

Wirral Metropolitan Borough Council

Wirral Landscape Character Assessment

Final report

Prepared by LUC

October 2019



Wirral Metropolitan Borough Council

Wirral Landscape Character Assessment

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Contents

Chapter 1			
Introduction and Landscape Context	4		
Structure of this report	4		
Background and purpose of the Landscape Character Assessment	4		
The role of Landscape Character Assessment	5		
Wirral in context	5		
Policy context	6		
Relationship to published landscape studies	9		
		1c: Eastham Estuarine Edge	60
Chapter 2			
Methodology for the Landscape Character Assessment	13		
Approach	13		
Process of assessment	13		
Landscape Character Area description	14		
		Chapter 7	
		LCT 2: River Floodplains	67
		2a: The Birket River Floodplain	68
		2b: The Fender River Floodplain	75
Chapter 3			
Formative Influences	17		
Physical influences	17		
Cultural influences	26		
Perceptual landscape	28		
		Chapter 8	
		LCT 3: Sandstone Hills	82
		3a: Bidston Sandstone Hills	83
		3b: Thurstaston and Greasby Sandstone Hills	90
		3c: Irby and Pensby Sandstone Hills	98
		3d: Heswall Dales Sandstone Hills	105
Chapter 4			
Summary of Landscape Issues	33		
Climate change	33		
Coastal processes	33		
Agricultural change	34		
Land management	35		
Development pressure	35		
		Chapter 9	
		LCT 4: Lowland Farmland and Estates	111
		4a: Landican and Thingwall Lowland Farmland and Estates	112
		4b: Thornton Hough Lowland Farmland and Estates	119
		4c Clatterbrook and Dibbin Valley Lowland Farmland and Estates	126
		4d: Raby Lowland Farmland and Estates	134
Chapter 5			
The Landscape Character of Wirral	39		
Outline of the landscape character of the Borough	39		
Landscape types and character areas	40		
		Chapter 10	
		SCT 5: Coastal Waters	141
		5a: North Wirral Foreshore and Coastal Waters	142
Chapter 6			
LCT 1: Coastal / Estuarine Edge	43		
1a: North Wirral Coastal Edge	44		
1b: Dee Estuarine Edge	53		
		Chapter 11	
		SCT 6: Estuaries	146
		6a: Dee Estuary	147
		6b: Mersey Estuary	151
		Appendix A	
		Glossary of Terms	A-1
		Appendix B	
		Historic Landscape Characterisation	B-1

Contents

Appendix C	
User Guide	C-1



Introduction and Landscape Context

Chapter 1

Introduction and Landscape Context

Structure of this report

1.1 This report is structured as follows:

■ Part 1: Overview

- **Chapter 1: Introduction** presents the background and purpose of the Landscape Character Assessment, existing policy context and relationship to other landscape studies (this chapter).
- **Chapter 2: Methodology for the Landscape Character Assessment** presents a summary of the method and approach to the landscape character assessment.
- **Chapter 3: Formative Influences** looks at the physical and cultural influences that have shaped Wirral's landscape in the past.
- **Chapter 4: Summary of Landscape Issues** looks at the influences which shape the current and future landscape.

■ Part 2: The Landscape Character of Wirral

- Presents an outline of the landscape character of the Borough and the landscape classification and character of Wirral through a series of area profiles.

1.2 The report is supported by the following appendices:

- **Appendix A:** A glossary of terms;
- **Appendix B:** Historic Landscape Character terminology; and
- **Appendix C:** User guide for decision makers.

Background and purpose of the Landscape Character Assessment

1.3 LUC was commissioned in May 2019 to review and refresh Wirral Metropolitan Borough Council's landscape evidence base. This included a requirement to update the Wirral Landscape Character Assessment and Visual Appraisal produced in 2009 by TEP to provide a comprehensive and up to date landscape character assessment for all land outside defined settlements.

1.4 The Wirral Landscape Character Assessment will form part of the evidence base for the Borough's emerging Local Plan. It is intended to both inform work on policy development and development management, guiding development and land management that is sympathetic to local character and the special qualities of the Borough, including encouraging the protection and enhancement of valued landscapes in accordance with the National Planning Policy Framework (NPPF) 2019. It is also intended to promote an understanding of how the landscapes of the Borough are changing as a result of a combination of natural, economic and human factors, and how they can be strengthened in response.

1.5 The LCA can be used to consider landscape character when planning any type of change. It is therefore designed to be used by all involved in decisions about proposals for change and development including:

- Landscape architects;
- Developers, members of professional development project teams and other organisations who own or manage land;
- Other professionals involved in assessing the consequences of change on other aspects of the environment;
- Planners and other officers in local government and government agencies who may be the recipients of reports on the consequences of change and development; and
- Politicians, parish councils, local interest groups, amenity societies and the general public who may be involved in decisions about proposals for change and development.

1.6 A User guide is set out in **Appendix C**.

The role of Landscape Character Assessment

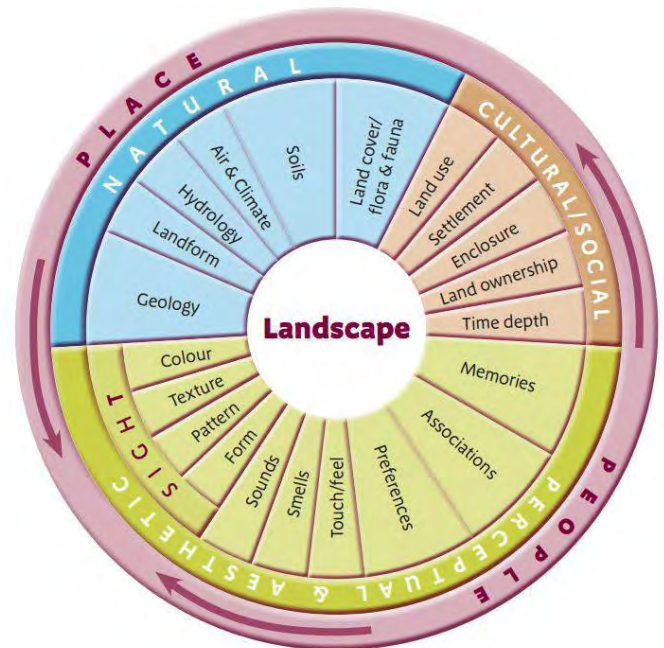
1.7 Landscape character is defined as:

“a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse”¹.

1.8 Landscape character assessment is the process of identifying and describing such variations in character across a landscape – in this case the Metropolitan Borough of Wirral. It also seeks to identify and explain the unique combination of features and attributes (characteristics) that make different landscapes distinctive. The landscape is the result of the interaction between people and the environment that gives an area a local identity. The ‘landscape wheel’ below illustrates how the different natural, cultural and perceptual attributes of a landscape combine to produce character.

1.9 The process of Landscape Character Assessment is described in *“An Approach to Landscape Character Assessment”* (Natural England, October 2014).

1.10 Understanding the character of place and evaluating an area’s defining characteristics is a key component in managing growth sustainably and ensuring that the inherent qualities of Wirral’s landscape can continue to be appreciated. Understanding of character can be used to ensure that any change or development does not undermine whatever is valued or characteristic in a particular landscape.



The ‘landscape wheel’ (Natural England, 2014)

Wirral in context

1.11 Wirral is a metropolitan authority of 160 square kilometres (60 square miles), located on the Wirral Peninsula, a large peninsula between the Dee and Mersey estuaries. Cheshire West and Chester Borough borders Wirral to the south and occupies the remainder of the Wirral Peninsula. The City of Liverpool lies to the east, and Sir y Fflint (Flintshire) to the south-west across the Dee Estuary. The Irish Sea lies to the north. The location and context of the study area is shown on **Figure 1.1**.

1.12 The Borough has a population of 323,235, with a population density of 2,058 people per square kilometre². Urban development is concentrated east of the M53 along the River Mersey extending from Eastham in the south to Wallasey and New Brighton in the north. In the west, development is characterised by a series of suburban settlements and smaller villages including the larger settlements of Caldy, Heswall, Pensby, Hoylake, West Kirby, Moreton and Greasby. The rural environment of Wirral adds significantly to the quality of life enjoyed by both urban and rural residents of the Borough and is a conservable asset for the wider area.

¹ Natural England (2014), *An Approach to Landscape Character Assessment*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691184/landscape-character-assessment.pdf

² Office for National Statistics (2019), *Mid-year 2018*, <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates>

1.13 Wirral is well connected in transport terms. The M53 runs through the centre of the Borough, and railway lines provide connections within the Borough to the rest of Cheshire and Liverpool. These locational factors, combined with the quality of the rural areas and coastline, contribute towards making the area a popular place to live and work.

Policy context

The European Landscape Convention

1.14 The European Landscape Convention (ELC) came into force in the UK in March 2007. It establishes the need to recognise landscape in law; to develop landscape policies dedicated to the protection, management and planning of landscapes; and to establish procedures for the participation of the general public and other stakeholders in the creation and implementation of landscape policies. The ELC definition of 'landscape' recognises that all landscapes matter, be they ordinary, degraded or outstanding:

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

1.15 The ELC puts emphasis on the whole landscape and all its values and is forward looking in its approach, recognising the dynamic and changing character of landscape. Specific measures promoted by the ELC of direct relevance to this study include:

- The identification and assessment of landscape; and
- Improved consideration of landscape in existing and future sectoral and spatial policy and regulation.

1.16 This updated Landscape Character Assessment will continue to make a key contribution to the implementation of the ELC in Wirral. It helps to reaffirm the importance of landscape, coordinate existing work and guide future work to protect, manage and plan the landscapes of Wirral.

