable indicators.

A summary of the key points is given below:

- The factors, sub-factors and their indicators are neither ranked nor weighted in order of importance;
- There is no scoring involving accumulations of indicators and it is possible for a landscape to exhibit natural beauty even if several of the indicators suggested are not present;
- Natural beauty is a very subjective characteristic of a landscape and ultimately involves a professional value judgment. In deciding whether an area has natural beauty, Natural England must therefore make a judgment as to whether people are likely to perceive a landscape as having sufficient natural beauty;
- An Evaluation Area may contain land that meets the criteria to varying degrees. Such variations should be identified. A decision can then be made on whether to exclude the non-qualifying parts of the Evaluation Area from the potential National Park or AONB designation or whether in the context of the area as a whole they can be included. Alternatively, the extent of an Evaluation Area may be adjusted, so that a revised area of land is then re-considered against the technical criteria.

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- In England it is widely accepted that the beauty of all our most cherished landscapes is in part due to human intervention such as agriculture and forestry;
- The systematic evaluation of natural beauty can be a complex exercise requiring careful assessment and judgment.

**Table 2.1 - Extract of the Natural Beauty factor table:**

Factor	Example sub-factor	Example Indicator
Landscape quality	The condition of the landscape's features and elements	Landscape elements are in good condition
Scenic quality	A distinctive sense of place	Landscape character lends a clear and recognisable sense of place
Relative wildness	A sense of remoteness	Relatively few roads or other transport routes
Relative tranquillity	Contributors to tranquillity	Presence and/or perceptions of natural landscape, stars at night, sea and similar influences
Natural heritage	Wildlife and habitats	Presence of individual species that contribute to sense of place, relative wildness or tranquillity
Cultural heritage	Associations of the landscape with people, places or events	Evidence that the landscapes has associations with notable people or events, cultural traditions or beliefs

Whilst acknowledging that there is no scoring involving accumulations of indicators, used in the Guidance, it was felt that for such an initial large area, a process of sifting would be conducted using a simple value and associated scoring method. This approach would highlight those areas demonstrating Natural Beauty factors and discount those with none, ultimately with professional value judgement leading to the definition of a credible final Evaluation Area.

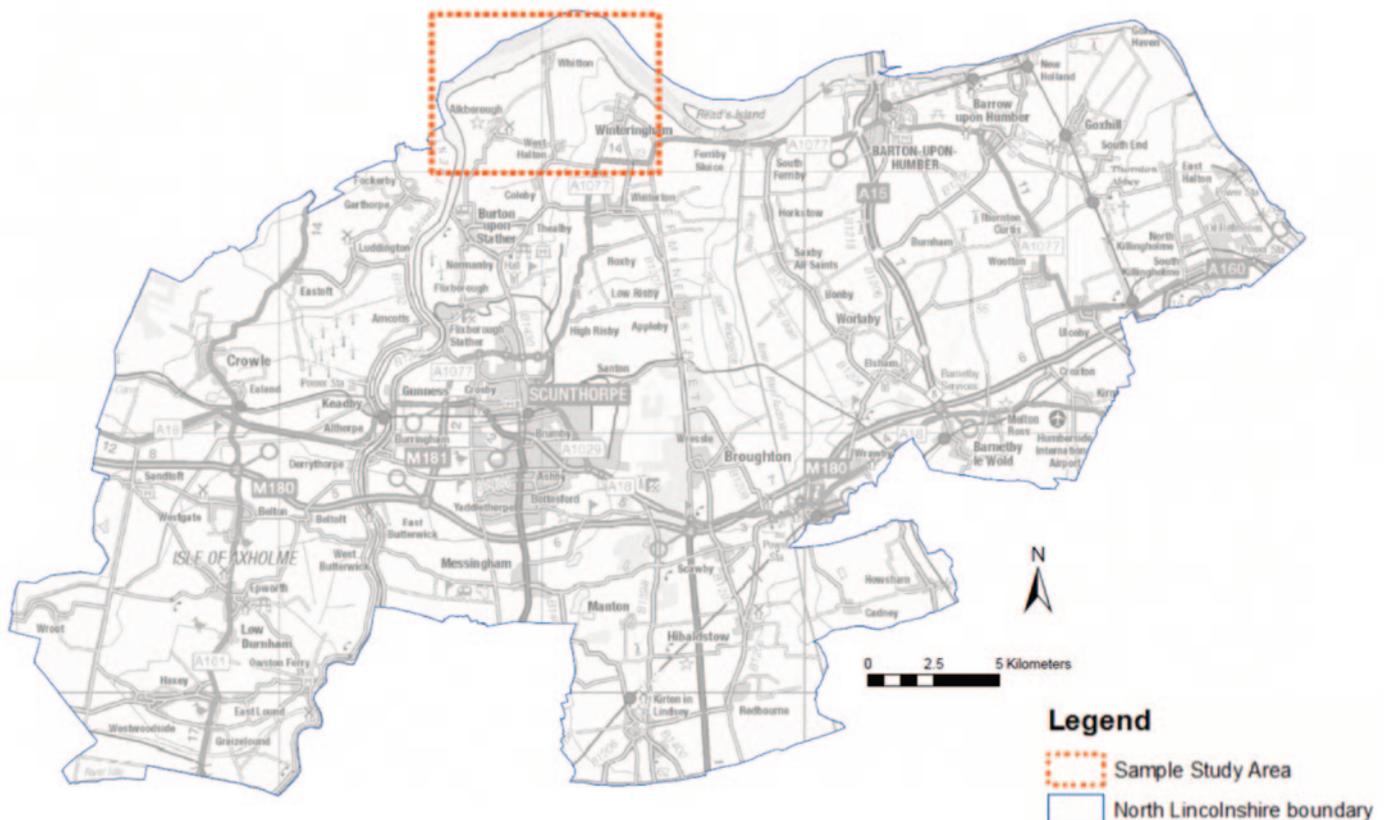
## 3 Methodology and Assessment of Evidence Sources

In support of North Lincolnshire Council's submission to Natural England, JBA interpreted the Natural Beauty criteria to help determine an Evaluation Area as part of a desk-based study covering the whole of North Lincolnshire.

The adoption of a rigorous and demonstrable desk-based study has effectively provided a credible method to define a new evaluation area.

In addition to this, the assessment also gives an up to date indication of the areas that will not necessarily be considered as part of the AONB variation but may still benefit from some form of local designation or similar.

The whole study area of North Lincolnshire is shown in the image below. A more detailed area around Alkborough is highlighted. Throughout the remaining part of this document, this area is used as an example area that will be presented for each of the Natural Beauty factors. It shows how the adopted methodology applies in detail.



### 3.1 Development of the Methodology

JBA's methodology is primarily based on the Natural Beauty table and the development of an approach to quantify each factor using proxy measures from relevant datasets and ArcGIS geospatial software.

JBA found that the initial analysis of the various datasets creates an overlapping matrix which can be difficult to discern. The application of a 1km<sup>2</sup> grid system and an associated evidence-based 'score' or value was identified as a means of allowing the reviewer to graphically observe spatial distribution patterns in different classification qualities, something that is difficult to interpret in simple tabular form.

In order to build up a consistent, and clear, representation of the Natural Beauty factors it was determined that the application of the 1km<sup>2</sup> grid sample system should be used for all the Natural Beauty factors to help present an aligned and concise composite map output.

The individual 1km<sup>2</sup> grids do not need to be completely washed over by a dataset but rather have a presence within it, no matter how small. A combination of the various datasets could have a presence within the same individual grid square, and as noted in the NE Guidance, 6.10 'Not all factors or indicators have to be present across a designation'.

## 3.2 Factor - Landscape and Scenic Quality

Information to support the assessment of the Landscape and Scenic Quality is drawn from the existing North Lincolnshire Landscape Character Assessment (1999). This was enhanced by application of JBA's valued professional judgement as a result of fieldwork and representative viewpoints recorded in a 2018 LCA review.

### 3.2.1 Datasets

North Lincolnshire is characterised by 6 Landscape Character Areas (LCA) and 33 Landscape Character Types (LCT). The LCTs are smaller geographic areas than the LCAs and make the evaluation more relevant and targeted.

Neither the LCA nor the LCT were previously available in a digitised format and both were created in ArcGIS as part of the 2018 LCA review by JBA.

### 3.2.2 Assigning value

The LCTs were assessed based on the narrative drawn from the existing LCA (1999) and the 2018 LCA review, specifically where this correlated with the sub-factors and indicators identified in the Natural Beauty table.

It was necessary to apply a numerical value and the information was then processed and analysed within ArcGIS. Taken from the LCA and LCA review 'Highest' value landscapes achieve a score of 2 and 'High' value landscapes a score of 1. There are no other assigned values or scores as only the high and highest valued landscapes were considered to fall within the criteria.

### 3.2.3 Dataset analysis

Following is the dataset held by JBA:

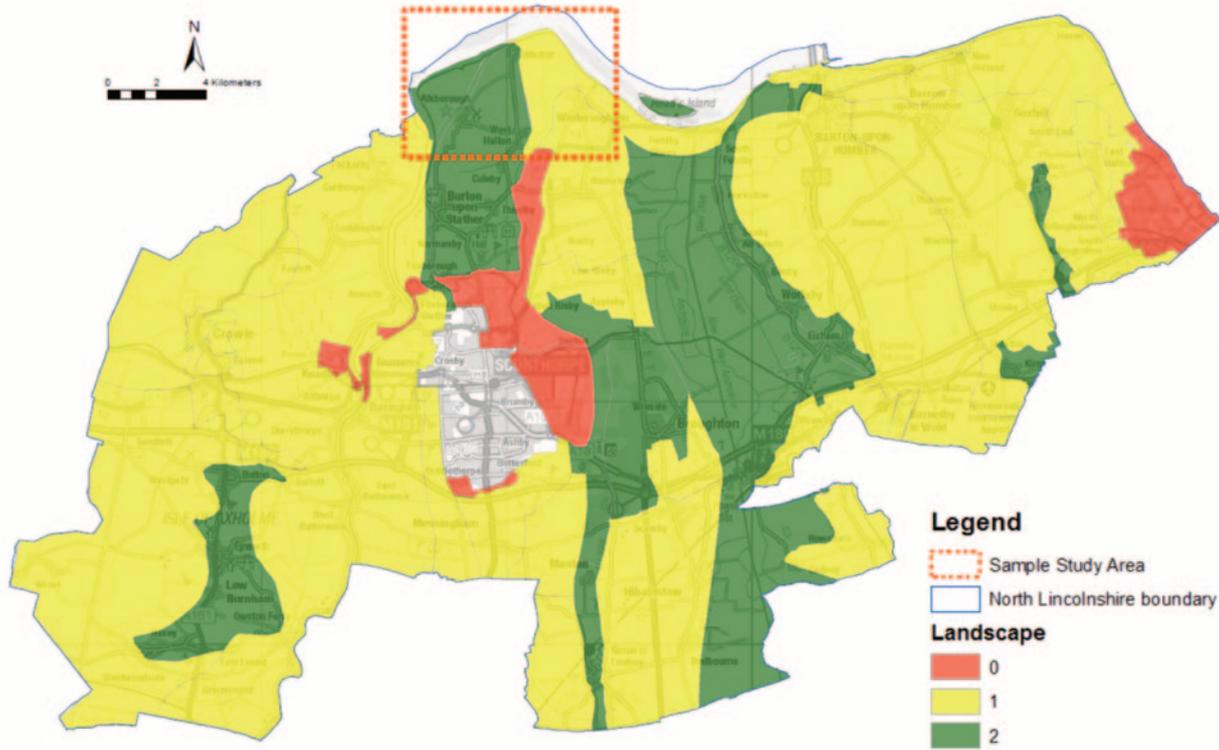
Dataset	Highest	High	Medium or less
LCT – Landscape quality	2	1	0
LCT – Scenic quality	2	1	0

JBA created separate maps for Landscape quality and Scenic quality with both presented on a 1km<sup>2</sup> grid overlay. The same approach was taken for all the other datasets used for the Natural Beauty factors.

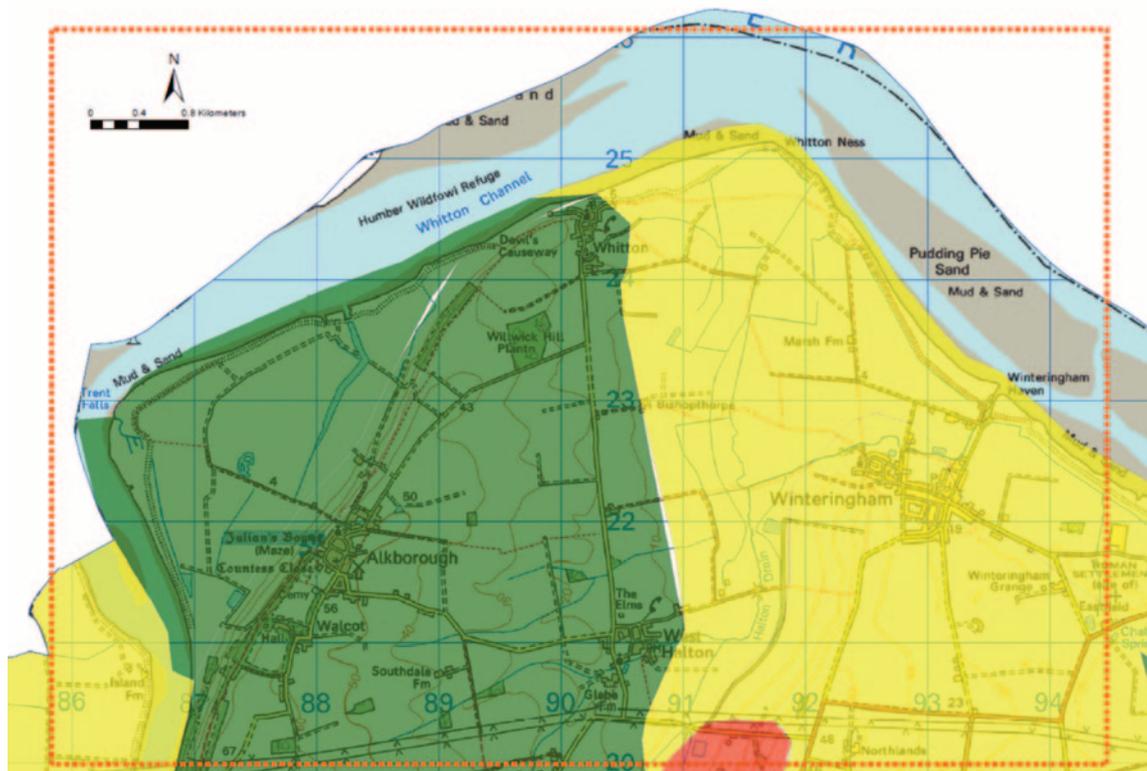
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## 3.2.4 Outputs