National Planning Policy Framework (NPPF)

1.17 The revised NPPF, published in June 2019, states in paragraph 170 that:

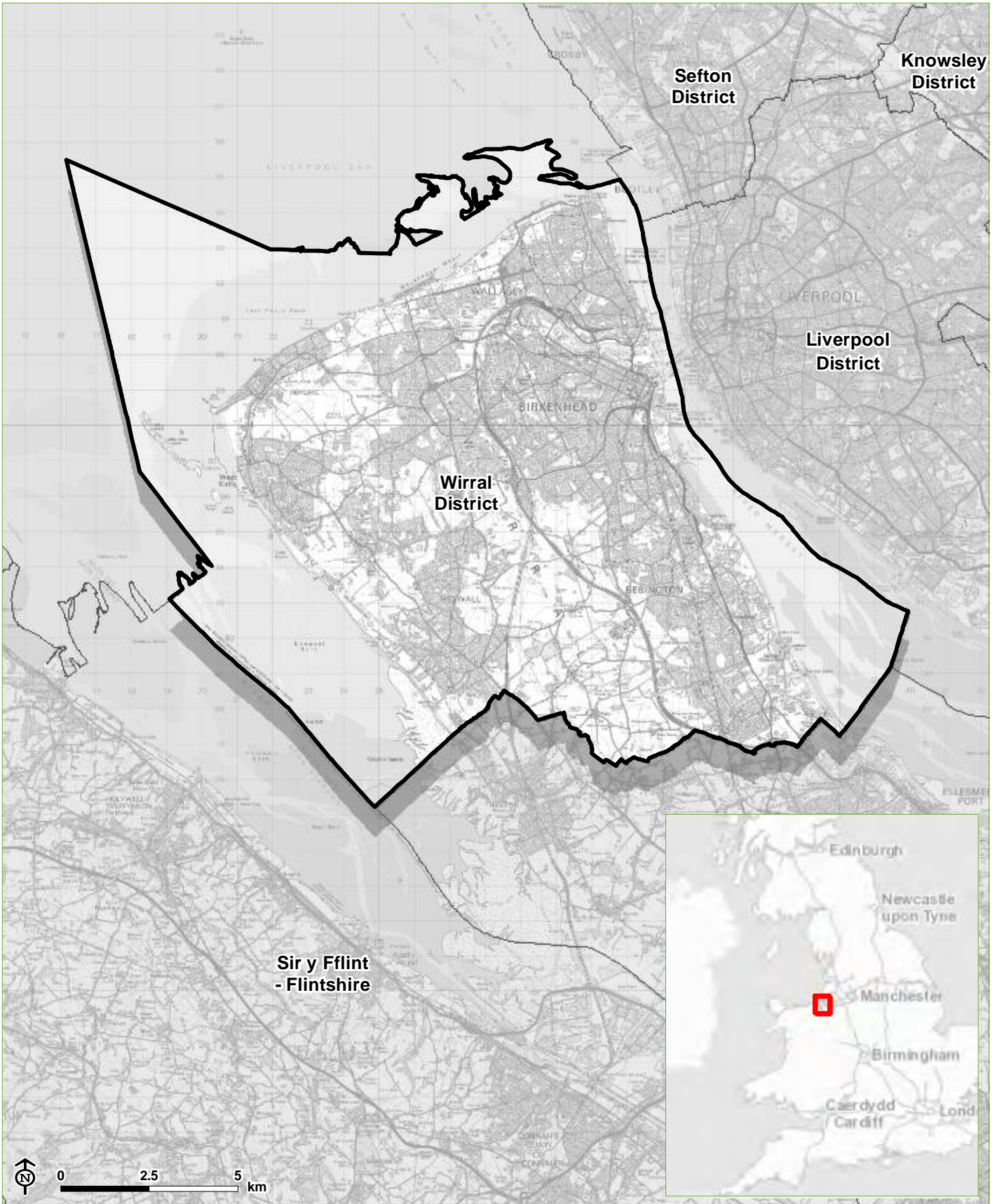
'Planning policies and decisions should contribute to and enhance the natural and local environment by:



...protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality)' (para 170.a)

...recognising the intrinsic character and beauty of the countryside and the wider benefits from natural capital and

ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland ...' (para 170.b).

1.18 The NPPF is supported by Planning Practice Guidance which recognises the role that Landscape Character Assessment plays in helping to understand the character and local distinctiveness of the landscape.



-  Wirral Borough Boundary
-  Adjacent Local Authority Boundary

Wirral Local Plan
Landscape Assessment



Fig 1.1
Location plan

Existing Policy Context

1.19 The existing local plan, the Unitary Development Plan (UDP) for Wirral was adopted in February 2000. The strategic policies in the UDP will soon be replaced by a new Local Plan. This will update the council's long-term vision, objectives and strategy for the Borough and will identify land allocations for development up to 2035.

1.20 The local landscape is valued and protected by a series of 'saved' UDP policies. There is a general resistance to development in the countryside or protected landscapes which would have an adverse effect on the appearance or character of the landscape.

Green Belt

1.21 Most of the Borough's remaining open land has been designated as Green Belt. The Green Belt in Wirral was adopted by the former Merseyside County Council in 1983. There is a general presumption against inappropriate development within the Green Belt and it remains important in ensuring new development is concentrated in existing urban areas. Green Belt boundaries are however designated with the primary purpose of preventing urban sprawl rather than on the grounds of landscape quality.

1.22 The boundaries of the Green Belt were reviewed and extended in 2000. An Initial Review of the Green Belt was published in September 2018 and as part of the Local Plan evidence base, a further Green Belt study is being undertaken to inform the final content of the emerging Local Plan as part of a wider review of development options, by investigating sites that could potentially be suitable for release from the Green Belt.

Areas of Special Landscape Value

1.23 Landscapes considered to be amongst the most outstanding within the Borough were identified within the UDP in **Proposal LA2**. These included formal landscapes created by former large country estates and rural areas, natural coastal scenery, and wooded slopes related to Wirral's sandstone ridges.

1.24 Four Areas of Special Landscape Value were identified:

- Bidston Hill;
- Dee Coast, including Heswall Dales, Thurstaston Common and Royden Park;
- Caldly Hill, including Stapledon Wood; and

- Thornton Hough.

Areas Requiring Landscape Renewal

1.25 Areas of degraded landscape detract from the image and attractiveness of the Borough. These are of particular importance where they occur as tracts of under-utilised land in prominent locations, visible from major highways, where they have potential to become environmental assets. Three Areas Requiring Landscape Renewal were identified within the UDP in **Proposal LA4**:

- The M53 Corridor and Bidston Moss;
- North Wirral Plain (Moreton); and
- North Wirral Plain (Hoylake).

Landscape policies within adjacent Cheshire West and Chester

1.26 Open countryside overlooking the Dee Estuary which adjoins Wirral in Cheshire West and Chester is designated as An Area of Special County Value for its special landscape character and scenic value. Policy GBC2 Protection of Landscape of Cheshire West and Chester Local Plan (Part Two) Land Allocations and Detailed Policies aims to preserve, enhance and improve public access to Areas of Special County Value.

The Mersey Forest

1.27 The Mersey Forest is part of the National Programme for Community Forests and works in partnership with partners, communities and landowners to bring about change to the character and landscape of Merseyside and Cheshire through increasing woodland to 20% of the area. The work of The Mersey Forest is guided by the Mersey Forest Plan (2014)³ which has 20 overarching policies to get 'more from trees' to help make Merseyside and North Cheshire one of the best places in the country to live. Since The Mersey Forest was established in 1991 woodland cover has doubled from 4% to 8%.

1.28 Within Cheshire West and Chester, adjacent to Wirral, the aspiration is to increase woodland cover to 10- 30%, through the creation of small woodlands. Wirral Council is not a contributing partner to the Mersey Forest. However extensive woodland planting has been undertaken within the Borough along the M53 motorway corridor (in an Area Requiring Landscape Renewal) by the local Groundwork Trust and on former landfill sites at Bidston Moss and Cross Lane,

³ The Mersey Forest (2014), More from trees: The Mersey Forest Plan, https://www.merseyforest.org.uk/The_Mersey_Forest_Plan_web_version_single_new.pdf

Wallasey by the Forestry Commission as part of the Newlands Initiative.

Relationship to published landscape studies

1.29 Landscape Character Assessment can be undertaken at a variety of scales and levels of detail, with the Wirral Landscape Character Assessment included within a hierarchy of landscape character assessment information cascading down from the national to local level.

National level

1.30 At a national level, England is divided into 159 distinct National Character Areas (NCAs). Each is defined by a unique combination of landscape, biodiversity, geodiversity, history and cultural and economic activity. There are descriptive profiles available for each NCA (published in 2014 by Natural England⁴) setting out information on landscape character, changes in the landscape and an assessment of ecosystem services delivered. Wirral is largely covered by two NCAs: NCA 58 Merseyside Conurbation (which continues east across the Mersey to Liverpool) and NCA 59 Wirral (which continues south into Cheshire).

1.31 The Marine Management Organisation has commissioned strategic-scale seascape assessments to produce a national seascape character map for all England's inshore and offshore areas. This consists of individual Marine Character Areas (MCAs) which cross marine plan areas and administrative boundaries. Wirral is largely covered by MCA 36: Dee and Mersey Estuaries and Coastal Waters (while MCA 01 Dee Estuary covers the Welsh side of the Dee Estuary outside the Wirral Borough boundary).

1.32 National landscape and seascape character areas within Wirral are illustrated in **Figure 1.2**.

NCA 58 Merseyside Conurbation

1.33 This NCA is an urban and suburban landscape based around the city of Liverpool and includes the urban and industrial areas of Birkenhead/ Wirral, to the east of the M53 motorway and the mid-Wirral sandstone ridge. It sits on a low-lying but gently rolling platform, punctuated by low sandstone ridges and bisected by the Mersey Estuary. There is a dense settlement pattern of housing and large-scale industry. Where present, views of the Mersey Estuary provide a visual break between the dense urban conurbations of Liverpool and Birkenhead.

NCA 59 Wirral

1.34 The NCA covers the Wirral peninsula, extending west from the M53 motorway, from the mid-Wirral sandstone ridge to the coast along the Dee Estuary. It is based on the formal landscape of former large country estates, rural areas, natural coastal scenery and wooded sandstone ridges. It is a rich pastoral landscape interspersed with settlements. The field pattern is generally medium-sized with clipped hedgerows, frequent copses and field ponds. In coastal areas, the pattern changes to geometric fields bounded by drainage ditches. Heathland and mixed woodlands are frequent and the coastal scenery along the Dee Estuary has a marked influence over the character of the landscape.

MCA 36: Dee and Mersey Estuaries and Coastal Waters

1.35 This area comprises the Dee and Mersey estuaries, which are related but contrasting, and the coastal waters that link them. The Mersey Estuary is characterised by urban development and docklands and provides shipping and access inland at the Manchester Ship Canal. The Dee Estuary is much less developed and is characterised by tidal mud and sand flats backed by dunes and saltmarsh.