The following series of images shows examples of how the methodology has been applied:

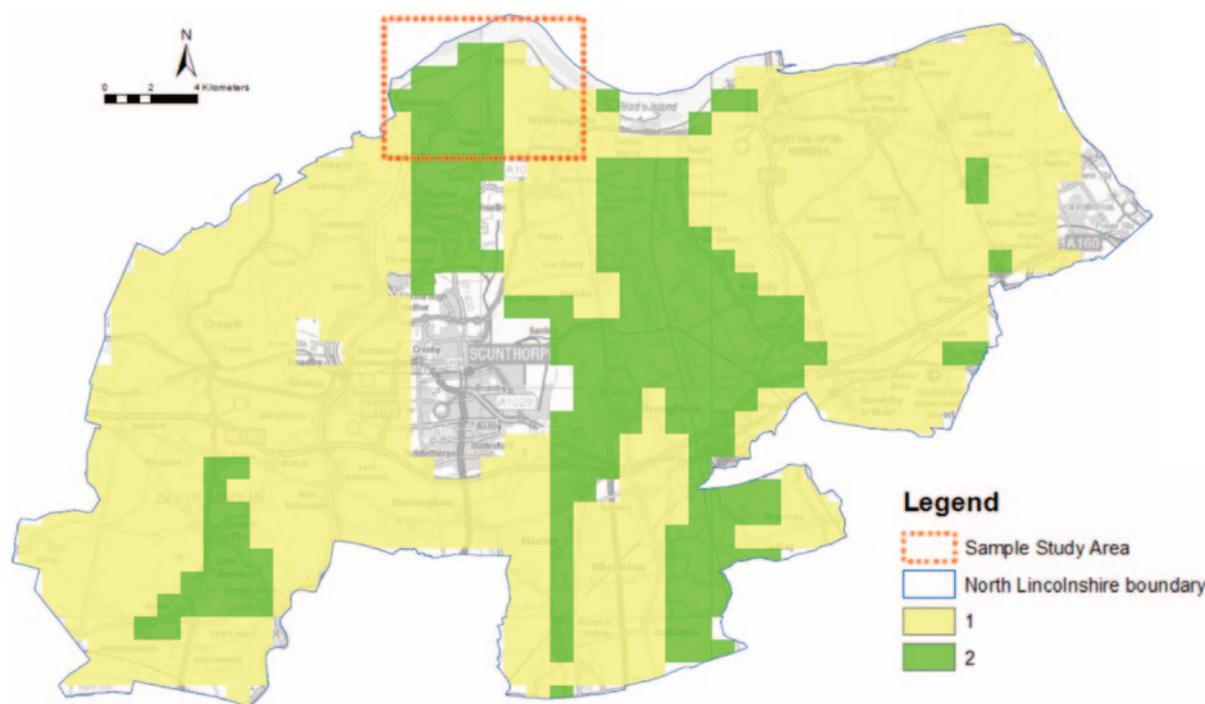


The image above shows the value applied to the Landscape quality of the LCT.



The image above shows the Landscape quality in greater detail around Alkborough, the 'example area'.

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The image above shows the Landscape quality after it has been 'fixed' to the 1km<sup>2</sup> grid with only the Highest and High values shown.

## 3.3 Factor - Relative Wildness & Tranquillity

Tranquillity and Wildness were considered as interrelated; it was unlikely that one would exist without the other, especially as both draw upon limited human influence as part of their definition.

An example indicator given within the Guidance for Relative Wildness is 'Relatively few roads or other transport routes', while for Relative Tranquillity 'Presence and/or perceptions of traffic noise' is listed.

### 3.3.1 Datasets

The Ordnance Survey (OS) dataset OS OpenRoads was analysed to identify the road network across North Lincolnshire.

### 3.3.2 Assigning value

The method used to define relative wildness and tranquillity involved the application of scaled buffer zones around the road network across the county. Railway lines were not included at this stage as this would necessitate a review of train timetables and frequency of travel before a value judgement could be made. This was not considered appropriate at this early stage.

The OS dataset, OS OpenRoads, identifies various 'Road Function' as presented in the table below.

The second column provides a description extracted from the OS code list dictionaries, in this case RoadFunctionValue.html, which according to OS provide a 'formal definition for values used in certain attributes of our data products'.

The final column indicates the buffer distance that extends out from the centre line on either side, estimated by JBA, based on professional experience\*:

Road Function	Description	Buffer distance (m)
Motorway	A multi-carriageway public road connecting important cities.	1000
A Road	A major road intended to provide large-scale transport links within or between areas.	500
B Road	A road intended to connect different areas, and to feed traffic between A roads and smaller roads on the network.	250
Minor Road	A public road that provides inter connectivity to higher classified roads or leads to a point of interest.	100
Local Road	A public road that provides access to land and/or houses, usually named with addresses. Generally, not intended for through traffic.	50
Local Access Road <sup>1</sup> / Restricted Local Access Road <sup>2</sup>	A road intended for the start or end of a journey, not intended for through traffic <sup>1</sup> but will be openly accessible / <sup>2</sup> and will have a restriction on who can use it.	0
Secondary Access Road <sup>3</sup> / Restricted Secondary Access Road <sup>4</sup>	A road that provides alternate/secondary access to property or land not intended for through traffic. <sup>3</sup> / and will have a restriction on who can use it. <sup>4</sup>	0

\*It is JBA's view, that the M180 had a level of disturbance extending out from the central reservation for a distance of c.1000m on either side, whereas a Local Road's level of disturbance may only extend out from the centre line for a distance of c. 50m on either side.

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## 3.3.3 Dataset analysis

The process for analysing the dataset in ArcGIS was carried out using the following series of sequential steps:

**Step 1** – Open the road network shapefile. Create the buffer zones applicable to the Road Function category and associated buffer distance,

**Step 2** - Create and overlay a 1km<sup>2</sup> grid for the county of North Lincolnshire,

**Step 3** - Calculate the percentage of buffer that is present in each individual 1km<sup>2</sup>,

**Step 4** - Classify the result as per the table below,

**Step 5** - A JBA value judgement applied to identify only the Highest and High areas within the county:

% of Road buffer in individual 1km <sup>2</sup> grid	JBA Relative Tranquillity & Relative Wildness Value Judgement
0	Highest Relative Tranquillity & Wildness
0-25	High Relative Tranquillity & Wildness
25-50	Medium Relative Tranquillity & Wildness (discounted from the process)
50-75	Low Relative Tranquillity & Wildness (discounted from the process)
75-100	No Relative Tranquillity & Wildness (discounted from the process)

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## 3.3.4 Outputs

The map extract below shows the road network around Alkborough:



Map extract with road buffers applied 3.3.2:

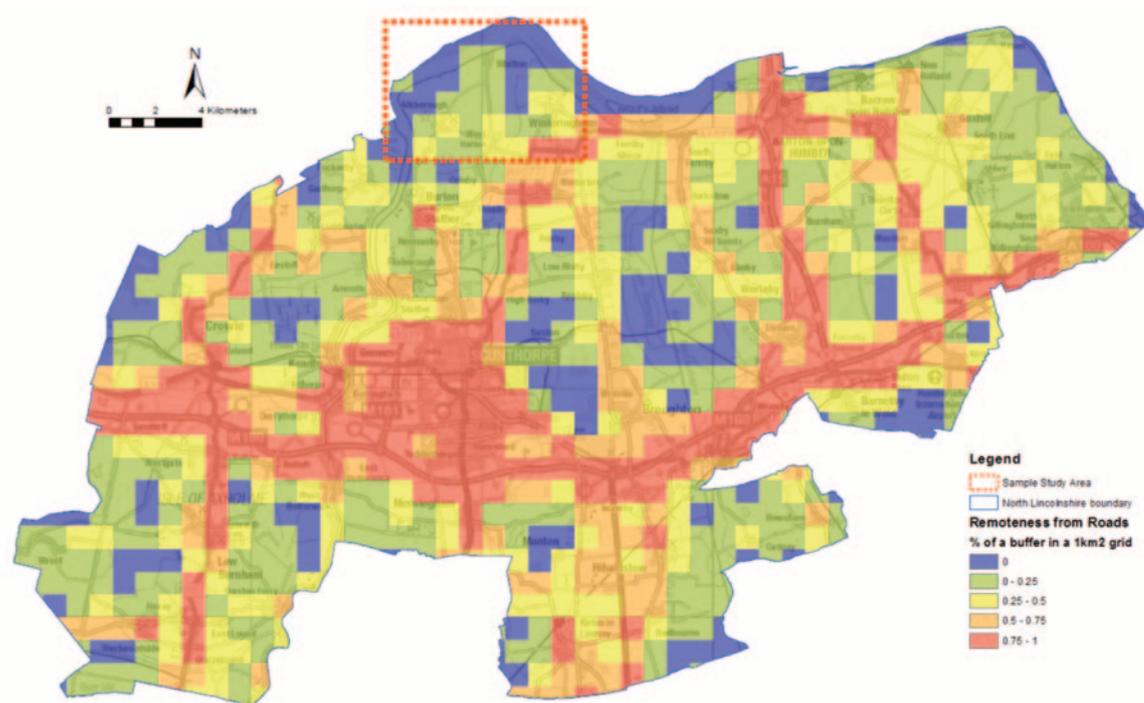


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Map of the same area showing the buffers, buffer value and 1km<sup>2</sup> grid as described in section 3.3.3:



Map showing the buffer values for the whole of North Lincolnshire:



## 3.4 Factor - Natural Heritage

The Natural Heritage assessment is based on both National and Local designations awarded by Natural England and North Lincolnshire Council respectively.

### 3.4.1 Datasets

There are 3 datasets which have been used as part of the analysis of the Natural Beauty factor; Sites of Special Scientific Interest (SSSI), Priority Habitats Index (PHI) and Local Nature Reserves (LNR). The following description extracts are taken from data.gov.uk:

- A SSSI is the land notified as an SSSI under the Wildlife and Countryside Act (1981)... [and] are the finest sites for wildlife and natural features in England, supporting many characteristic, rare and endangered species, habitats and natural features.
- PHI is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.
- LNRs are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities.... [LNRs] are places for people and wildlife... with wildlife or geological features that are of special interest locally.

There is a wide range of available datasets that could be used, however by distilling this down to 3 means that only those with the strongest values are considered. Local Wildlife Sites (LWS) and Local Geological Sites (LGS) are not included in these datasets, although it is recognised this would enhance any assigned values.

### 3.4.2 Assigning value

SSSIs will often overlap with International (Ramsar) and European (Special Area for Conservation - SAC and Special Protection Areas – SPA) level designations. Within North Lincolnshire, the SSSI dataset significantly overlaps with Ramsar and SPA designations and on this basis, it is assigned as the Highest value possible.

PHI and LNR are not considered as less valuable designations, however by virtue of the SSSI's associated International and European designation, they are assigned a High valuation.

There is also occasional geographic overlap between SSSIs and PHI, and even LNRs, however there is no double counting and no cumulative scoring when assigning a value.

Where a SSSI exists, it will be deemed as Highest value . The presence of either a PHI or LNR designation in exactly the same location as a SSSI cannot improve upon that value already achieved by the SSSI.

### 3.4.3 Dataset analysis

All three of the datasets are 'polygon' shapes that cover a geographical area where a designation is present. The first step is to identify where they are Present or Absent within the 1km<sup>2</sup> grid system.

JBA set a threshold within the 1km<sup>2</sup> grid system whereby the presence of any part of the polygon would be given a value judgement of either Highest or High, depending upon the nature of the designation.

It is necessary to apply a numerical value so that the information can be processed within ArcGIS, so Highest value achieves a score of 2 and High value a score of 1. There is no value or score where the polygon isn't present.

Dataset	Designation	Highest (2)	High (1)	No value (0)
SSSI	National	Present	N/A	Absent
Priority Habitats	Index National	N/A	Present	Absent
Local Nature	ReserveNational	N/A	Present	Absent

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The scoring is based on the presence of a designation in a grid square; there is no cumulative score even where there are multiple designations present within the grid square.

The output for each of the Natural Heritage designations were combined to produce a single matrix of Highest and High scoring areas. Grid squares with no values were excluded.

## 3.4.4 Outputs

The map extract below shows the Natural Heritage datasets, in their original form, around Alkborough:

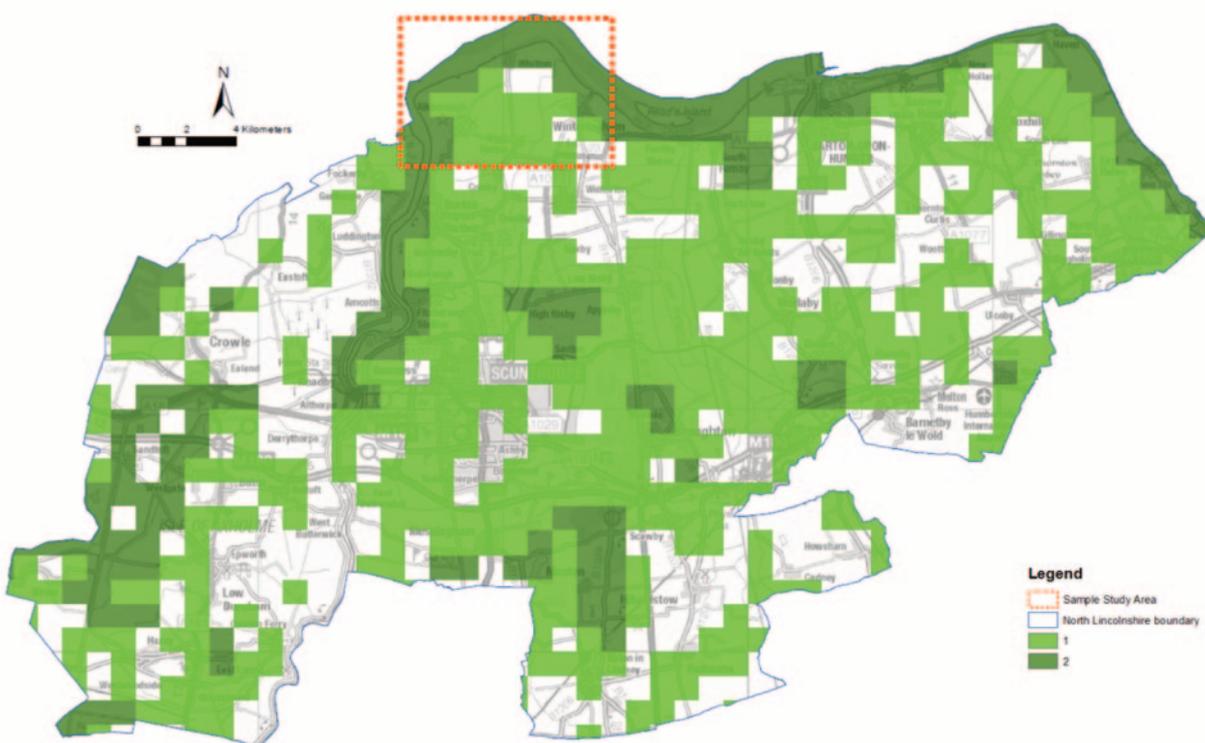


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The same map extract now with the value scores and 1km<sup>2</sup> grid applied:



Wider map showing the Natural Heritage values and 1km<sup>2</sup> grid for the whole of North Lincolnshire:



## 3.5 Factor - Cultural Heritage

The Cultural Heritage assessment is based on three national designations that are administered by Historic England.