Local level

1.36 Landscape does not stop at administrative boundaries but continues seamlessly into surrounding boroughs. This assessment therefore sits alongside the Landscape Character Assessment of the adjacent authority of Cheshire West and Chester.

Cheshire West and Chester LCA (2016)

1.37 The Cheshire West and Chester Landscape Character Assessment (2016) characterises the land adjacent to Wirral as LCT6: Enclosed Farmland and LCT16: Mudflats and Saltmarsh.

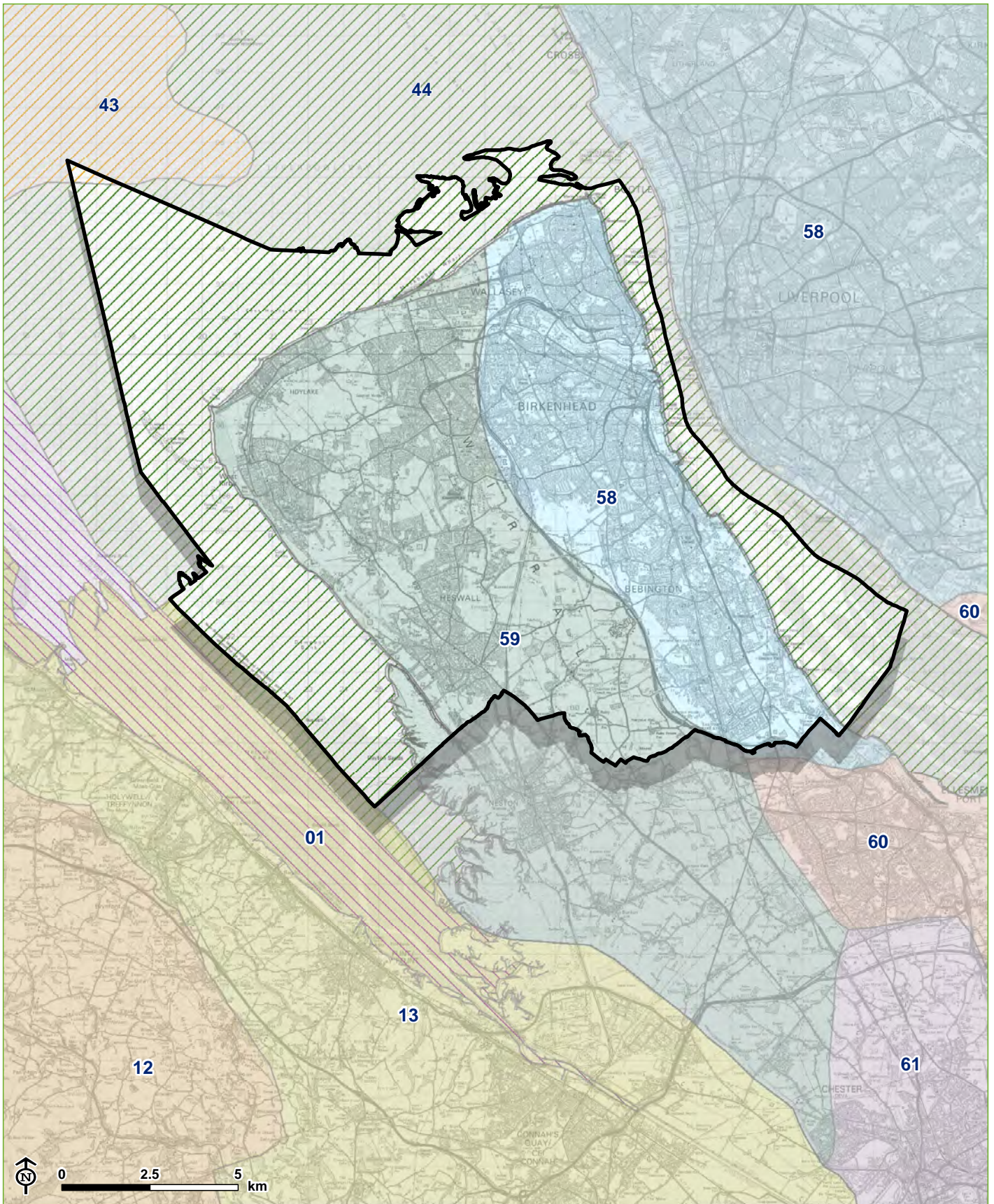
1.38 Enclosed Farmland LCT is described as low lying, gently undulating or sloping farmland with a small to medium scale field pattern. Key characteristics include strong field patterns, small woodlands, ponds and streams and nucleated rural villages and scattered farmhouses.

1.39 Mudflats and Saltmarsh LCT is described as flat open areas of intertidal mudflats and saltmarsh with no tree cover, providing internationally important bird habitats.

⁴ <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles>

Wirral Landscape and Visual Appraisal (2009)

1.40 This assessment builds on the existing Wirral Landscape Character Assessment and Visual Appraisal produced for the authority in 2009. It has been updated in line with current good practice and to reflect the present state of the landscape. Further details of the approach are set out in **Chapter 2**.



Wirral Borough Boundary

National Landscape Character Areas (Wales)

- 12: Bryniau Clwyd/Clwydian Range
- 13: Glannau Dyfrdwy a Wrecsam/Deeside and Wrexham

National Character Areas (England)

- 58: Merseyside Conurbation
- 59: Wirral
- 61: Shropshire, Cheshire and Staffordshire Plain
- 60: Mersey Valley

Marine Character Areas (North West)

- 43: Liverpool Bay
- 44: Dee and Mersey Estuaries

Marine Character Areas (Wales)

- 01: Dee Estuary (Wales)

Wirral Local Plan
Landscape Assessment



Fig 1.2:
National Character Areas
and Marine Character Areas

Methodology for the Landscape Character Assessment



Chapter 2

Methodology for the Landscape Character Assessment

Approach

2.1 This Landscape Character Assessment follows the method promoted by Natural England through ‘An Approach to Landscape Character Assessment’ (2014)⁵, which embeds the principles of the European Landscape Convention (ELC) within it.

2.2 It supersedes the 2009 Wirral Landscape Character Assessment and Visual Appraisal.

Process of assessment

2.3 The process for undertaking the study involved four main stages described below:

- Desk-based review and classification;
- Field survey;
- Draft Report; and
- Final Report.

2.4 GIS was used throughout the study as the tool for collating, manipulating and presenting data.

Desk study

2.5 The initial desk-based stage involved the collation of a wide range of mapped information to ‘sense-check’ the existing landscape classifications and to update the baseline. Designations relating to cultural heritage, nature conservation and landscape were checked for any changes. Newly available data such as light pollution and tranquillity mapping has also been used to further strengthen an up-to-date understanding of key trends.

2.6 Data used within the report, including data collated in the GIS database is shown in **Table 2-1**.

Table 2-1: GIS data

Name	Source
Base OS mapping at 1:25k and 1:50k	Ordnance Survey
Terrain 50 Contour data	Ordnance Survey
Linear features, mass movement, artificial ground, superficial deposits and bedrock geology 1:50K	British Geological Survey
Administrative boundaries	Wirral Metropolitan Borough Council
National Character Areas	Natural England
Public Rights of Way	Natural England
River features & flood zones	Environment Agency
Nature conservation designations	Natural England (national datasets) and Wirral Metropolitan Borough Council (local datasets)
Priority habitats	Natural England and Wirral Metropolitan Borough Council
Historic Landscape Characterisation dataset	Cheshire County Council and English Heritage
Heritage designations	Historic England (national datasets) and Wirral Metropolitan Borough Council (local datasets)
Dark skies	CPRE
Infrastructure	Ordnance Survey
Local Plan	Wirral Metropolitan Borough Council

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/396192/landscape-character-assessment.pdf

Classification

2.7 Classification is concerned with dividing the landscape into areas of distinct, recognisable and consistent common character and grouping areas of similar character together.

- **Landscape Character Types** share broadly similar patterns of geology, topography, vegetation and human influences in each area in which they occur. Although not identical they share a common pattern of elements e.g. Lowland Farmland and Estates LCT.
- **Landscape Character Areas** – Each landscape type is divided into a number of geographically specific character areas. These share generic characteristics with other areas of the same type but have their own particular identity or ‘sense of place’ e.g. Raby Lowland Farmland and Estates LCA.

2.8 The update of the landscape classification for Wirral is based on a review of the 2009 LCT and LCA boundaries. Some minor adjustments were made to boundaries (e.g. border between 4b Thornton Hough Lowland Farmland and Estates, 4c Clatterbrook and Dibbin Valley Lowland Farmland and Estates and 4d Raby Lowland Farmland and Estates) and some areas were reclassified into a different Landscape Character Type (e.g. 1c Eastham Estuarine Edge).

2.9 Seascape assessments for the three coastal landscape character areas have been added.

2.10 This process resulted in the definition of 6 Landscape Character Types (LCTs) and 16 Landscape Character Areas (LCAs) for Wirral. The classification was undertaken at a scale of 1:25,000 and is shown on a 1:250,000 scale base map at **Figures 5.1 and 5.2**.

Field survey

2.11 A field survey was undertaken in August and September 2019 to review and refine the draft classification, make notes on landscape character and take photographs to help with subsequent assessment. This specifically focussed on:

- Verifying and fine-tuning the classification of the landscape types and areas identified;
- Verifying and identifying key characteristics;
- Collecting aesthetic/perceptual information on character;
- Identifying valued landscape attributes;
- Assessing landscape conditions; and
- Gathering visual information on key issues and opportunities for future management.

Draft report

2.12 A draft LCA report was submitted to Wirral Metropolitan Borough Council for comment in September 2019.

Final report

2.13 The 2019 Landscape Character Assessment report and updated LCA classification were finalised in October 2019.

Landscape Character Area description

2.14 The descriptive profiles for the updated Wirral LCA are presented at Landscape Character Area level and arranged by their respective Landscape Character Type within the Borough. Descriptions of each area were updated to reflect changes in the landscape since the Wirral Landscape Character Assessment and Visual Appraisal was written in 2009.

2.15 Each LCT section begins with an overview map showing the location of the LCT within Wirral and its relationship with other LCTs, a summary of the character of the LCT and the component LCAs within it.

2.16 The subsequent descriptive profiles of the LCAs within Wirral are then structured as follows:

Map and summary of location and landscape character

- A location map (1:25,000 scale) which shows the extent of the LCA and its relationship with other LCAs, followed by a summary paragraph explaining its defining landscape character and location.

Representative photos

- Photos to help the reader appreciate the visual character of the LCA.

Landscape character

2.17 This section provides a description of the landscape character of the LCA under each of the following headings:

- **Key Characteristics:** In bullet point format, provides a summary explanation of the character of the LCA;
- **Natural Landscape:** a description of the most significant natural features in the landscape including designated habitats;
- **Cultural Landscape:** a description of the most significant cultural heritage features in the landscape including designated cultural heritage assets;
- **Perceptual Landscape:** a description of the most significant perceptual features in the landscape.

Evaluation

2.18 The evaluation provides an understanding of what is important in each LCA and why. The condition of the landscape and key issues impacting each area are analysed and landscape guidelines provided, to help inform a forward-looking strategy for the Borough under each of the following headings:

- **Valued Landscape Attributes:** identifies the qualities that are particularly valued for their contribution to landscape character (i.e. if any one of these attributes ceased to exist, it would change the character to the detriment of the landscape);
- **Landscape Condition:** summarises the condition of the landscape;
- **Key Issues:** identifies factors, including past and current trends, that bring about change in the landscape;
- **Landscape Guidelines:** provides landscape guidance focussed on development management considerations to conserve and enhance the landscape of the area.

A scenic landscape featuring a large, gnarled tree on the left side. A path leads through lush green and yellow vegetation towards a dense forest in the background. The sky is clear and blue. A semi-transparent white box is overlaid on the top right, containing the text "Formative Influences" in green.

Formative Influences

Chapter 3

Formative Influences

This chapter summarises the main physical and cultural influences which have shaped the landscape of Wirral. The detailed descriptions of different Landscape Character Areas, that appear later in this report, highlight the key characteristics (both positive and negative) and valued attributes that are of most significance to the particular landscape concerned.

3.1 The landscape of Wirral has evolved over many hundreds and thousands of years through the interaction of the natural environment and human activities, through the combination of physical and cultural influences. Physical influences such as geology and landform, together with the pattern of settlement and land use are key determinants of landscape character.

Physical influences

3.2 The physical components of the landscape have the most tangible and fundamental influences upon its character, being the most permanent and least changeable aspect of its appearance. The underlying geology creates the 'backbone' of the landscape. The actions of weathering, erosion and deposition alter the landform, consequently influencing hydrological patterns and affecting the nature of soil conditions. This affects how humans have used and continue to exploit the landscape for agriculture, settlement and industry and, consequently, influences the nature of the vegetation and fauna that the landscape can support.

Geology

3.3 **Figure 3.1** illustrates the solid (or bedrock) geology that underlies the Borough. **Figure 3.2** shows the drift (or superficial) geology formed during the Quaternary period, which overlies the bedrock in places.

3.4 The geology of the Wirral peninsula is dominated by glacial till overlying Triassic sandstones and red mudstones with sandstone ridges and outcrops. The only exception to this is a small area of Carboniferous sandstone and shales near Neston along the Dee Estuary. These combine to form a low-lying but gently rolling geological platform punctuated by low sandstone outcrops. The pastoral landscape of central Wirral which stretches to the Dee Estuary is separated from the industrial areas of Merseyside by a sandstone ridge that

extends from Bidston Hill in the north, through Noctorum and Mountwood, to Storeton and Bebington in the south.

3.5 All the sub-divisions of the Triassic sandstone series are found on the surface or in exposed cuttings in some parts of Wirral, but for the most part they are hidden under superficial glacial deposits.

3.6 Dry desert conditions prevailed through most of the Permo-Triassic era and consequently fossils are scarce. There have been local discoveries at the Hilbre Islands of reptilian footprints⁶.

3.7 Local sandstones were formed through a variety of circumstances. The Sherwood Sandstone Group were deposited in riverine conditions and the Mercia Mudstone Group were probably in a tidal brackish environment. Harder and coarser red Triassic sandstones were present close to the surface, give rise to free-draining soils which support heathland vegetation at Thurstaston and Bidston Hill. No rocks younger than the Triassic are found within the area, suggesting that terrestrial conditions have prevailed since this time.

3.8 Where the superficial geology mainly consists of till and associated glacial and fluvio-glacial deposits, there are spreads of blown sand along the Irish Sea Coast, notably at Meols, and a complex series of coastal zone deposits, including a clearly marked buried channel linking to the River Mersey between Birkenhead and Wallasey.

3.9 Glaciations during the Pleistocene caused a reduction and erosion of the Triassic sequence as a result of ice sheets extending southwards. The glaciation resulted in most of the low-lying land being covered by boulder clay.

3.10 During the post glacial period the climate began to warm, and vegetation cover increased. Many glacially formed lakes became swamp and fen, followed by a succession to climax woodland. Initially the melting of ice sheets led to sea level rise flooding lower-lying land. Isostatic uplift continued at a slower rate than the melting of ice sheets but gradually saw the rise of land which formed the coastlines evident today.

3.11 Deposition of mud and sand continues up to the present day especially along the northern and western coastlines resulting in extensive beaches along the foreshore. Material

⁶ Natural England (1997), Natural Area: The Mersey Urban Basin

transported by rivers which settles within estuaries has created the salt marshes and sand dunes which provide a natural barrier against marine flooding of lower-lying areas.

Landform and drainage

3.12 The underlying geology has been weathered to create the distinctive landforms seen across the Borough today.

Figure 3.3 illustrates the topography and main hydrological features on Wirral.

3.13 The Borough is mostly a low-lying gently undulating landscape influenced by small streams with a series of elevated sandstone ridges that run north-west to south-east. The ridges are distinctive features which have a strong influence on the landscape of the Borough. They give a high, open outlook from Bidston and Oxtan and the hills between West Kirby, Thurstaston and Heswall. The highest point within the Borough is Poll Hill, Heswall at 108m Above Ordnance Datum (AOD). At local sandstone outcrop rises to 91m AOD at Thurstaston and is a local landmark and viewing point. Other high points include Heswall Dales, an area of sloping heathland and establishing woodland on the western fringes of Heswall, Bidston Hill at 65m AOD, Caldly Hill at 70m AOD and Grange Hill at 52m AOD.

3.14 The central part of Wirral is gently undulating with more defined changes in level occurring around Clatterbridge Hospital where the land falls sharply towards the M53; Storeton Wood where the land rises towards the edges of Higher Bebington; and around Landican with land rising from 20m AOD to 70m AOD around Thingwall. Other landform changes are present along the western coast where the land falls to the west of Heswall from 100m AOD to 20m AOD along the coast.

3.15 The low-lying landforms of the coastal plain in the north, adjacent to Leasowe, Moreton, Hoylake and West Kirby, are the lowest areas in the Borough. The land is almost flat at 5-6m AOD and protected from flooding by a series of flood defences along the northern coast. Drainage ditches are present along almost all field boundaries to prevent flooding.

3.16 Apart from residential development along the waterfronts at West Kirby and Hoylake, the coastline on the North Wirral coast and along the Dee Estuary is generally undeveloped and the coastal influence extends inland. This stretch of coastline has a wide tidal range and is important for coast-related recreation, nature conservation and archaeology.

3.17 The banks of the Mersey are characterised by residential and industrial development behind a high seawall which limits

the visibility and influence of the coast inland. Between New Brighton and Seacombe, residential development extends up to a coastal promenade. South of this point, the Mersey coast is heavily industrialised except for short stretches without sea defences at New Ferry and Eastham, much of it with industries and activities which relate to ship building, the oil and chemical industries and other port related activities. The Manchester Ship Canal runs along the coast to the south of Eastham Ferry.

3.18 Wirral's hydrology is strongly influenced by its position as a peninsula and a network of small streams and drainage ditches drain into the Dee Estuary and Mersey Estuary. These watercourses have a local influence on land use, field pattern and landform influencing the landscape character immediately surrounding them, most notably the narrow wooded river valleys of Clatter Brook and Dibbinsdale Brook to the west of Bromborough and the more open engineered banks of The Birket and The Fender and their tributaries in north Wirral plain.

3.19 Wirral also has a network of large field ponds with concentrations to the immediate west of Saughall Massie, between Frankby and Newton and throughout the farmland east of Heswall. However, due to surrounding woodland copses these are not prominent landscape features other than at a local scale.