### 3.5.1 Datasets

There are 3 datasets which have been used as part of the analysis of this Natural Beauty factor; Scheduled Monuments, Registered Parks & Gardens and Listed Buildings. The following description extracts are taken from [historicengland.org.uk/advice/hpg/has](http://historicengland.org.uk/advice/hpg/has):

- **Scheduled Monument** - If a monument is of national importance it may be scheduled. The Secretary of State has a broad discretion as to what to schedule and will be concerned not only with the national importance of it but also if scheduling would assist the site's conservation.
- **Registered Parks & Gardens** - The majority of sites registered are, or were originally, the grounds of private houses, but public parks and cemeteries are also important categories. The decision as to whether a park or garden merits registration is based on an assessment by Historic England as to whether it can be said to be of "special historic interest".
- **Listed Building** - Many buildings are interesting architecturally or historically but in order to be listed a building must have special interest.

### 3.5.2 Assigning value

The possibility of an overlap between Listed Buildings and Scheduled Monument are unlikely as few buildings, for historical reasons, are both scheduled and listed. In those rare occurrences the scheduled monument statutory regime applies and the listed building regime does not. There is no such occurrence within North Lincolnshire.

There is also occasional geographic overlap of Listed Buildings within Registered Parks & Gardens, however there is no double counting and no cumulative scoring when assigning a value.

All of these Cultural Heritage designations are deemed as having Highest value. The presence of a Listed Building within Registered Parks & Gardens cannot improve upon that value already achieved by the Registered Parks & Gardens.

### 3.5.3 Dataset analysis

Two of the three datasets are 'polygon' shapes that cover a geographical area where a designation is present. The first step is to identify where they are Present or Absent within the 1km<sup>2</sup> grid system.

JBA set a threshold within the 1km<sup>2</sup> grid system whereby the presence of any part of the polygon would be given a value judgement of Highest.

The Listed Building dataset shows individual 'points' scattered across a geographical area. As more than one listed building can occur within an individual 1km<sup>2</sup> grid square, JBA set a density level to afford greater weight to clusters of listed buildings than to single isolated buildings.

Those 1km<sup>2</sup> grid squares with 3 or more listed buildings were given a value judgement of Highest, whereas those with only 1-2 present were considered as High.

It is necessary to apply a numerical value so that the information can be processed within ArcGIS, so Highest achieves a score of 2 and High a score of 1. There is no value or score where the data is absent.

Dataset	Designation	Highest (2)	High (1)	No value (0)
Scheduled	Monument	National	Present N/A	Absent
Registered Parks &	Gardens	National	Present N/A	Absent
Listed Building	National	3 or more per individual 1km <sup>2</sup> square	1 or 2 per individual 1km <sup>2</sup> square	Absent

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It was observed for example that a large area boundary of designated Park and Garden has a greater visual presence on a map than a single point representing a Grade I listed church. A method needed to be applied to rationalise the information and ensure that the values of these features could be distilled and presented in a clearer and more concise format.

The outputs for each of the Cultural Heritage designations were combined to produce a single matrix of Highest and High scoring areas. Grid squares with no values were excluded.

## 3.5.4 Outputs

The map extract below shows the Cultural Heritage datasets, in their original form, around Alkborough:

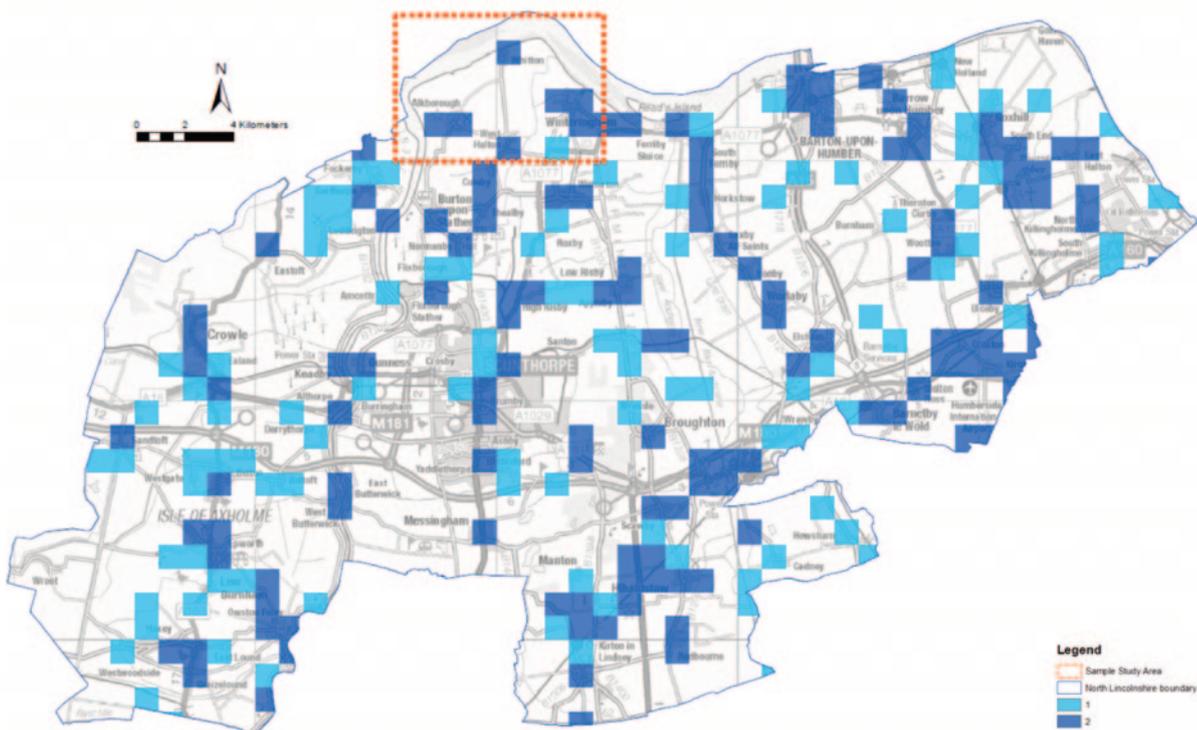


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The same map extract now with the value scores and 1km<sup>2</sup> grid applied:

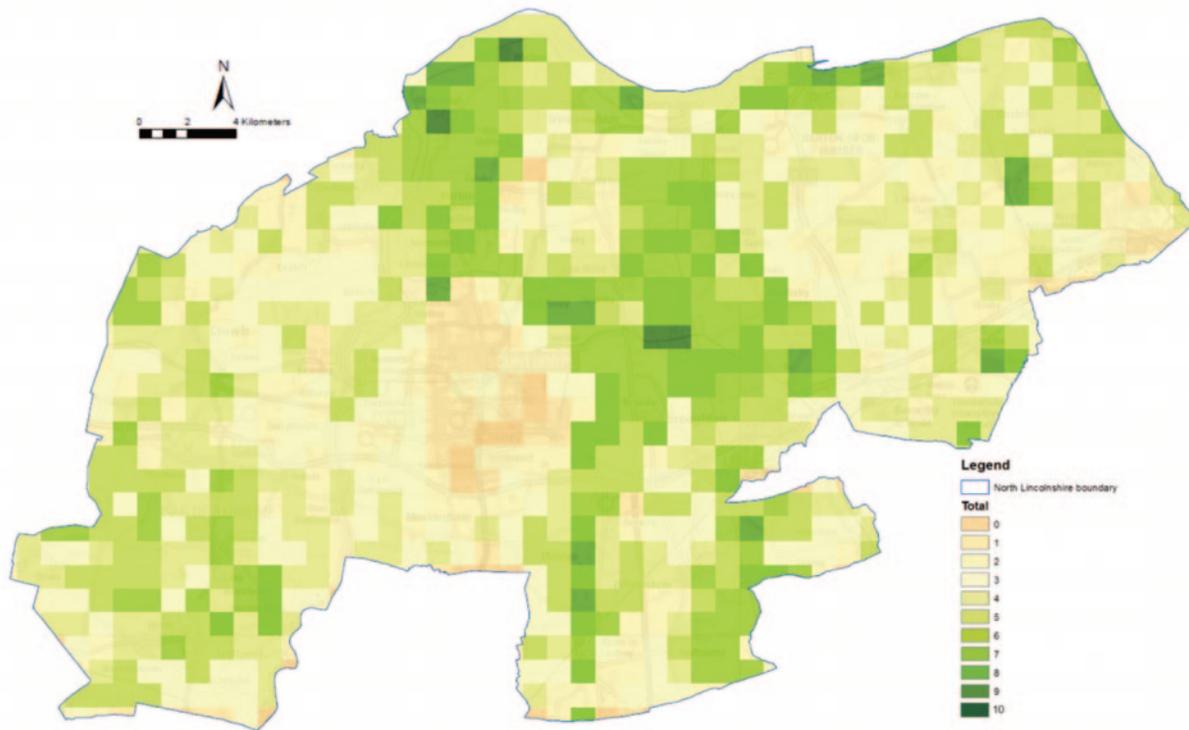


Wider map showing the Natural Heritage values and 1km<sup>2</sup> grid for the whole of North Lincolnshire:



## 3.6 Combined Outputs

The final outputs for each of the previous Natural Beauty factors have been combined to show areas where Natural Beauty factors are present. This is shown on the map below, based on the 1km<sup>2</sup> grid.

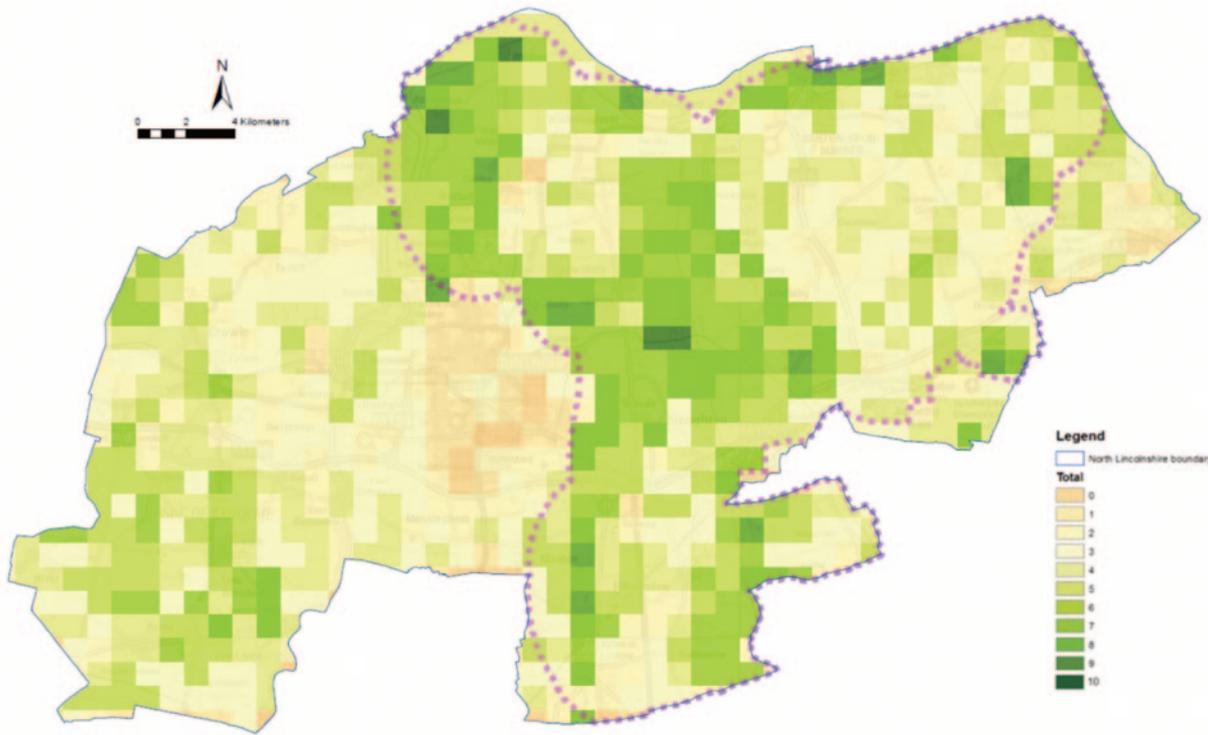


As Relative Tranquillity and Relative Wildness were combined as a single factor in section 3.3, the combined scoring is based on 5 Natural Beauty Factors. An individual 1km<sup>2</sup> square can achieve a maximum score of 10, i.e. the Highest (2) values of each of the 5 factors, or minimum score of 0, as a result of no factors being present. The scores in between these two extremes vary according to the presence (or absence) of Highest and / or High values.

Although the area to the west of the county, around the Isle of Axholme, shows a strong representation of Natural Beauty factors, this is considered a distinct, separate landscape which is dissimilar to the already designated Lincolnshire Wolds AONB.

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The proposed Evaluation Area identified using the methodology set out in the preceding parts of this document is outlined on the map below, again using the 1km<sup>2</sup> grid:



Applied to a map, the Evaluation Area is shown as follows.



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Further information on the source of the datasets is set out in the table below.

Natural Beauty Factor	ArcGIS Dataset (Shapefile)	Source	Hyperlink
Landscape Quality	1999 North Lincs Landscape Character Assessment Map	Digitised by JBA Consulting	available on request
Scenic Quality	1999 North Lincs Landscape Character Assessment Map	Digitised by JBA Consulting	available on request
Relative Wildness* OpenRoads		Ordnance Survey	<a href="https://www.ordnancesurvey.co.uk/business-government/products/open-map-roads">https://www.ordnancesurvey.co.uk/business-government/products/open-map-roads</a>
Relative Tranquillity*	OpenRoads	Ordnance Survey <a href="https://www.ordnancesurvey.co.uk/business-government/products/open-map-roads">https://www.ordnancesurvey.co.uk/business-government/products/open-map-roads</a>	<a href="https://www.ordnancesurvey.co.uk/business-government/products/open-map-roads">nancesurvey.co.uk/business-government/products/open-map-roads</a>
Natural Heritage	SSSI	Natural England	<a href="https://naturalengland-defra.opendata.arcgis.com/datasets/sites-of-special-scientific-interest-england">https://naturalengland-defra.opendata.arcgis.com/datasets/sites-of-special-scientific-interest-england</a>
	PHI	Natural England	<a href="https://naturalengland-defra.opendata.arcgis.com/datasets/priority-habitat-inventory-north-england">https://naturalengland-defra.opendata.arcgis.com/datasets/priority-habitat-inventory-north-england</a>
	LNR	Natural England	<a href="https://naturalengland-defra.opendata.arcgis.com/datasets/local-nature-reserves-england">https://naturalengland-defra.opendata.arcgis.com/datasets/local-nature-reserves-england</a>
Cultural Heritage	SAM	Natural England	<a href="https://services.historicengland.org.uk/NMRDataDownload/default.aspx">https://services.historicengland.org.uk/NMRDataDownload/default.aspx</a>
	Listed Buildings	Natural England	
	Registered Park and Gardens	Natural England	

*\* Subsequent analysis was conducted using CPRE (Campaign to Protect Rural England) data sources, 'Tranquillity' and 'Night Lights', use of which was authorised directly through CPRE. Natural England would need to arrange authorisation with CPRE directly to obtain this data.*

## PART TWO - Additional considerations and data sources

The Campaign to Protect Rural England (CPRE) has been involved in campaigning to protect the English countryside for over 90 years and champions a wide range of causes to protect and enhance towns and countryside across England.

During its existence, CPRE has a long record of success including the identification of Tranquillity, protected and enhanced as a special quality in the majority of National Parks and AONBs in England. In addition to this, the Dark Skies maps have been used by local councils, National Park Authorities and Areas of Outstanding Natural Beauty (AONBs) in their Management Plans, as well as evidence in the designation of Exmoor and Northumberland National Parks as Dark Sky Places.

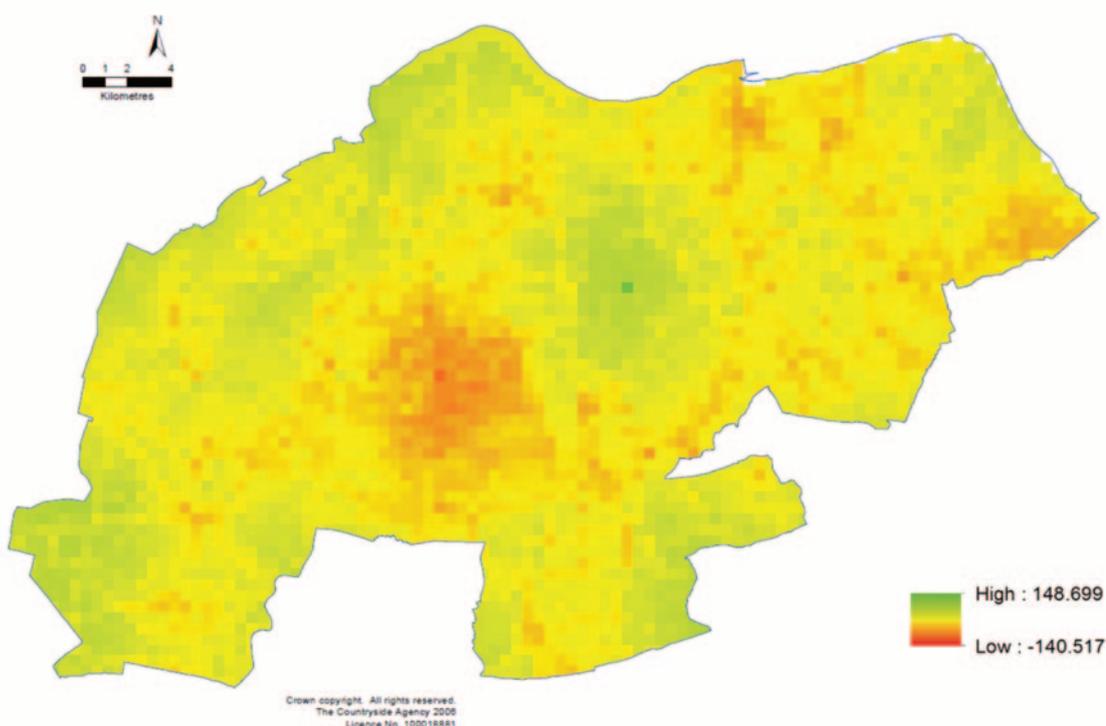
As part of the early consultation work conducted by JBA and North Lincolnshire Council, CPRE suggested that the maps for Tranquillity and Dark Skies, should be used as part of the evidence base for the development of the Evaluation Area.

Within the Natural Beauty table, amongst the indicators that contribute to Tranquillity are peace and quiet and stars at night, with detractors including presence and/or perceptions of traffic noise and overhead light pollution.

The data within the CPRE maps has not been used as part of the Methodology and Assessment set out in the foregoing section of this document. Rather, the data has been used to complement the outcome of the use of the Methodology and Assessment.

### 3.6.1 Tranquillity

The concept of valuing undisturbed countryside was developed in the early 1990s with the first tranquillity maps produced in 1995. In 2006, CPRE commissioned Northumbria University to research and develop a new method that could be applied to map tranquillity across England.

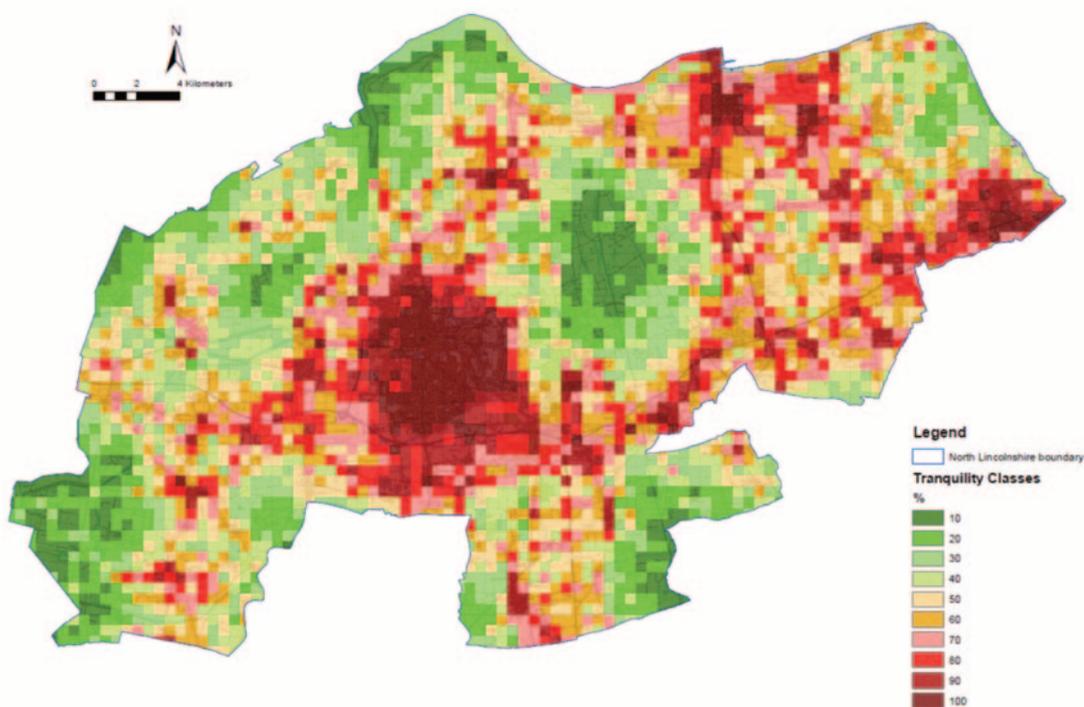


# Area of Outstanding Natural Beauty

The range varies across nearly 300 different scores over 530,000 individual (500m x 500m) squares and the associated colour scheme does not easily allow the viewer to discern the changes in tranquillity. This does not immediately present the viewer with a concept of how relatively tranquil a location is, as squares can range in score from the lowest, -140.517, to the highest, 148.669, with a large proportion scoring near 0 and only a very few scoring either very high or very low results.

In order to try and create a tranquillity map with more intuitive units, the original data has been processed into a percentage score, whereby it has been split into 10% increments (i.e. each increment has 5,300 squares in it).

If a square has a score of 10% then it is in the top 10% of the whole country's range and will be the same as, or more tranquil, than other locations in the same range. Conversely, a square with a score of 100% is in the bottom 10% of the whole range and will be the same as, or less tranquil, than the other locations in the same range.



The map above shows the tranquillity data 're-classified' by JBA to create a range of values for the whole of England, grouped in increments of 10%.

This map has been shared with CPRE to check that this re-classification is acceptable, and that the outcome accurately represents the information. The feedback from CPRE has been positive and for the purposes of this submission, it has been accepted as a credible means of displaying the Tranquillity across North Lincolnshire.

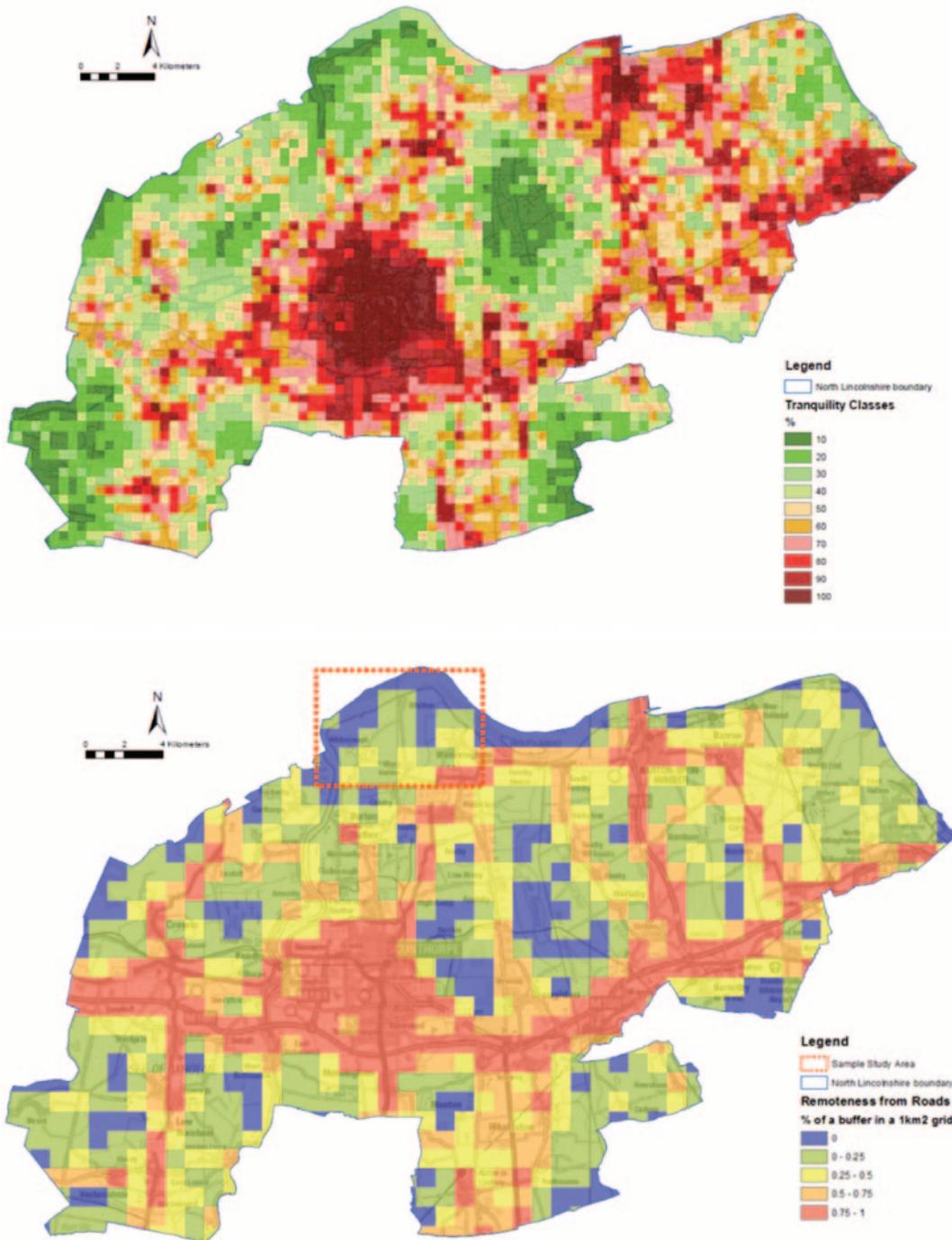
For clarification, the reference to Tranquillity within Section 5 of this document is based on this map, rather than the original version, to assist with any cross referencing.

# Area of Outstanding Natural Beauty

## 3.6.2 Road Buffers and Tranquillity

As previously stated, the Evaluation Area has been created using the approach set out in Part 2 of this document.

However, the validity of the JBA created Road Buffers output can be cross referenced against CPRE's Tranquillity Map (re-classified), both of which are shown below:

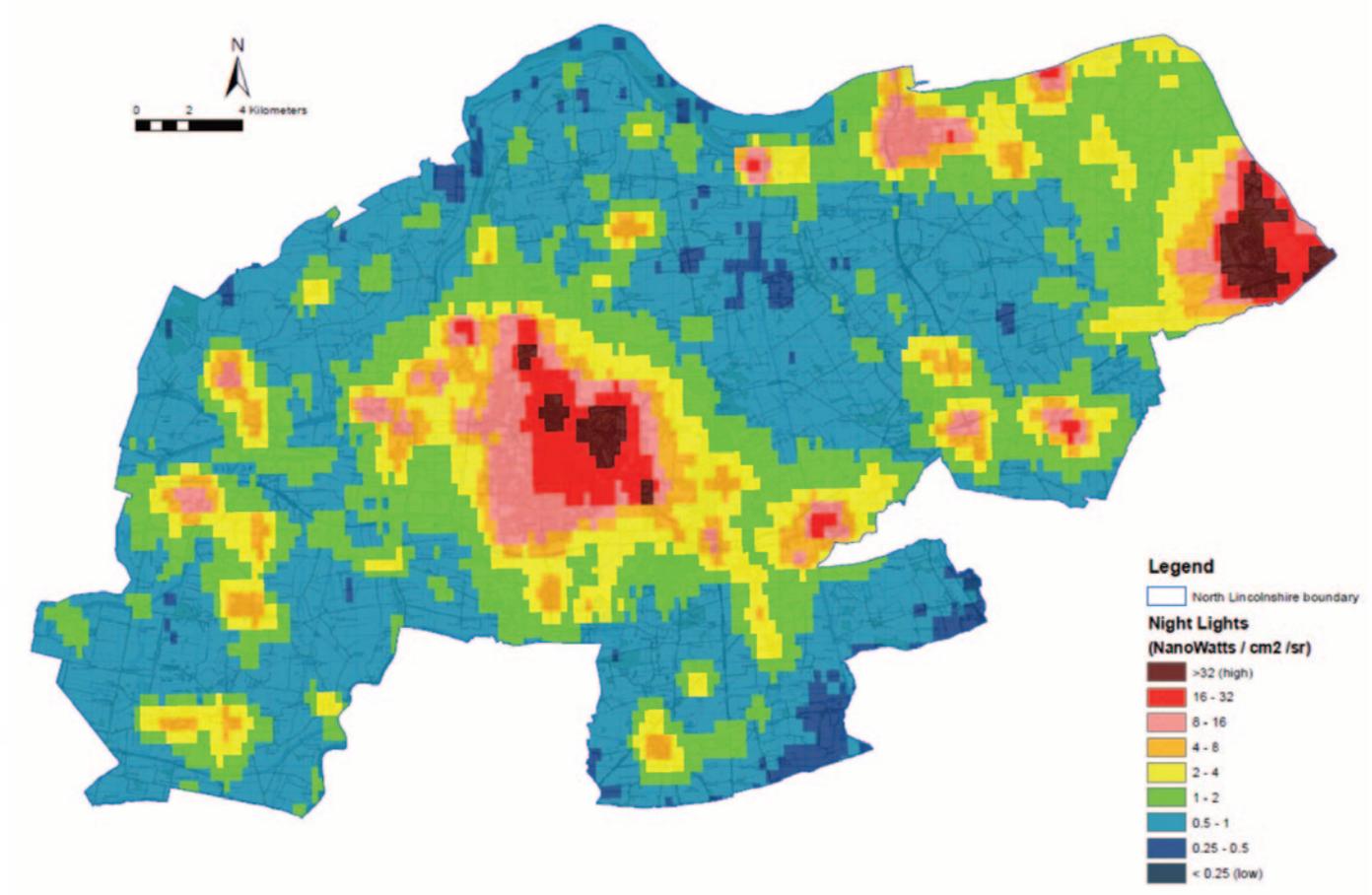


It could be suggested that CPRE's tranquillity map be used solely for Relative Tranquillity and JBA's Road Buffers map be used solely for Relative Wildness, however in the comparison shown above, the maps are so similar that the original use of Road Buffers for both Natural Beauty factors is validated.