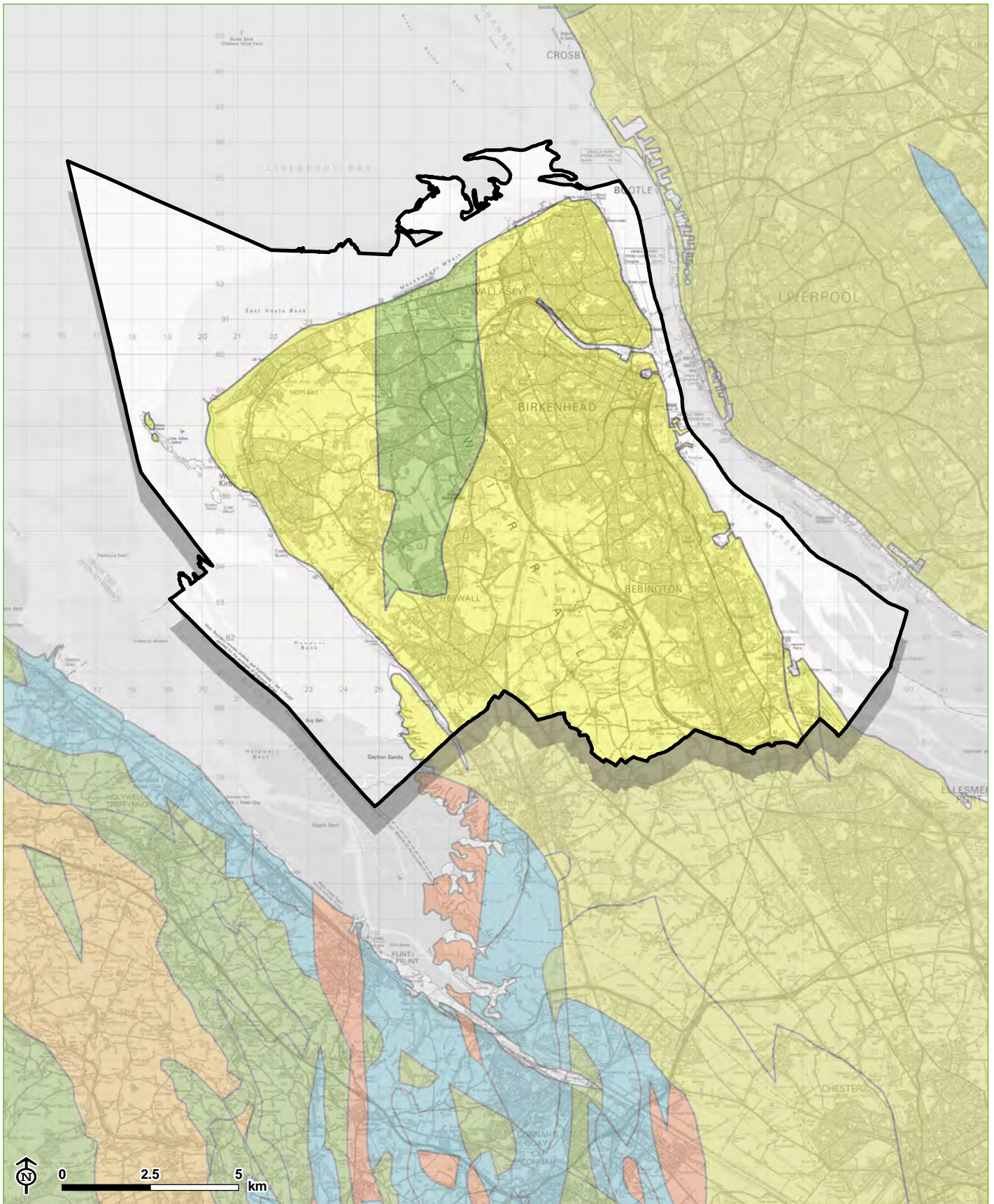
Soils

3.20 The soil types found across Wirral are influenced by a combination of underlying geology, climate, drainage and vegetation cover. Human activity over many centuries, particularly vegetation clearance and land management has also influenced soil development.

3.21 The national Agricultural Land Classification (ALC) analyses soils for their intrinsic quality and value. A grading of 1 indicates excellent soils which have few limitations to agricultural use where high crop yields can be expected. Grade 5 indicates poor soils which produce low yields where few suitable crops can be grown; these areas tend to be best suited to permanent pasture and rough grazing.

3.22 Accurate figures for ALC in Wirral are currently not available, however 50% of the agricultural land within Wirral is considered to be high quality. Estimates of ALC derived from historic ALC surveys undertaken in Wirral suggest a predominance of Grade 3a soils within the Borough⁷.

⁷ ADAS (June 2019), Study of Agricultural Economy and Land in Wirral

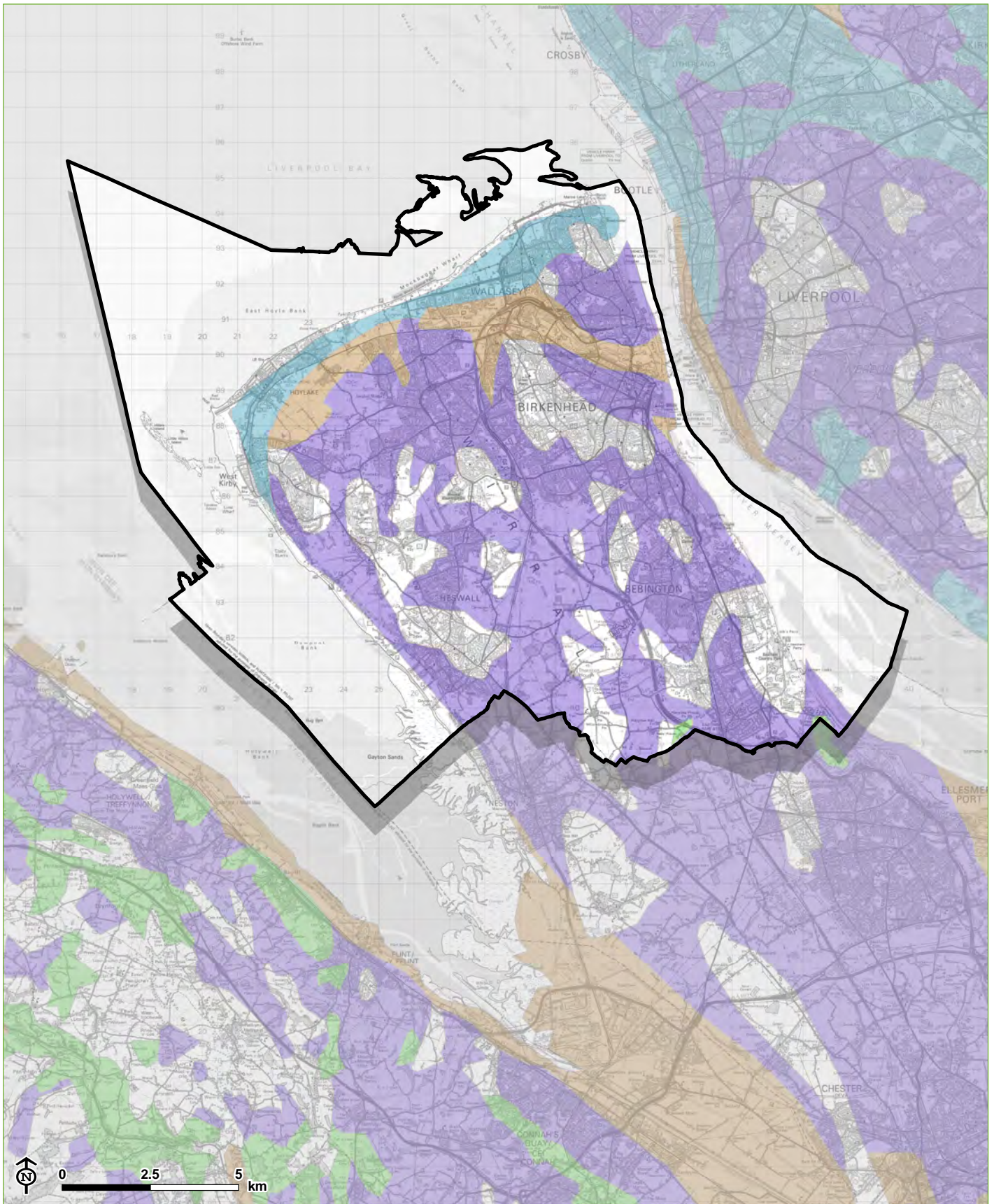



- Wirral Borough Boundary
- Bedrock Geology**
- Limestone With Subordinate Sandstone And Argillaceous Rocks
- Mudstone, Siltstone And Sandstone
- Mudstone, Siltstone, Sandstone, Coal, Ironstone And Ferricrete
- Sandstone And Conglomerate, Interbedded
- Siltstone And Sandstone With Subordinate Mudstone

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Fig 3.1:
Bedrock Geology



 Wirral Borough Boundary

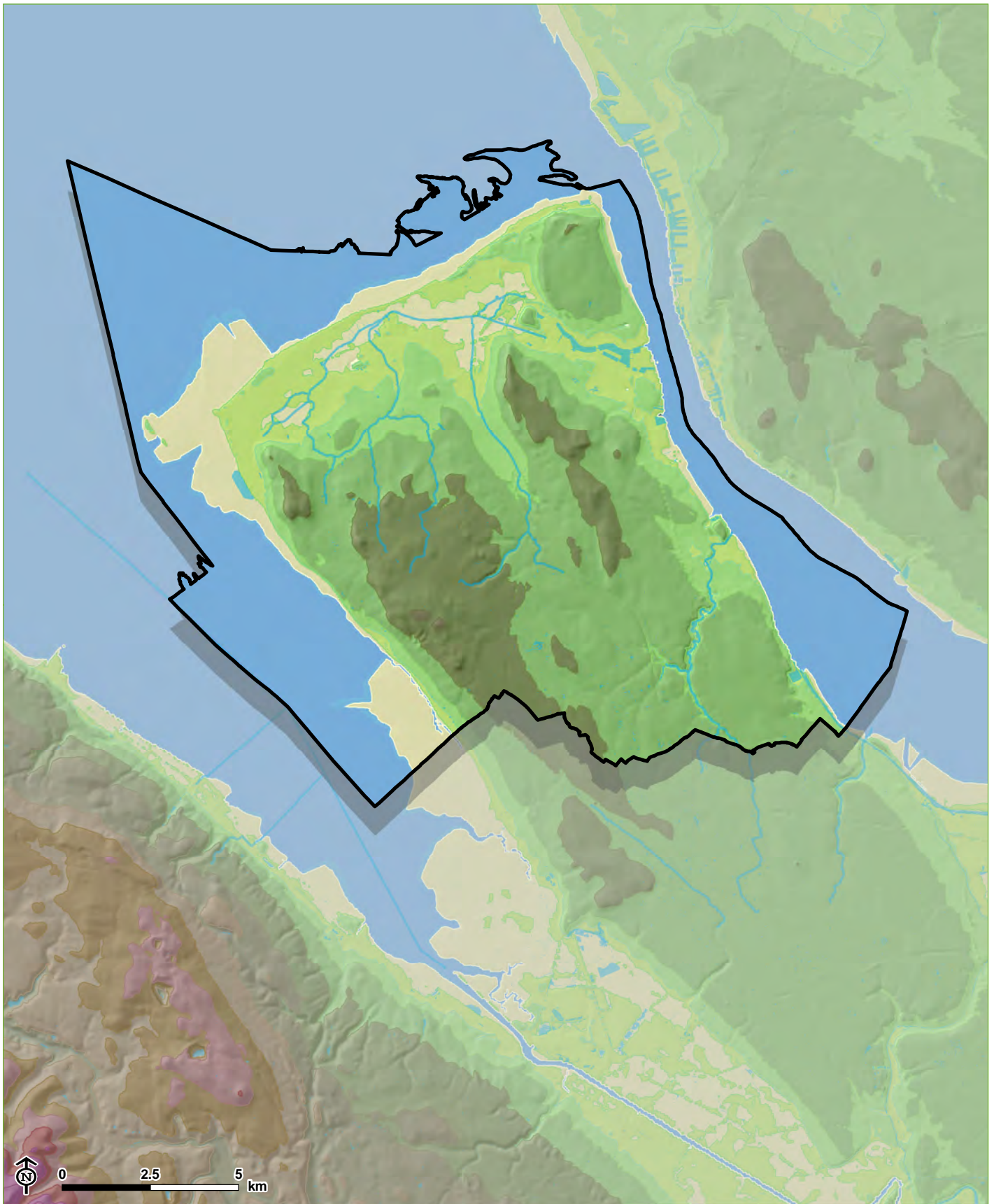
Superficial Geology

-  Clay, silt and sand
-  Diamicton
-  Sand
-  Sand and Gravel

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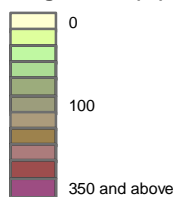


Fig 3.2: Superficial Geology



Wirral Borough Boundary
 Watercourses and Waterbodies

Height AOD (m)



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Fig 3.3:
Topography and Watercourses

Landcover and habitats

3.23 The distribution of habitats and natural features across Wirral is influenced by the landform, geology, land uses both current and past and hydrology across the area. Important ecological habitats are recognised through designation. These designations are illustrated in **Figure 3.4**. The general distribution of woodland, including ancient woodland extent is shown on **Figure 3.5**.