## 3.6.3 Dark Skies

Darkness at night is considered by CPRE as a key characteristic in defining the difference between what is rural and urban, with the organisation a leading voice in the campaign against light pollution.

The map below is an extract from the Dark Skies map (2016) showing the area of North Lincolnshire. This demonstrates 'Dark Skies' consistent with the identified Evaluation Area.:



## 3.7 Agricultural Land Classification (2010)

The role of agriculture and land management plays a significant role across North Lincolnshire which has large areas of high-grade arable land which has strongly influenced the development pattern of the county.

Natural England acknowledge that In England it is widely accepted that the beauty of all our most cherished landscapes is in part due to human intervention such as agriculture and forestry; On this basis, the grade of arable land in North Lincolnshire is explored in more detail.

The Agricultural Land Classification (ALC) is managed by Natural England and classifies the agricultural land across England and Wales according to versatility and suitability for growing crops.

The classification is split into five grade categories according to versatility and suitability for growing crops:

**Grade 1 – Excellent**

**Grade 2 – Very Good**

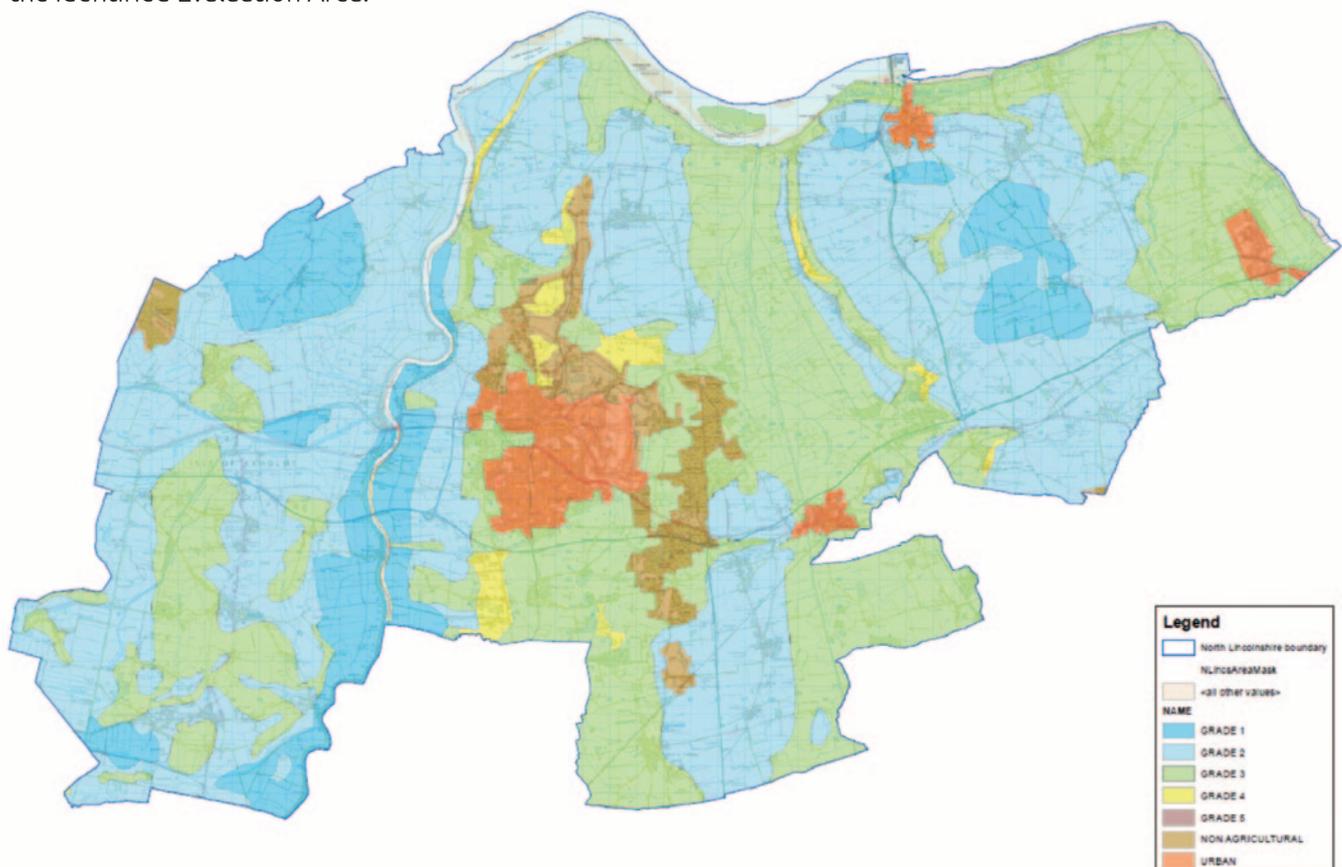
**Grade 3 – Good to Moderate**

**Grade 4 – Poor**

**Grade 5 – Very Poor**

Grade 3 can be further sub-divided, but these subdivisions are not shown on the map and their distinction is normally defined by more detailed survey work. This has not been undertaken as part of this development of an evidence base.

As can be seen, the county has significant areas of Grade 1 to 3 land shown in the extract below of map ALC003, Agricultural Land Classification Yorkshire and The Humber. Again, good to excellent grade land is consistent with the identified Evaluation Area.



## 4 Evaluation Area

### 4.1 North Lincolnshire – Our Heritage

North Lincolnshire is an area with a rich and varied character, shown through our cultural and natural heritage, our unique geological and topographical features and outstanding natural beauty.

From settlements dating back to the Iron Age, to the influences and legacy of the Roman Empire, one of the earliest surviving suspension bridges, designed by a renowned engineer knighted for his work on London Bridge, to the engineering masterpiece that is the Grade I listed Humber Bridge.

Human settlement has been influenced by the varied geology of the county, not just in terms of the quality of the land for agriculture, or construction, but also through the varied landform and the area's relationship with the rivers and water management methods.

Our ecology is diverse and varied, with habitat ranging from estuary, river, farmland, heathland, woodland and urban, each contributing to the mix of species of flora and fauna found across the county.

Our more recent story is one of development and employment and the challenges of providing for a modern society while maintaining a balance that preserves and enhances our rich heritage.

The Council has identified and highlighted locations across the county that exhibit obvious similarities in the geological features, agricultural practices and settlement patterns across the county and justify being put forward as a variation to the existing Lincolnshire Wolds AONB.

North Lincolnshire Council wishes to ensure that these landscapes are nationally recognised for their scenic beauty and protected together as a cohesive whole.

Through our work we have been able to analyse the areas that have similarities with the Lincolnshire Wolds AONB but equally those areas which do not share these characteristics but have their own unique assets worthy of consideration within the Evaluation Area.

The action of designation will further promote maintenance and management strategies for identified areas which are complementary to the approach adopted by the Lincolnshire Wolds AONB management team.

As the rare fossilised parts of a Pliosaur, a large marine predator, are being finalised to go on permanent display at the North Lincolnshire Museum in Scunthorpe, the region's story continues to develop.

The 26ft marine creature lived in the Jurassic period, some 155 million years ago, in the seas that covered the area. The find was discovered in a cement quarry in North Lincolnshire last summer.

**"It's an exciting find to have. It's part of the story of North Lincolnshire, so this is where it should be. Because, if you want to find out about what North Lincolnshire was like during the Jurassic, then you should be able to come to North Lincolnshire Museum and see fossils from that period." Rose Nicholson, curator North Lincolnshire Museum.**

The prospect of achieving AONB status would allow the county to further share its heritage with the wider world and be proud of what North Lincolnshire holds.

### 4.2 Our commitment

We have explored and assessed the criteria required to review AONB designation through discussions with Natural England and through the development of a robust methodology that applies a rigorous and defensible approach to identify strong Evaluation Areas to consider as part of our application.

We have also had positive discussions with the Lincolnshire Wolds AONB Joint Advisory Committee. Their statutory duty includes the continual review of the existing designation of the Lincolnshire Wolds AONB through the preparation of a five yearly Management Plan which is effective for the period 2018-23.

The Management Plan defines 58 indicators that combine to provide an assessment of the current state of the existing AONB, several of which can be directly applied to our candidate areas at this stage.

The distinction should be made that the Management Plan is a means of assessing an existing AONB status but the designation of a new AONB or an extension is through the criteria defined by Natural England's 'Guidance' document.



## 4.3 Evaluation sub areas

The Evaluation Area has been broken down into more localised areas, with their descriptors influenced by the names of existing Landscape Character Types, although each sub area can incorporate more than one LCT. It is also worth noting that these areas overlap one another and there is no hard boundary of separation.

The influence and contribution to the Natural Beauty factors are explored and presented in further detail to help identify the special qualities that underpin the desk-based assessment work completed in Part 1.

These localised areas are:

- The Ancholme Valley
- Saxby All Saints and the Low Villages
- The North Lincolnshire Wolds
- Thornton Abbey and Goxhill
- The North Lincolnshire Edge
- The Humber Estuary
- Alkborough

## 4.4 The Ancholme Valley

The Ancholme Valley is a flat and open expanse of agricultural land that extends from the Humber Estuary in the north to the southern edge of the North Lincolnshire administrative boundary just east of Kirton in Lindsey. The valley is contained to the west by the rising slopes of the Northern Lincolnshire Edge and to the east by the steep wooded scarp slope that climbs up to the Wolds top.

**“Like its predecessor, the New River Ancholme has maintained a distinctly rural character, dominated by arable cultivation, isolated farms and woodlands.”**  
Countryfile.com

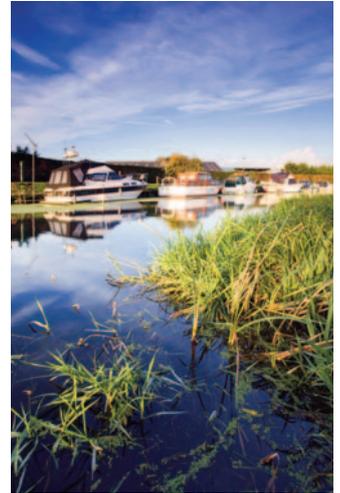
The Old River Ancholme meanders through the landscape although it is the New River Ancholme that



stands as the most prominent feature, carving and adapting the Ancholme Valley, and central to the landscape in the valley and

provides the perfect haven for the local wildlife. Very much a manmade north-south canalised route, it runs for 14 miles through the county, continuing for a further 5 miles south to Bishopbridge, within the West Lindsey administrative boundary.

The River Ancholme has been used by humans since at least 800 BC, confirmed by the excavation of a planked boat at Brigg, and patents covering improvements to the river are known from 1287 onwards. Major change occurred in 1635, when a newly straightened channel was constructed from Bishopbridge to South Ferriby. Further improvements were started by the civil engineer John Rennie (the Elder) in the early 1800s and completed by his son in the 1820s. The drainage of the Ancholme is remembered in local folk tales. Local people objected to the drainage as they did not want to risk offending the water spirits.



John Rennie was a Scottish civil engineer who designed many bridges, canals, and docks of great significance, including Waterloo Bridge and London Bridge. His son, John Rennie the younger completed the work for London Bridge in 1831, for which he was knighted. He designed Horkstow Bridge which was completed in 1835-6, enabling passage across the New River Ancholme at Horkstow, is the earliest known suspension bridge and remains substantially as designed today.

The majority of the land around both rivers is only 1m above sea level and its low-lying nature, and its propensity to flood, explains the lack of significant habitation within the valley except for the town of Brigg, sitting on localised higher ground, some 9 miles south of the Humber estuary.

Prior to human intervention, the river would have meandered through a flat-bottomed landscape with Carr woodland. The word Carr is derived from the Old Norse 'kjarr' meaning a swamp, although the underlying landscape would more typically have been Fen. Subsequent livestock management during the early periods of settlement would have adapted some of the area into floodplain grazing marsh.

For much of its length, the Old River Ancholme is now a simple field drain, but still retains a sense of its former

size as it runs through Brigg from the south. The addition of the new canalised route on the west of the town is re-joined by the old river from the east as they merge to the north of Brigg. The route of the two rivers have created a sizeable island of 85 ha, on the west of Brigg, known as 'Island Carr'.

The canalised river was reasonably profitable as a trade route following its completion in the 1820s, although the arrival of the railway within the area had an impact on this, trade picked up towards the end of the century, and was further boosted in the 1930s by cargoes of sugar beet. By the 1970s all the river's use as a trade route ceased above Brigg, before stopping completely in the 1980s. The upper section was almost derelict by then but was restored and dredged in 2004.

Many of the original bridges which cross the river serve local roads or have escaped modernisation due to their separation from the road network and have not been replaced or improved to handle increased traffic.

At the southern end of the valley the sense of enclosure experienced at the northern end diminishes and longer-range views are evident. In such a low-lying landscape, the bridges across the river provide a slightly more elevated viewpoint to drink in the big skies and the mixture of arable fields and small settlements.

There six listed bridges along the reach, from Horkstow Bridge in the north to Hibaldstow Bridge in the south. In addition to this, Ferriby Lock is a Scheduled Monument, with the first sluice gates in this area recorded as far back as the 1630s. These designations emphasise the strong cultural heritage associated with the riparian areas and water course within the valley. In 1905/06, Percy Granger recorded local folk songs, including "Brigg Fair" and "Horkstow Grange" providing a lasting record of this cultural heritage.

#### 4.4.1 Tranquillity and Dark skies

The northern extent of the Ancholme Valley has the largest area of tranquillity in the county, rated in the top 10 - 30% on the re-classified map, and is similarly well complimented by the road buffers map (Relative Wildness) which again shows up strongly. There is also a good-sized area in the south, around Cadney and Redbourne, in the same percentage range as the north, again complimented by areas of high Relative Wildness. These strong scores are, no doubt, influenced by the limited settlement and associated road network in the valley, as well as its wide open spaces and minimal traffic noise. Both the tranquillity and wildness are surpassed by the area of dark skies above the valley, which is a considerably larger area, achieving a



combination of the second and third best night lights rating in the country.

Unfortunately, neither the tranquillity nor the dark skies are continuously linked from north to south, with a break in both of them around the M180 and Brigg, which cuts east to west. Regardless of this, overall the Ancholme Valley rates very highly in both facets.

The river is popular with anglers and is a well-stocked and diverse lowland river containing roach, bream and perch amongst others. The majority of the river is ideal for pleasure fishing in the summer months however the fish migrate to the sheltered and slightly warmer waters around Brigg in winter, moving upstream to spawn in spring before moving back to cover most of the river in summer.

The river also helps to create a strong linear route for both pedestrians and cyclists and is currently undergoing development to create The Ancholme Valley Way. The route follows the river bank and provides an ample opportunity to enjoy the expansive views and connect with the other footpaths and cycle routes in the area

An example of this connectivity is the footpath that heads west from the river bank towards the village of Redbourne, an attractive historic settlement, set in woodland with views east over the large open fields. The centre of the village is designated as a Conservation Area and includes a number of listed buildings including Redbourne Hall Lodge and Gateway as well as the Grade I listed Church of St Andrew dating from the 14th century.

The areas of Carr woodland create a stunning and diverse natural landscape which can be found up and down the valley.

**"We are opening access so more people can explore our wonderful countryside, which North Lincolnshire has an abundance of." North Lincolnshire Council leader, Cllr Rob Waltham MBE**

The land within the valley is predominantly used for agriculture with the quality of the soil classed as 'good to moderate' within Natural England's Agricultural Land Classification framework. In addition to this, the Priority Habitat Inventory records numerous areas of Deciduous Woodland along the valley bottom as well as areas of Coastal and Floodplain Grazing Marsh. These factors contribute to a strong natural heritage throughout the valley.

In the summer, the Ancholme Valley supports good breeding populations of protected and priority wetland and farmland birds including kingfisher, barn owl, marsh harrier, Cetti's warbler, reed bunting, skylark, tree sparrow, linnets and lapwing. In winter, areas of grassland provide valuable hunting grounds for short-eared owls and hen harriers, whilst arable fields and stubbles support large feeding flocks of pink-footed geese, lapwings and golden plover associated with the internationally important Humber Estuary. In terms of mammals, the valley is a stronghold for water voles, otters, brown hares, badgers and several species of bat.

The priority habitats of the valley include floodplain grazing marsh, reedbeds, hedgerows, ponds, rivers, wet woodland and lowland mixed deciduous woodland, including an important ancient woodland complex in the Broughton area. The latter includes Broughton Far Wood and Broughton Alder Wood Sites of Special Scientific Interest (SSSI).

#### 4.4.2 Summary

The area is not without more recent human influence and is bisected by the Scunthorpe - Barnetby railway line cutting through the middle of the valley from north-west to south-east. High voltage lines and pylons are also present, running north from Brigg as well east-west just to the south of South Ferriby. The cement works on the estuary edge, at the very north of the valley, have a strong presence when at this end of the valley.

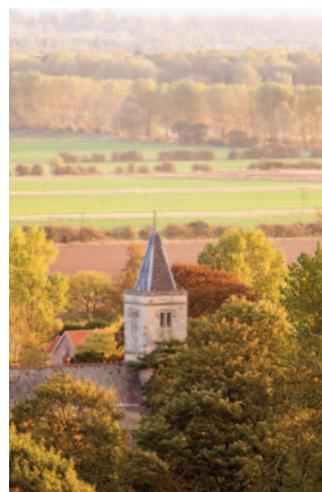
Despite these influences, the valley still retains a positive sense of place and uniqueness through its low lying condition and the fact that it is well contained by the rising landscape immediately to the east and west; once outside of the North Lincolnshire administrative boundary, the underlying geology significantly widens and its appearance as a valley becomes visually less enclosed and distinctive.

Although the Ancholme Valley doesn't directly accord with the characteristics of the Lincolnshire Wolds AONB, as it is so geologically different, it still has consistencies against many of the Management Plan indicators such as:

- Good rating against the CPRE maps
- Length of river in moderate or good ecological condition
- promoted circular walking routes
- promoted cycle routes
- long distance trails
- available special feature maps and leaflets

The diverse landscape of the River Ancholme is rich and breath taking, offering a haven for the wildlife of the Ancholme Valley and is perfect for bird watching, walking, cycling or just to relax and take in the scenery.

## 4.5 Saxby All Saints and the Low Villages



The Wooded Scarp of North Lincolnshire is located immediately east of the Ancholme Valley where it rises sharply from the valley bottom up to 90m AOD to the North Lincolnshire Wolds. This elevation change can occur over as little as half a kilometre, as it does at the village of Saxby All Saints.

This landscape has strong similarities with the special qualities of the

Lincolnshire Wolds AONB, specifically, the North-West Scarp character area, where both have a prominent scarp slope with extensive views west and picturesque historic villages sited along the foot of the scarp.

The villages that follow the scarp slope are South Ferriby, Horkstow, Saxby All Saints, Bonby and Worlaby, collectively known as The Low Villages due to their location at the foot of the scarp. All 5 villages are recorded in the Domesday book and originate from the Medieval Period.

In addition to this, the village of Elsham, 2 miles south of Worlaby, is also recorded in the Domesday book and was the location of a 12th century Norman abbey run by Augustinian canons. Elsham is nestled on the slopes of the Lincolnshire Wolds and is an attractive, and mostly unspoilt, village with a varied heritage. Over the years, the settlement has been shaped by the abbey, the families who made Elsham Hall their home and the

RAF base which provided a significant contribution to the war efforts during both World Wars.

The village's church, All Saints, has two stone relief carved panels situated either side of the main door. These 13th century carvings are in the French style and are two of several original Norman features found in the church.

Across all 6 villages there are 44 listed buildings along a 7 mile stretch of road, the B1204, that runs along the foot of the scarp and stitches together the villages and settlements. There are also historic farmsteads along this same route with around 60% retaining their original built form which is consistent with the AONB.

In addition to this there are several Scheduled Monuments including the remains of a Roman villa at Horkstow, dated around 300 AD, that yielded the Horkstow Roman Mosaic pavement (housed in Hull museum).

**'Horkstow is a good example of the luxurious villas that marked the flourishing late Romano-British society. As a largely unexcavated site, extensive buried remains of the villa complex will survive, despite the early removal of some of the mosaic flooring.'** - Historic England

To the south-west of Elsham is Wrawby which contains the Wrawby Postmill, which once provided flour for the Elsham estate. It is the last of its kind in the north of England and is open to visitors, who can still see how the power of the wind is harnessed to grind flour as well as the mill's collection of vintage farming tools.

The village of Saxby All Saints is one of 16 Conservation Areas within the county, and the largest, covering around 10 ha, and is practically unaltered since the 17th century. The village is shielded and secretive, thanks to its woodland shelter of hillside plantations, hedges and mature trees intricately linked in and around the village.

The scarp slopes are still farmed and have land classed as 'good to moderate' within Natural England's Agricultural Land Classification framework, although a band to the west of the B1204 from Elsham to South Ferriby is identified as 'very good'. A much smaller area to the east of Saxby All Saints is classed as 'poor'.

The Priority Habitat Inventory records that approximately 90% of the woodland on the scarp slope is Deciduous Woodland, with a few small areas of Lowland Calcareous Grassland mixed in. Around Elsham the varied geology produces an intimate mix of areas of chalk springs, marshes, lowland calcareous grassland, neutral grassland and acid grassland, all of Local

Wildlife Site quality, with a heathland SSSI nearby at Wrawby Moor. Elsham Chalk Quarry has recently been declared a Local Nature Reserve and is managed by the community in partnership with North Lincolnshire Council. There are also designated Local Geological Sites at Elsham Chalk Pit and Elsham Sandstone Quarry. All of these factors contribute to a strong natural heritage along the scarp slope.

## 4.5.1 Tranquillity and Dark Skies

The tranquillity within the area 'ripples out' from the Ancholme Valley and is mainly rated in the top 20 - 30% on the re-classified map, but with small pockets of less tranquillity as would be expected around the areas of settlement. Despite this it is still consistent with the spring line villages of the Lincolnshire Wolds AONB.

The Dark Skies rating is however more comparative between the villages and the corresponding areas within the Lincolnshire Wolds AONB, and here it has a combination of the second and third best night lights rating in the country, creating a large area.

The larger settlements of Elsham and South Ferriby have a high level of light pollution reflective of their population and proximity to more significant infrastructure, however the more recent initiative by North Lincolnshire Council to roll out LED street lighting may have improved this. Regardless, based on the CPRE maps, the levels are consistent with those around Nettleton and Caistor within the AONB.

## 4.5.2 Summary

The scarp slope gently rises from the Humber estuary edge but becomes more restricted at South Ferriby and maintains this narrow form through to Elsham. Although it doesn't climb to the same heights as in the Lincolnshire Wolds AONB, it is the context of the adjacent Ancholme Valley and the Humber Estuary to the north that accentuate the sense of elevation and the vistas that can be appreciated from this narrow strip of land.

The mixed terrain of the scarp slope provides sanctuary for an assortment of wildlife including Pink-footed goose, Rooks, Jackdaws, Barn owl, Sparrowhawk, Shelduck and Corn buntings.

## 4.6 The North Lincolnshire Wolds

The Lincolnshire Wolds is a long narrow band of rolling agricultural land extending from Barton upon Humber in the north to Spilsby in the south where the landscape is strongly influenced by its underlying geology and later reshaped by the glacial action enacted upon it.

The Lincolnshire Wolds AONB designation covers a large section of the southern extent of this landscape although it is the similarities and special qualities of the northern end of the AONB that is complemented by the North Lincolnshire Wolds.



Both areas are consistent in their character and development with large, open arable plateaux of rolling hills, chalk escarpments, isolated valleys and scattered stands of beech and sycamore woodland. The area is sparsely settled with many villages, including those recorded from Medieval times, archaeological sites on the plateau (e.g. tumuli, barrows) and isolated modest country houses and historic farmsteads scattered throughout.

The villages of Thornton Curtis and Wootton are recorded in the Domesday book of 1086 when, in the case of the latter, the lordship of the manor was jointly held by Odo of Bayeux, a half-brother of William the Conqueror. The two villages are on the eastern fringe of the Lincolnshire Wolds and mark the transition as the land starts to gently grade down towards the estuary. A mile to the south-west of Wootton is the very well preserved Howe Hill Bowl Barrow which is listed as a Scheduled Monument. The majority of barrows in the region are generally only visible on aerial photographs and may have been lost through centuries of agricultural activity.

Thornton Curtis is home to the architecturally significant St Lawrence's church standing dominant on the main road that runs through the village. It is mentioned in Pevsner's 'Buildings of England' and referred to as a 'memorable building'. It is regarded as

one of North Lincolnshire's greatest ecclesiastical treasures; an architectural gem, featuring an extremely rare 12th century black Tournai marble font (one of a very few in the country) enhanced by a splendid collection of church furniture and many other remarkable features dating back through the centuries.

South of the M180 is the area around Kirmington and Croxton that also significantly contributes to the North Lincolnshire Wolds' cultural heritage. The Scheduled Monument of Yarborough Camp, west of Croxton, is one of a small number of identified Iron Age hill forts on the Lincolnshire Wolds, with latter material adding to its importance through the suggestion that it was later re-used during the Romano-British period. There is also another Roman settlement recorded to the west of Kirmington, and immediately south of Croxton are the very well preserved, and extensive, buried and earthwork remains of the medieval settlement of Croxton.

Just on the North Lincolnshire administrative boundary is the mixed woodland that is part of the Brocklesby Park registered Park and Garden designation. A collection of 3 listed structures are located on the B1210 at the point at which it enters Brocklesby, including the impressive Brocklesby Memorial Arch. The old drover's roads which criss-cross the area are historic routes once used for driving livestock to market. The presence of these further underlines the agricultural heritage of the North Lincolnshire Wolds. Although they are nowadays sealed roads and accessible to vehicles, their narrow width and wide grass verges with neat managed hedgerows set them apart from the more modern, faster routes available for road users.

The verges adjacent to these routes are valued habitats and have been designated as Local Wildlife Sites by North Lincolnshire Council and are positively managed. The primary example of these drovers' roads is the route that runs north from Melton Ross via Burnham to Barton Upon Humber; this is now part of the National



Cycle Network (NCN) Route 1, Hull to Fakenham, a long distance cycle route connecting Dover and the Shetland Islands via the east coast of England and Scotland. The Viking Way that follows the Lincolnshire Wolds through the AONB starts at the Humber Bridge at the northern point of the Evaluation Area.

Middlegate Lane, stretching from South Ferriby to Melton Ross along the Western scarp of the Wolds, supports some of the most species rich remnants of calcareous grassland in Northern Lincolnshire road verges. Several chalk pits in the North Lincolnshire Wolds have been declared as Local Geological Sites, whilst others are calcareous grassland Local Wildlife Sites. The arable fields of the northern wolds are a stronghold for declining farmland birds, including corn buntings and grey partridge. In the winter, skeins of thousands of pink-footed geese fly daily from their roosts on Read's Island, in the Humber, to the wide open fields of the Wolds, where they can feed whilst scanning the horizon for predators.

The market towns of Barton Upon Humber and Barrow Upon Humber, although nowadays significantly developed both have historic cores which are designated as Conservation Areas containing listed buildings and historic farmsteads. Barrow Upon Humber's heritage is enriched due to it being the birthplace of John Harrison, a carpenter and clockmaker born in 1693, famous for solving the problem of longitude, which enabled safer and swifter travel for thousands of ships down the centuries.