3.24 Although much of the Borough is characterised by urban development and agricultural land use, there are a variety of undeveloped natural and semi-natural areas which support significant biodiversity. Along the Wirral coast and the estuaries of the Dee and Mersey is a wide range of internationally and nationally important habitats including coastal saltmarshes and sand dunes as well as intertidal mud and sand banks, and estuarine marsh. On the poorer sandy soils associated with the outcrops of sandstone along the low ridges that run across Wirral are important areas of lowland heath. Areas of lowland mixed woodland are found throughout Wirral, primarily towards the central and western parts of the Borough, on the sandstone ridges, along the brooks and ponds and within the country parks and country estates.

Seascape Nature Conservation Sites

3.25 The seascapes and coasts of Wirral are subject to overlapping designations for their international and national importance for nature conservation.

3.26 The Dee Estuary, Mersey Estuary and Mersey Narrows & North Wirral Foreshore are designated as Wetlands of International Importance under the Ramsar Convention. The Dee Estuary, North Wirral Foreshore, Mersey Estuary and Liverpool Bay are designated as Special Protection Areas (SPAs) under the EC Wild Birds Directive (79/409/EEC). Both estuaries are important resources for internationally important wintering birds and are protected and managed to prevent the disturbance of identified species. The Dee Estuary is also designated as a Special Area of Conservation under the EU Habitats Directive.

3.27 Liverpool Bay, Dee Estuary and Mersey Estuary are also internationally designated as Marine Protected Areas (MPAs or OSPARs).

Sites of Special Scientific Interest

3.28 Sites of Special Scientific Interest (SSSIs) are designated under Section 28 of the Wildlife and Countryside Act 1981. These include the majority of the intertidal coastal and estuarine areas, coastal cliffs and dunes within the remaining natural coastline of the Dee Estuary, and areas of lowland heath, species-rich unimproved grassland and

deciduous woodland inland. There are 12 SSSI designations in Wirral, which are listed below:

- The Dee Estuary;
- The Mersey Estuary;
- North Wirral Foreshore;
- Red Rocks, Hoylake;
- Dee Cliffs, Thurstaston;
- Heswall Dales;
- The Dungeon, Heswall;
- Thurstaston Common;
- Dibbinsdale, Bromborough;
- Meols Meadows, Moreton;
- Mersey Narrows; and
- New Ferry.

3.29 There are numerous additional Local Wildlife Sites / Sites of Biological Importance designated for their local contribution to ecology.

Local Nature Reserves

3.30 Five Local Nature Reserves (LNR) have been designated under the National Parks and Access to the Countryside Act 1949 to preserve features of interest, provide opportunities for further research and encourage public appreciation of nature. These sites represent easily accessible natural areas particularly beneficial for education. The LNRs in Wirral are:

- Bidston Moss
- Brotherton Park/ Dibbinsdale
- Hilbre Islands
- Heswall Dales
- Thurstaston Common

Local biodiversity targets

3.31 The 2003 Wirral Biodiversity Action Plan (WBAP) identifies a number of habitats of principal interest (HoPI) for the purpose of conserving biodiversity which are important within Wirral; reflecting the richness of the biodiversity present within the Borough.

3.32 The presence of these sites of nature conservation interest has been noted within this assessment.

Nature Improvement Areas

3.33 Nature Improvement Areas (NIAs) were proposed by government as the principal mechanism for delivering wildlife restoration and management, NIAs are mapped at a sub-regional level in the Liverpool City Region Ecological Network Report⁸. They combine designated sites and priority habitats with habitats and features of strategic importance and linear features such as rivers and canals. They also include land where targeted action can contribute to habitat creation and management and to complement other land uses. The NIAs in Wirral are:

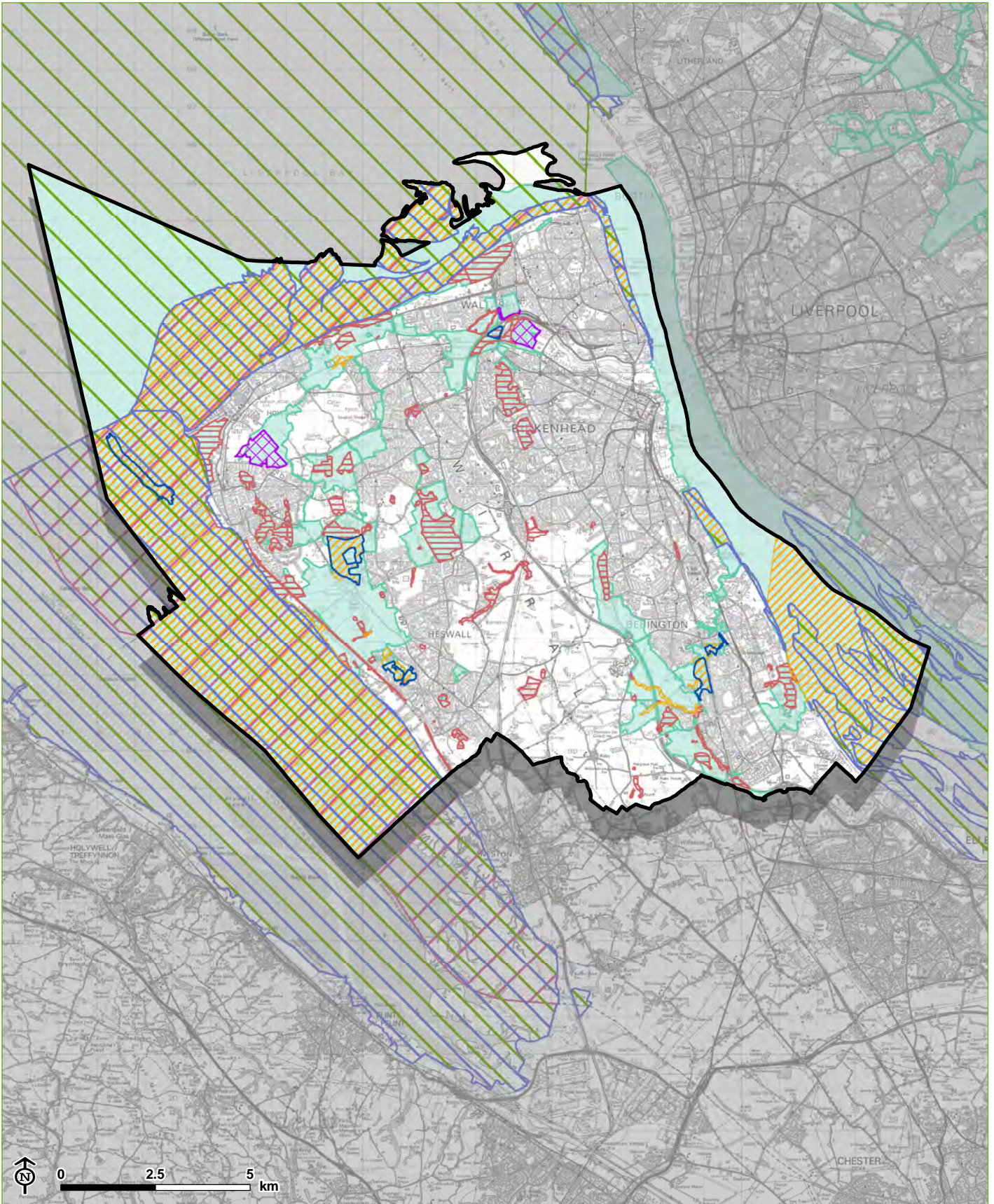
- 10: Mersey Estuary;
- 11: Dibbinsdale, Raby Mere and Eastham Country Park;
- 12: East Wirral Heathlands;
- 13: West Wirral Heathlands and Arrowse Park;
- 14: Dee Estuary;
- 15: North Wirral Coast and Liverpool Bay; and
- 16: River Birket Corridor

Local Geological Sites

3.34 There are several Local Geological Sites. These are sites designated for their significant exposures of underlying geology, good examples of geological formations or geomorphological processes, especially where they have educational value. Designated areas within the study area (outside the urban areas) are:

- Irby Quarry;
- Hilbre Point/Red Rocks, Hoylake;
- Hilbre (Main Island, Middle Island, Little Eye and Tanskey Rocks) Hoylake, West Kirby;
- Caldy Hill;
- Thurstaston Hill
- Telegraph Road cutting;
- Dee Cliffs, Caldy;
- Storeton Hill, Bebington;
- Bidston Hill;
- Boundary Road, Bidston; and
- Arrowse Brook, Woodchurch.