## 4.6.1 Tranquillity and Dark Skies

The Wolds has mixed tranquillity with a small area amongst the network of arable fields in the top 30% on the re-classified map, but outside of this it falls into the

50% - 80% range. It is no surprise that the Relative Wildness follows a similar pattern to tranquillity with both factors influenced by the larger settlements of Barton Upon Humber and Barrow Upon Humber to the north, as well as by the A15. Away from the M180 and A15, tranquillity is relatively high. Although roads are present, they are very rural in character- forming part of the National Cycle Network in places.

**'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.'** - Natural England

The Dark Skies are strong with a combination of the second and third best night lights rating in the country, creating a large area in its own right, but also contributing to a much larger area out to the west, washing over the scarp slope, spring line villages, The Ancholme Valley and around to the north west of the county; this rating is consistent with the night skies over the Lincolnshire Wolds AONB.

The Dark Skies are, not surprisingly, disturbed by the transport corridor along the M180, but once beyond the edges of Kirmington and Humberside airport, the rating significantly improves and achieves the same levels as the stronger areas to the north.

Natural England's Agricultural Land Classification framework lists the majority of the area as 'very good' with a sizeable area west of Wootton classed as 'excellent'. A small area within the centre is classed as 'good'.

The Priority Habitat Inventory records that a high proportion of the woodland on the North Lincolnshire Wolds is Deciduous Woodland confirming the strong presence of small plantation woodland and Beech clumps of the 18th & 19th century origin.

## 4.6.2 Summary

The similarities and special qualities with the AONB are apparent, and both areas face the same challenges and pressures that need to be sensitively managed and resolved. The open skies, tranquillity and inspiration need to be cherished and where possible enhanced.

The presence of historic farmsteads, drovers' routes, listed buildings, medieval villages and managed verges are consistent with these facets in the AONB. Both the Viking Way and NCN Route 1 pass through the AONB and their continuation into the North Lincolnshire Wolds are valued indicators that also show consistency with the AONB.



## 4.7 Thornton Abbey and Goxhill

As the North Lincolnshire Wolds dip towards the east, the arable landscape undulates gently, becoming flatter and lower lying landscape as it drifts north and east towards the Humber. The quality of the agricultural land remains very good, as typified on the Wolds top, and only begins to change to good quality just beyond Thornton Abbey and to the south west of Goxhill.

Thornton Abbey, a Scheduled Monument, which was founded in 1140, was one of Britain's richest Augustinian abbeys by the late 13th century. It is the jewel in the crown of the area and the cultural theme is well supported by the Scheduled Monument of Goxhill Hall moated site, one kilometre north, surviving in good condition and unusual in that it retains one of its original medieval buildings.

**'Thornton Abbey's enormous and ornate fortified gatehouse is the largest and amongst the finest in England.'** – English Heritage

The range of valued habitats as defined in the PHI, commences at Thornton Abbey with good sized areas of deciduous woodland to the south of the Abbey as well as Good quality semi-improved grassland and a traditional orchard within the site itself.

There is also a traditional orchard on the outskirts of Goxhill, which ties in well with the Ferry Road, the main route into the village lined with fruit trees along the



road verge. Beyond the village, to the north east the habitat is typified through a greater presence of semi improved grassland and coastal floodplain grazing areas. On the Estuary edge the habitat changes to a mixture of reedbed, saltmarsh and mudflats. East Halton Beck, which runs to the east of both Thornton Abbey and Goxhill, also has coastal and floodplain grazing marsh along a section of its bank, as well as a few nearby pockets of deciduous woodland.

Although the greatest cultural heritage contribution within the area comes from Thornton Abbey, in and around Goxhill there are a high density of traditional farmsteads that have retained their original features or have been slightly altered. The flat open farmland beyond Goxhill to the north east similarly has a good density of Historic farmsteads associated with the large rectilinear fields bounded by well-defined hedgerows and modified watercourses and drainage ditches.

In addition to this, Goxhill has a disused Airfield on the west of the village, with records of a landing ground during the First World War and later, in 1940, deemed suitable by the Air Ministry as an airfield. Originally used as a barrage balloon site to protect the port of Hull and the River Humber, it was transferred to RAF Bomber Command in 1940 and rebuilt as a bomber airfield.

Goxhill was the first RAF site handed to the United States Army Air Forces (USAAF) in 1942 and used by the Americans as a training base, before being transferred back to the RAF in 1945. The ceremony to mark the handover of the Watch Office to the USAAF was attended by General Dwight D Eisenhower who would later become the 34th US president.

### 4.7.1 Tranquillity and Dark Skies

The tranquillity to the east of Thornton Abbey and Goxhill is mainly rated in the top 20 - 40% on the re-classified map, but with small pockets of less tranquillity around the areas of settlement. The Relative Wildness returns a similar range of values which is generally high across the arable farmland and on to the estuary edge. The abbey grounds are also regarded as a haven for wildlife and the ideal place to get away from it all.

Perversely, despite the tranquillity and wildness, Dark Skies are not as strong with the majority of the area in the fourth highest band of night lights which is possibly as a consequence of light spill from the Industrial areas to the south, as well as the regular maritime movements in the Humber Estuary, influencing what is a quite sparsely populated area.

### 4.7.2 Summary

Although it's geographically one of the smaller Evaluation areas that has been identified, around Thornton Abbey and Goxhill, there is still a strong cultural heritage spanning from the 12th Century to the Second World War. The low scoring tranquillity and night skies are likely to be influenced by the area's proximity to the Humber and the high quantity of working ports on both sides of the estuary.

## 4.8 The North Lincolnshire Edge

The North Lincolnshire Edge is part of the larger Lincolnshire Edge, a Jurassic limestone ridge that runs from Lincoln in the south to Whitton on the Humber Estuary. Although the Edge predominantly refers to the western scarp slope of this geological feature, the eastern slope is equally impressive and within North Lincolnshire is worthy of consideration as a candidate area for the Wolds AONB extension.

Dipping gently to the east, The North Lincolnshire Edge's limestone escarpment has extensive areas of wind-blown sand which have given rise to infertile soils that support heathland, acid grassland and oak and birch woodlands.

The vegetation that has flourished as a consequence of these infertile soils provides habitat for rare species such as woodlark and grayling butterfly.

As the eastern edge grades down to the Ancholme Valley, it is intersected by Ermine Street, the route of an ancient Roman road, that ran from London to York, with a crossing point over the Humber at the site of the Old Winteringham Roman Settlement, now a Scheduled Monument.

In an almost mirror image of the eastern edge of the Ancholme Valley, there are spring-line villages and nucleated medieval settlement patterns along Ermine Street including Redbourne, Scawby, Appleby, Winterton and Winteringham. This is consistent with the settlement pattern within the north west of the existing AONB.

With a plethora of outstanding listed buildings within Appleby, it is a delightful village with old world buildings at every touch and turn. The most important listed building is the 13th century Church of St Bartholomew with its 14th and 15th century tower and chancel.

Broughton has a wealth of mixed ancient woodland with a spirit of past landscape. The settlement at Broughton dates back to the Neolithic Stone Age with stone axes found in the 19th century and the Roman Ermine Street cutting through the rural landscape. Abraham de la Pryme, curate of Broughton, wrote about the local area in the 1690s.

Three kilometres to the south east of Broughton, is a Scheduled Monument with a well preserved complex of earthwork remains of buildings and other features. This was acknowledged as an area of some importance during the Medieval period when both King Edward I and King Edward II held court at the moated manor house.

There is a rich concentration of cultural heritage, consistent with the Wolds AONB, around these settlements with Conservation Areas at Appleby, Winterton and Winteringham as well as high number of Historic Farmsteads and Listed Buildings in and around these villages. There is also a Scheduled Monument at Appleby Carrs dated around 1148 and showing buried and earthwork remains including the church and cloister.

Scawby is an attractive village with appealing stone estate cottages lining the streets and colourful hanging baskets and tubs adorning the village throughout the summer months. With its proximity to Ermine Street, there is evidence of Roman settlement in the area with the remains of a Roman Bath House discovered at nearby Sturton in the early 1800s.

Located in the centre of Scawby is Scawby Hall, a Grade I listed Jacobean manor house belonging to the Nelthorpe family set in idyllic grounds with a stunning garden. The Hall has a significant collection of art works by several notable painters, including George Stubbs, as well as many pieces of period furniture.

The Carrs around Appleby and Broughton are not only a stunning and diverse natural feature but also offer a sense of enclosure around the settlement.

Kirton in Lindsey is also located along Ermine Street, the first large settlement as the route runs in to North Lincolnshire from the south, and has evidence of Roman settlement, Anglo-Saxon burial grounds and the Grade I listed Church of St Andrew with origins from the 11th century.

The route north from Kirton in Lindsey belies its appearance and is rich with cultural and natural heritage, not only through the conservation area and listed buildings within the village itself, but also through the Scheduled Monuments that confirm the Lincolnshire Edge's story of human settlement.

A little way north of Kirton in Lindsey is the site of a Romano-British villa at Mount Pleasant Farm, with evidence indicating that the villa still survives in good condition, complete with foundation walls and tessellated pavements and retains significant archaeological information relating to the Romano-British period in Britain. There is also a much larger Romano-British site at Staniwells, 3km to the north-east of Mount Pleasant Farm

The site of Gainsthorpe Village, regarded by Historic England as one of the best preserved and visually impressive medieval rural settlements in England, is located on the same north-east trajectory

approximately half way between the two Roman sites.

Although the presence of deserted villages is not as concentrated as within the Lincolnshire Wolds AONB, these exceptionally well-defined and highly valued remains contribute significantly towards the cultural heritage.

As well as Scheduled Monuments there are several SSSIs along this stretch of Ermine Street, prior to it crossing the M180. There is also a sizable area of mixed woodland, commencing just south of Greetwell, on this side of the motorway.

## 4.8.1 Tranquillity and Dark Skies

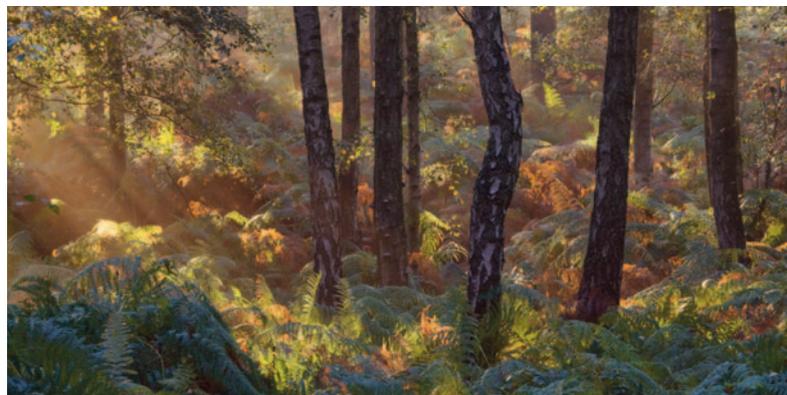
The stronger tranquillity seems to ripple to the west from the Ancholme Valley and wash over the woodland to the north of Broughton and around Appleby, as well the areas around Risby Warren and Roxby. These areas are mainly rated in the top 20 - 30% on the re-classified map, with a pocket in the top 10%. The tranquillity value is weaker around the settlements; however, it is consistent with that recorded within the AONB along the A road network approaching Louth from the west. Around the M180 the tranquillity is very low but stronger areas start to return and break up the map's appearance once south of Scawby. Again, the Relative Wildness follows a similar pattern to the tranquillity.

The Dark Skies are influenced by the light spill from the east of Scunthorpe, as well as from Winterton in the north and Hibaldstow and Kirton in Lindsey, to the south but the road network has less impact and generally the levels around it are low which is consistent with the levels west of Louth within the AONB.

The stronger Dark Skies wash over and around Appleby and Broughton, in the same way that the tranquillity does and the rural areas around Kirton in Lindsey are as strong as these same areas to the north.

There are large areas of woodland to the west and north of Broughton, creating coverage of approximately 550 hectares which is consistent in its size with the woodland around Stenigot, Muckton and Welton Le Marsh within the Wolds AONB. It is further complimented by other smaller areas of woodland nearby including on Broughton Common, Risby Warren, Appleby Carrs and north of Appleby.

Within this 550 ha woodland, West Wood, Gadbury Wood, Spring Wood and Far Wood are classed as Ancient Replanted and Semi-natural Woodland, with a good variety of wildflowers, and combine to cover 270 ha. Far Wood, in the north eastern area of Broughton Wood is also a designated SSSI.



**'There are extensive woodlands near Broughton, including Broughton Far Wood, an SSSI for its ash/oak woodland lying on clay overlying limestone, and Broughton Alder Wood with its spring-fed wet valley dominated by alder trees' – Natural England**

Similarly, Risby Warren 3 kilometres to the north-west and historically used as a rabbit warren, is also a designated SSSI. It has a unique and distinctive formation of inland dunes, which creates a diverse semi-natural habitat alongside calcareous grassland and open water.

Covering around 157 hectares, Risby Warren is one of the largest land based SSSIs within the whole ceremonial county of Lincolnshire. It supports breeding woodlark and grayling butterflies, along with waxcap fungi and uncommon plants such as purple milk vetch and the unusual moonwort.

Manton and Twigmoor SSSIs south of the M180, are within another large area of mixed woodland, with these nationally designated sites exhibiting some of the finest wet heathland in the area. The combination of these areas of woodland, either side of the motorway, make up quite a sizeable whole, measuring some 1051 ha; one of the larger areas of woodland in the county of Lincolnshire.

The extensive woodlands at Twigmoor are a haven of peace and quiet with the 'gull ponds' woodland birds and a mixture of established trees. Although no longer standing, a large house known as Twigmoor Hall, was home to John 'Jack' Wright who was one of Guy Fawkes' fellow conspirators in the Gun Powder Plot. Local legend has it that much of the plot was in fact hatched at the Hall.

The rustic wooded areas of Broughton and Appleby have woodland flowers and birds in abundance, including Lily of the Valley, Primrose, Wood anemone, Bluebell, Nettle-leaved bellflower, Buzzard, Nightjar and Nuthatch.

# Area of Outstanding Natural Beauty

Natural England's Agricultural Land Classification framework lists the woodland around Broughton as 'non-agricultural' and the area of Risby Warren as 'poor' however they are unique and valuable areas for the reasons previously given and would not be expected to be graded highly as agricultural land. There is a brief interruption of 'good' farmland that squeezes in from The Ancholme Valley around Appleby Carrs but the land to the north, around Appleby and Winterton is graded as 'very good'.

## 4.8.2 Summary

The M180 and larger areas of settlement are present in this area, however, the focus should remain on the Lincolnshire Edge's strong ecological heritage and value which is well supported by the rich cultural heritage all along Ermine Street and the wider areas.

Although the Lincolnshire Edge is geologically different from the AONB, there are consistencies in how the geology, both underlying and superficial, has influenced the settlement and land use through the millennia. There are also large areas of high value woodlands and unique heathlands that support a wide variety of flora and fauna.

## 4.9 The Humber Estuary

The Humber Estuary around Barton Upon Humber is unique as it is the starting point for the Lincolnshire Wolds on its climb out of the river and continued rise before commencing southwards for the next 80 km.

The Wolds' close proximity to the tidal Humber Estuary is unique within Lincolnshire, as the rest of the Lincolnshire Wolds remains 'land-locked' throughout the rest of its journey. The foot of the scarp slope is exposed at low tide around South Ferriby Cliff on the



Humber Bank which reveals Lincolnshire's only extent of sea cliff, a 2 km long section which consists of clay and chalk.

The chalk presence is what contributes so significantly to the excellent arable quality of the Wolds plateau and it is the clay that has shaped the water front and the contribution that it would make to the proposed AONB extension.



Due to the natural clay deposits found within this area, Barton upon Humber was once the brick and tile-making capital of Britain following the industry's birth around the seventeenth century, as tile roofs and brick gradually replaced thatch.

The claypits were created through the extraction of clay for the thriving brick and roof tile making industry of Barton with around 20 manufacturers operating in Barton upon Humber from the 1850s onwards. By around 1959 the extraction had ceased, with just a handful of manufacturers continuing the work. More recently the pits have been flooded and transformed into a network of nature reserves. The juxtaposition of clay deposits overlying the chalk aquifer, which receives rainfall from the Wolds, has led to the formation of blow wells, where spring water emerges through the clay. These geological features are believed to be unique to north-eastern Lincolnshire.

Far Ings National Nature Reserve is an example of where the pioneering work of the Lincolnshire Wildlife Trust has created a reserve which is now rich in wildlife including reedbed specialist species, such as bittern, marsh harrier and bearded tit.

The Waters' Edge Country Park is a more recent addition to the rich ecological canon along the Humber Bank, as one of Britain's largest estuaries supports abundant wildlife including great numbers of wildlife and wading birds that inhabit the foreshore and offshore mudflats.

The Humber Estuary is internationally important for nature conservation, with the whole estuary designated as a SSSI and Natura 2000 site which also covers Far Ings and Waters' Edge.

**'Waters' Edge Visitor Centre is set in 86 acres of country park against the stunning backdrop of the Humber Bridge.'** – [Englandscost.com](http://Englandscost.com)

# Area of Outstanding Natural Beauty

The Barton and Barrow Claypits are a complex of reedbeds and open water in flooded claypits which are important for breeding bittern, marsh harrier, bearded tits, water rail, reed warblers and sedge warblers. They also support wintering waterfowl, including good numbers of pochard, tufted duck, goldeneye, teal and gadwall.

The Grade I listed Humber Bridge was the longest single span bridge in the world when opened in 1982 and although that feat was superseded in 1998, it is still the longest single span bridge in the world for pedestrians and cyclists. The Viking Way that follows the Lincolnshire Wolds through the AONB starts at the Humber Bridge, at the northern point of the Evaluation Area.

Roman and Anglo-Saxon finds suggest that Barton upon Humber's earliest settlement stretches back to these eras of influence. The town was recorded in the Domesday Book of 1086 as having a ferry and playing an important role on the River Humber. The line of the bridge is believed to be similar to an ancient ferry route between Hessele to Barton upon Humber.

The Estuary's role and heritage can be seen in the summer months to the west at South Ferriby when the Humber Sloop and Keel Preservation Society occasionally moor up their historic vessels.

The estuary had been a barrier to trade and development for centuries despite the ferry services available but with the completion of the Humber Bridge the town was once again playing an important role in the transportation of goods and people.

The town has a conservation area at its core with Grade I and Grade II Listed Buildings as well as Scheduled Monument found within it.

Although not from the area, George Stubbs (1724-1806) was classified in his lifetime as a sporting painter and is best remembered for his paintings of horses. Early on in his life Stubbs developed an interest in anatomy and it would be hard to counter the significant contribution that his time in North Lincolnshire had on his major publication, 'The Anatomy of the Horse'. In 1756 Stubbs rented a farmhouse in Horkstow for 18 months, spending much of his time recording anatomical studies of the horse cadavers he was dissecting.

During 1756 he was also commissioned by Lady Elizabeth Nelthorpe, of Scawby Hall, to paint a portrait of her son, Sir John Nelthorpe, the sixth baronet.





The portrait, 'Sir John Nelthorpe, 6th Baronet out Shooting with his Dogs in Barton Field, Lincolnshire' is also a snapshot of the landscape of North Lincolnshire in that era, with Sir John atop the Wolds with their rolling arable fields dipping gently to the east and north where the distant skyline of Barton can be seen and beyond it the Humber Estuary. Such pictorial recordings of the county are rare and serve as an invaluable reference.

Stubbs' link to North Lincolnshire and the Nelthorpe family goes further back to 1745 when he painted a portrait of Sir Henry and Lady Elizabeth Nelthorpe, reputedly his first commissioned work, currently hanging in the Drawing Room at Scawby Hall.

**"Stubbs's pictures of horses are among the most accurate ever painted, but his work is lyrical and transcends naturalism." The National Gallery**

Although the legacy of Stubbs is forever associated with his celebrated work of the thoroughbred racehorse 'Whistlejacket', his links to, and influence from, North Lincolnshire can be reasonably considered to have resonated far beyond his 18 month sojourn.

## 4.9.1 Tranquillity and Dark Skies

There are pockets along the estuary shoreline which fall within the top 30% of re-classified Tranquillity map. The river also seems to contribute significantly to Relative Wildness which displays some of the stronger scores in the area.

The Dark Skies fall within the fourth band in the more fringe and shoreline areas however the influence from Barton Upon Humber and the A15 / Humber Bridge results in generally weak scores.

The Viking Way long distance footpath cuts in from the west and past South Ferriby Cliff before crossing over to the Humber Bridge. The NCN Route 1 runs in from the south-east and similarly uses the bridge as a means of traversing the Humber.

## 4.9.2 Summary

For such a relatively small area, The Humber Estuary is packed with a combination of visible geology, ecologically rich reserves, a unique heritage in terms of the construction industry and in terms of the importance of Barton upon Humber's role and relationship with the River Humber.

Expansive views can be experienced from the North Lincolnshire Wolds to the south and south west. The Humber Bridge, an engineering marvel suspended high above the river, offers even wider ranging views across the North Lincolnshire coastline.

The rise and fall of the tide is a twice daily show that has been playing for the ages. This visual metronome creates a uniqueness that can't be witnessed from any locations within the existing AONB.

## 4.10 Alkborough

The historic village of Alkborough is prominently located in the north-west of the county on the northern tip of the Jurassic limestone ridge, the Lincolnshire Edge.

Orientated in a westerly direction, the village has elevated views over the confluence of the Rivers Ouse and Trent; the point at which the Humber Estuary is formed.

The area around the confluence is rich with ecological value and designations, including the continuation of the internationally important Humber Estuary, designated as a SSSI and Natura 2000 site, which extends along both the Ouse and the Trent. Alkborough Flats supports a strong mix of habitats including mudflats, coastal saltmarsh, reedbeds and

coastal and floodplain grazing marsh across the lower lying land and good quality semi-improved grassland and deciduous woodland on the ridge slope.

From the floodbank to the foot of the scarp, the whole of Alkborough Flats was designated a Local Wildlife Site in 2018. It supports breeding bittern, marsh harrier, bearded tit and water rail in impressive numbers, with huge flocks of wintering waterfowl and frequent rare visitors, such as spoonbill and green-winged teal. Mammals present include otter, water vole, badger, harvest mouse and several species of bat.



The area around Winteringham Ings and Read's Island, within the estuary to the east of the area are of great importance for breeding avocets and wintering waterfowl, including avocets, curlew and thousands of lapwing, golden plover and pink footed geese. All of these locations are within the internationally important Humber Estuary.

Alkborough itself has a conservation area, several listed buildings and a scheduled monument within it. The earliest evidence of settlement is dated from the Neolithic period as well as the site of the former Alkborough Benedictine Priory Cell founded before 1052.

Close to the Cliff edge is Julian's Bower, a unicursal turf maze of unknown origin but estimated to be at least medieval. The earliest known documentary reference to the maze at Alkborough is in the Diary of Abraham de la Pryme written between 1671 and 1704.

**Julian's Bower is a well preserved example of a turf maze, its sunken form demonstrating its great age. It has been suggested that the maze was cut by Spalding Priory before 1220, and thus predates the pavement maze in Chartres Cathedral. It is one of the few surviving turf mazes believed to be medieval in origin.' – Historic England**



In 1697, the existence of a stone in the ruined chancel of the Church of Saint John the Baptist was recorded by de la Pryme referring to the church having been restored with the assistance of three of the four knights who murdered Thomas Becket in Canterbury Cathedral in 1170.

The church has been restored and altered down the centuries and is now a Grade I listed building however the stone has never been found which adds intrigue to the myth of its existence.

More recent history recalls the use of the Alkborough Flats as a training bombing range during World War II and the site of a heavy anti-aircraft gunsite, near to Mere Farm, south of Winteringham, which retains the functional core of the station: the command post and four-gun emplacements are now a Scheduled Monument.

The wider area around Alkborough, incorporating Whitton to the north-east, Winteringham to the east and West Halton to the south west are within an undulating landscape that levels off near the estuary shoreline; Winteringham is good illustration of this topographical change with the majority of the village on the last vestiges of the sloping land running down to Halton Drain.

The farmland on this undulating landscape is rated as 'very good' on the ALC and contains a high number of Historic Farmsteads across the area. There is also good coverage of mixed woodland across the area including field boundary trees and managed hedgerows.

Whitton on the banks of the Humber is the most northerly settlement in North Lincolnshire and archaeological surveys have identified a number of Romano-British settlements along the high ground between Whitton and Alkborough. The cliff end at Whitton is both a Local Wildlife Site and a Local Geological Site.

#### 4.10.1 Tranquillity and Dark Skies

The area around Alkborough is similar to the Ancholme Valley with a good level of tranquillity, falling within the top 10%-30% as shown on the re-classified map, which is also reflected in the high scores achieved within Relative Wildness.

The Dark Skies also show up strongly, with only a slight drop around the settlements themselves, and all these strong scores are probably due to the large extent of high graded agricultural land with a limited road network and small scale settlement.

There is a good network of footpaths and heritage trails between the 4 settlements which are part of North Lincolnshire's Heritage trails; a series of informative maps detailing the routes and places of interest in the locale. All 4 have at the heart of the settlement a listed place of worship, with medieval origins, which have subsequently been rebuilt.

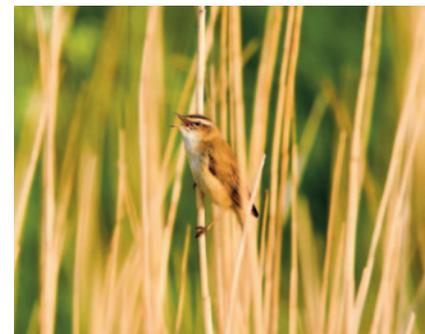
#### 4.10.2 Summary

Alkborough and the surrounding area has a diverse cultural story and due to its proximity to the Humber Estuary has high ecological heritage, home to vulnerable bird species including Marsh Harrier, Bittern and Golden Plover.

**'The Humber Estuary is the second-largest coastal plain estuary in the UK, and the largest coastal plain estuary on the east coast of Britain.'** – [humbernature.co.uk](http://humbernature.co.uk)

The confluence of the rivers that form the estuary creates a unique location and combined with the rich farming land has driven the settlement of the area down the ages. Fortunately, this hasn't resulted in over settling of the area with much of the arable land retained and as such contributes positively to the tranquillity and low night light pollution.

There are many consistencies with the existing AONB including the tranquillity, night skies, the rural settlement and churches, from Roman and Medieval times, to the impact of the second world war and the role that Lincolnshire played in the country's war time efforts.



#### 4.11 Overall Summation

Although this series of smaller areas have been discussed on their individual merits, they are intrinsically linked and should be considered as a whole. The region's geology and landform roll and fall like waves out in the Humber Estuary; this is how it has been for some significant time and is how it will continue to be long into the future.

Similarly, the human influence has ebbed and flowed like the tide, sometimes leaving indelible traces, sometimes leaving tantalising glimpses of eras and empires that need to be preserved and understood. The heritage that exists across North Lincolnshire, be it cultural or natural, needs conserving so that it can become a legacy for future generations.

## 5 Consultation and Consensus for designation

As part of the process of developing the methodology and disseminating the outputs achieved, JBA Consulting held several meetings with the key members of North Lincolnshire Council's AONB submission team, Andrew Taylor and Nolan Bennett.

In addition to this, there have been several presentations to other interested parties, whose feedback has provided invaluable input to the project.

There has also been a number of Skype and Telephone calls throughout the project, and only those of relevance, along with the meetings, have been documented below:

Date	Attendees	Location	Purpose
21/09/2018	Nolan Bennett, Andrew Taylor, Chris Barwell & Alison Williams (NLC) Peter Harrison & Matthew Thirsk (JBA)	North Lincolnshire Council offices, Church Square, Scunthorpe	First review meeting as part of the Landscape Character Assessment review work. Initial discussions regarding possible AONB qualities.
02/11/2018	Nolan Bennett, Andrew Taylor & Chris Barwell (NLC) Peter Harrison & Matthew Thirsk (JBA)	North Lincolnshire Council offices, Church Square, Scunthorpe	Update on the methodology and assessment work undertaken on the AONB qualities.
28/11/2018	Nolan Bennett & Andrew Taylor (NLC) Peter Harrison & Matthew Thirsk (JBA) Stephen Jack (Lincolnshire Wolds Countryside Service Manager) Rob Gornell (Natural England, East Midlands Area Team)	Natural England, Ceres House, Lincoln	Opportunity to present interpretation of NE guidance and method of evaluation to both Natural England and Lincolnshire Wolds AONB representatives. Support confirmed.
07/03/2019	Andrew Taylor, Chris Barwell & Adam Lovell (NLC) Peter Harrison & Matthew Thirsk (JBA)	North Lincolnshire Council offices, Church Square, Scunthorpe	Update on the methodology and assessment work undertaken on the AONB qualities.
12/03/2019	Matthew Thirsk (JBA) Graeme Willis (CPRE)	Telephone call	Discussion around the CPRE Tranquillity Map and 'normalisation' of the data to create a more concise colour coded output
13/03/2019	Nolan Bennett, Andrew Taylor & Chris Barwell (NLC) Peter Harrison & Matthew Thirsk (JBA), representatives from LWT, NFU and Historic England	North Lincolnshire Council offices, Civic Centre, Scunthorpe	Presentation of draft Evaluation Area and methodology to council members, LWT, NFU and Historic England. Support confirmed.
11/04/2019	Nolan Bennett, Andrew Taylor (NLC) Peter Harrison & Matthew Thirsk (JBA)	Tetford Village Hall, Horncastle	Presentation to, and open dialogue with, Lincolnshire Wolds AONB Joint Advisory Committee annual meeting attendees. Support confirmed.