⁸ Merseyside EAS (2015), Liverpool City Region Ecological Network Report

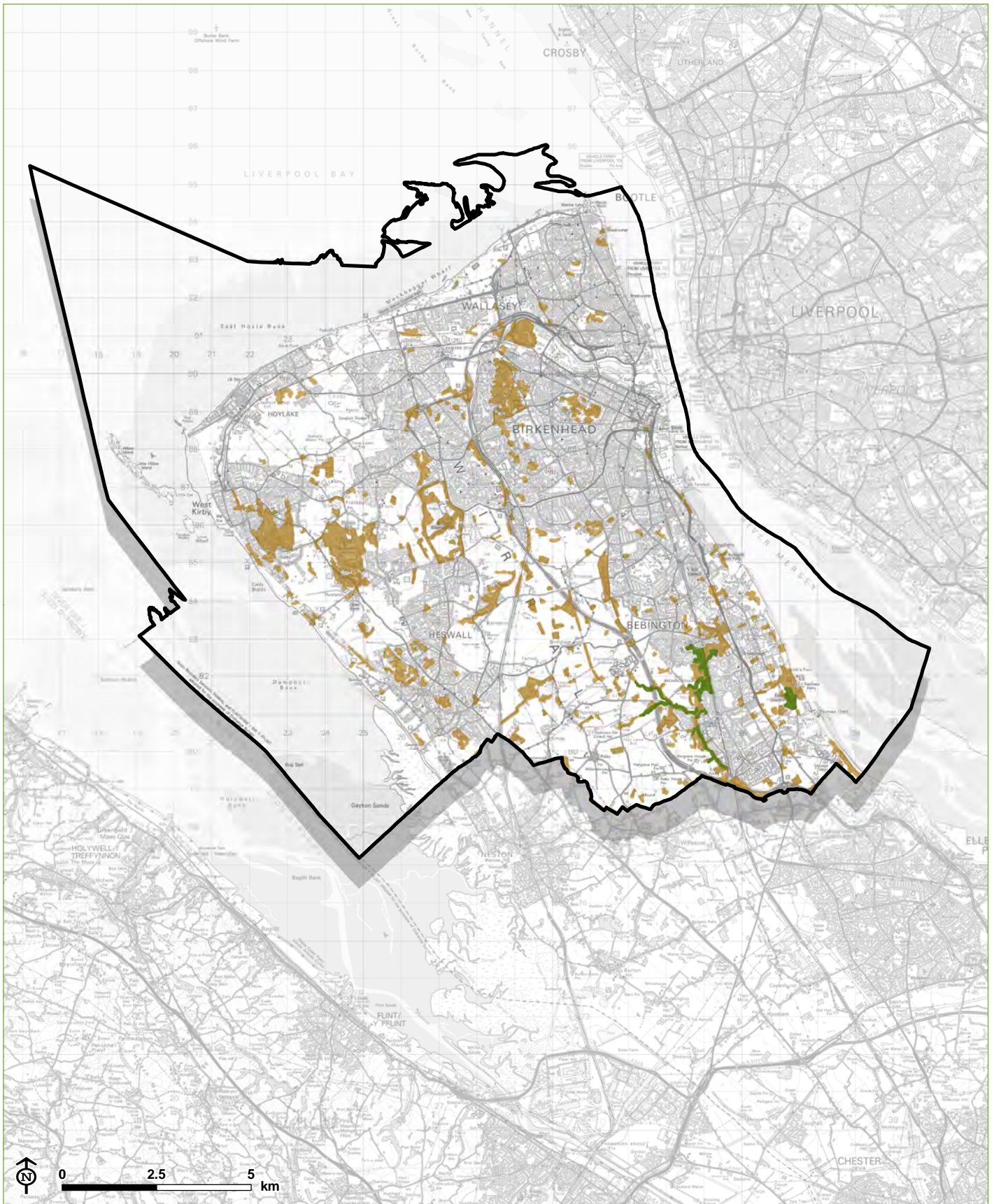


- Wirral Borough Boundary
- Ramsar
- Special Protection Area
- Special Area of Conservation
- Local Nature Reserve
- Site of Special Scientific Interest
- Site of Biological Importance/Local Wildlife Site
- Potential Local Wildlife Sites
- Nature Improvement Areas

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Fig 3.4:
Nature Conservation Designations



- Wirral Borough Boundary
- Ancient Woodland
- National Forest Inventory

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Landscape Assessment



Fig 3.5:
Woodland

Cultural influences

3.35 Wirral has a diverse historical landscape as the landscapes and settlements of the Borough have developed over time. They have been influenced by man's use of the land as population and agricultural pressure have ebbed and flowed. The important historical features that remain in the landscape today and contribute to landscape character are mostly recognised through national and local designations (such as Scheduled Monuments, Registered Parks and Gardens, Conservation Areas and listed buildings). These can be seen on **Figure 3.6**.

Cheshire Historic Landscape Characterisation

3.36 Away from the Mersey conurbation on the eastern side of the Wirral Peninsula, the centre and south of the Borough is predominately mixed agricultural land and the field pattern results from the later enclosure and re-organisation of a mix of Medieval Townfields and ancient fields.

3.37 The majority of extant historic field systems can be found in the central part of the Wirral Peninsula, although a few outlying fields can be found in West Kirby. Many field patterns have remained unaltered since ancient and post-medieval times, although in places agricultural intensification and increases in the size of land holdings have resulted in larger field patterns. These more recent field patterns are identified by their large size and more intermittent field boundaries.

3.38 The Cheshire Historic Landscape Characterisation⁹ (Cheshire HLC) also highlights Wirral's historical importance for recreation as evidenced by the presence of historic parklands and public parks created in response to rapid industrialisation in the 19th century. The 19th century also saw an increase in the number of golf courses.

Landscape history

3.39 The Cheshire HLC also provides a commentary on the historic and cultural influences on the Cheshire County and Wirral. A summary of the main influences affecting the landscape within Wirral based upon the study's more detailed information is set out below.

Palaeolithic

3.40 Evidence of human and Neanderthal presence has been discovered within caves in the eastern part of Cheshire and recent evidence has discovered a small rock shelter at Carden Park near Chester. There is however little recorded evidence on Wirral.

Mesolithic

3.41 Wirral contains some significant Mesolithic sites with evidence of one of the earliest forms of 'house' at Greasby. Environmental evidence suggests that the site was seasonally occupied. Further sites have been identified at Thurstaston, Irby, Hilbre and New Brighton. At the time, these sites were considerably further away from the sea, in places up to 8km; sea level rises have brought the sea much closer, evidenced by a submerged post glacial forest at Meols.

Neolithic

3.42 The Neolithic period marked the shift from hunter-gatherer to agricultural lifestyles. During this time there was a local decline in tree cover and a greater incidence of open grassland followed later by natural regeneration back to woodland. This trend may have been a result of slash and burn woodland clearance. There is however no specific evidence of Neolithic activity in Wirral.

Bronze Age

3.43 During the Bronze Age, settlement and agricultural expansion continued. A deterioration in climate around 1500BC resulting in possible crop failures led to abandonment of marginal settlements on moorland and heath. Evidence suggests that woodland clearance continued although it was more extensive and permanent. There is little evidence of Bronze Age settlement in Wirral, although one settlement was discovered in Irby which comprised an oval building. Further north a midden with animal bones has been dated to 2000BC.

Iron Age

3.44 Evidence of the Iron Age primarily comprises the presence of hillforts and some lowland farmsteads along the River Mersey. Settlements such as one discovered at Irby, suggest that their form was a curvilinear single or double ditched enclosure, usually less than 2 hectares, containing one or more circular buildings. Mixed farming is also evident.

Roman

3.45 Roman occupation resulted in the construction of fortresses; the most prominent was the Fortress of Deva (Chester) using the Dee as access to the sea. Long linear roads were constructed to link the larger settlements, some of which are still evident today. There are ongoing investigations by Wirral Archaeology to research the Roman road network. Outside Roman settlements, field patterns were often small and rectangular, outlined by ditches with a mix of agriculture

⁹ Cheshire County Council and English Heritage (2008), The Cheshire Historic Landscape Characterisation

and buildings. There is little evidence of how the Roman occupation affected the settlement pattern of smaller villages in Wirral; with many established in the Iron Age continuing largely unaltered.

Post Roman – Early Medieval

3.46 Anglo-Saxon influence is difficult to determine in Wirral although their occupation is reflected in the use of ‘by’ in place names. There is little evidence of how the Anglo-Saxons may have influenced the Wirral landscape.

Medieval

3.47 The Norman Conquest resulted in changes to the landscape, as large areas were cultivated by plough with woodland cleared and marshes drained. Evidence of the resultant ridge and furrow remains within some fields across the Borough. Strip cultivation of fields was common practice. Settlement increased and cloth manufacture and leather workings began to develop. The peninsula was subject to forest law as part of The Forest of Wirral, from the early 12th century until the later 14th century but was an area of comparatively dense settlement with low woodland cover. This included areas of sandy soil and heath associated with the sandstone ridges and parts of Wirral described in the fourteenth century as a ‘wilderness’ and a ‘resort for bands of armed men’.

3.48 The HLC records a high proportion of field types originating from medieval woodland clearance.

Post Medieval

3.49 Towns and villages continued to expand and be rebuilt to accommodate a rapidly expanding population. Dairy farming expanded to accommodate increases in demand for dairy products. The greatest changes occurred to the landscape in the 18th and 19th century, which remains evident today due to the enclosure or re-organisation of existing field systems with hedgerows. At the far north of the peninsular, low marshy areas behind the sand dunes were drained and enclosed into a geometric field pattern bounded by ditches. Other changes included increased industrialisation, rapid settlement expansion particularly around Birkenhead as a response to the successful dockland trade along the River Mersey and increased investment in transport networks. Anchorages were established along the Dee shore of Wirral and large-scale coal mining began on the peninsula in the 18th century. A large stone quarry was located at Storeton.

3.50 It is evident from historic maps that over the past 100 years, east Wirral developed considerably as a result of the success of Liverpool with the Wirral coastline developed for trade and industry. The urban area expanded with small

individual villages merging to form one continuous conurbation along the Mersey shoreline. Rapid expansion also occurred after the Second World War. Since this time, additional development has largely been contained by the designation of the Green Belt in the early 1980s.

Heritage

Scheduled Monuments

3.51 Scheduled Monuments are nationally designated. The site and its immediate setting are included within this designation and must be preserved, where possible in-situ and in good condition. Only three such monuments lie within the countryside of Wirral at Irby, Storeton and Thornton Hough.

Listed Buildings

3.52 Wirral has over 1,800 buildings of architectural or historic interest related to the Borough’s social, cultural and aesthetic history. It includes entries that are Grade I of outstanding interest, Grade II* and Grade II.

3.53 The vast majority are within urban areas, but a significant number contribute to the character of settlements within or adjoining the countryside, for example at Brimstage, Raby and Thornton Hough.

Conservation Areas

3.54 Areas with high concentrations of listed buildings or where the collective built form contributes strongly to the character and heritage of a place are often designated as Conservation Areas. The designation of a Conservation Area is based upon the contribution of buildings, historic layout of roads, paths and boundaries; characteristic building and paving materials; a particular combination or style of building uses; public and private spaces, such as gardens, parks and greens; and trees and street furniture, which contribute to particular views to give a distinctive character or street scene. Conservation Areas give broader protection to areas of character than listing individual buildings. All the features within the designated area are recognised as integral parts of its character and should therefore be protected or enhanced.

3.55 All the main rural settlements in Wirral, apart from Landican, Brimstage, Raby and Storeton, are Conservation Areas.

3.56 Heritage features are vulnerable to change. It is important that the most valuable sites and structures are protected, and local planning policies seek to preserve and enhance the character and appearance of Conservation Areas at Barnston, Eastham, Frankby, Gayton, Saughall Massie,

Thornton Hough and Thurstaston (adopted in the UDP February 2000); the setting of other designated and un-designated heritage assets, and the rural character of the smaller settlements at Brimstage, Raby and Storeton (in the approved but unadopted Proposed Submission Draft Core Strategy, December 2012).

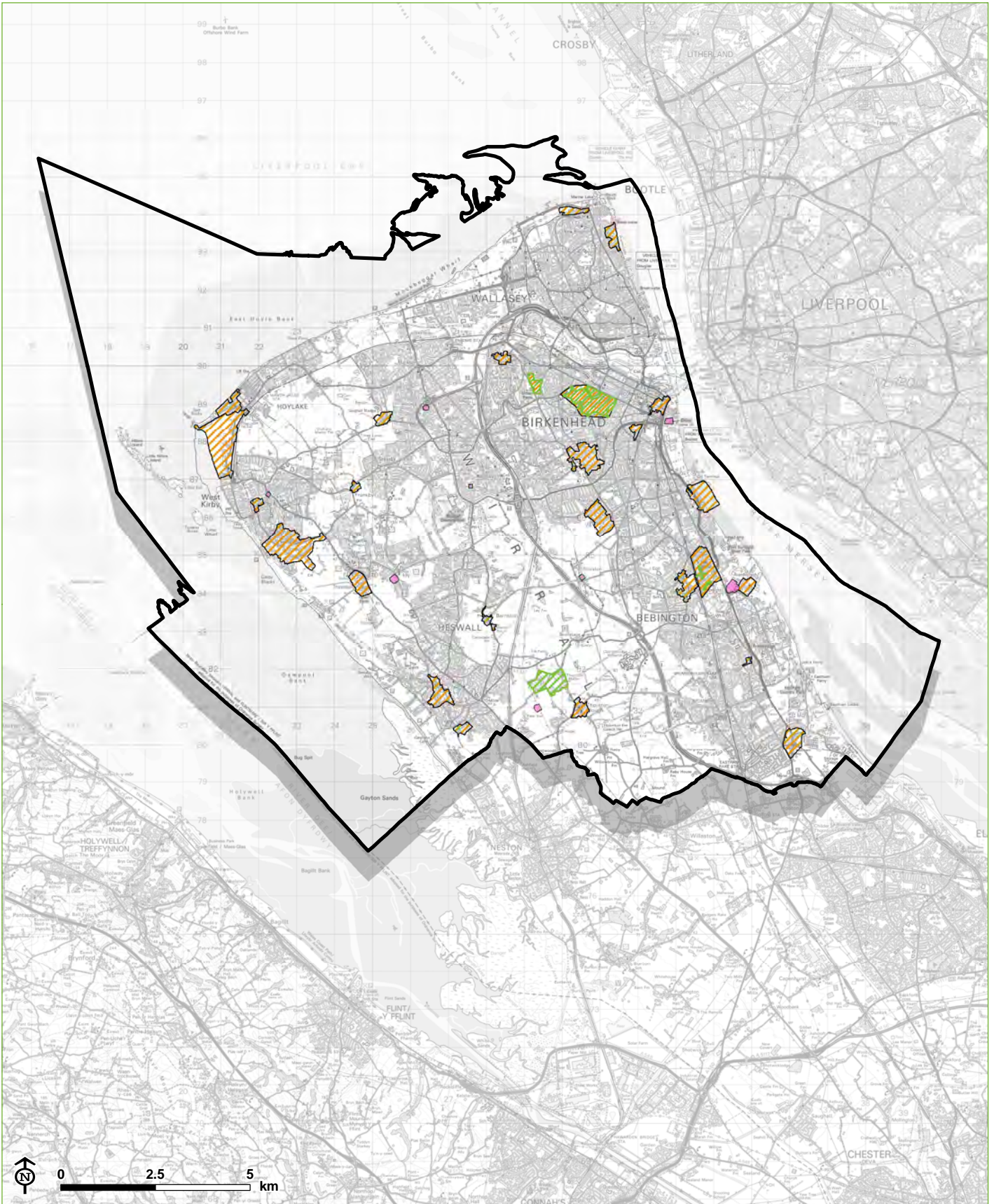
Historic Parks and Gardens

3.57 Only one registered historic park is within the countryside: Thornton Manor Gardens, Thornton Hough (Grade II*). Local and national policies seek to ensure that the special character of historic parks and gardens, together with their setting, are protected from inappropriate development.

Perceptual landscape

3.58 Away from the settlements and main roads, significant areas of the Borough are scenically and distinctly diverse. Whether through their distance from large settlements or as a result of containment from urbanising influences by woodland cover, they enjoy relatively high levels of tranquillity. This is shown in **Figure 3.7**.

3.59 The levels of light pollution and dark night skies within Wirral are illustrated in **Figure 3.8**. Although light pollution decreases with distance from the main settlements, dark night skies free from interference from artificial light are only found out to sea.

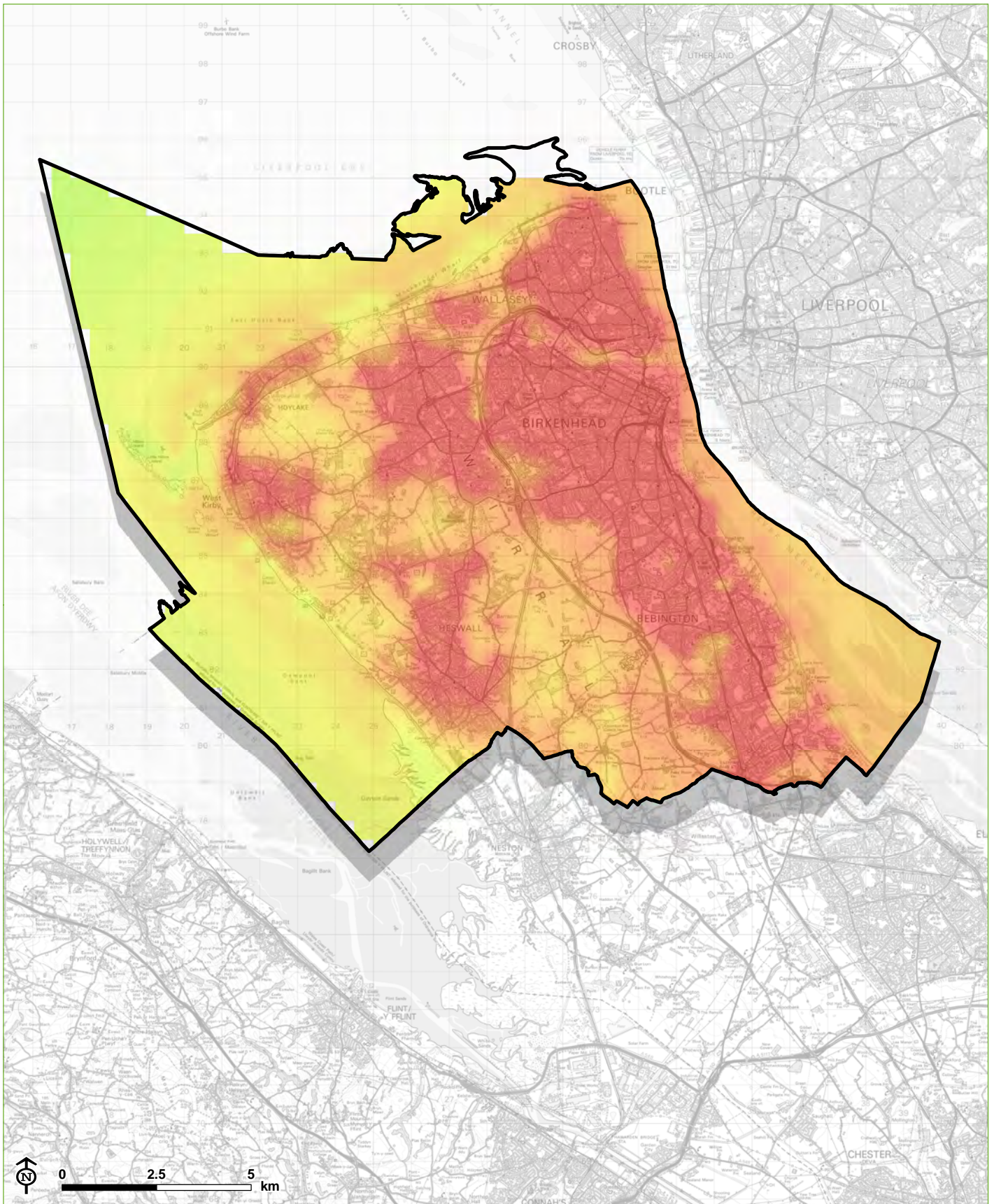


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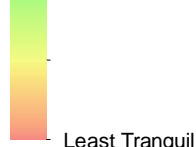
Fig 3.6:
Cultural Heritage Designations

- Wirral Borough Boundary
- Scheduled Monuments
- Registered Parks & Gardens
- Conservation Area



Wirral Borough Boundary

Most Tranquil

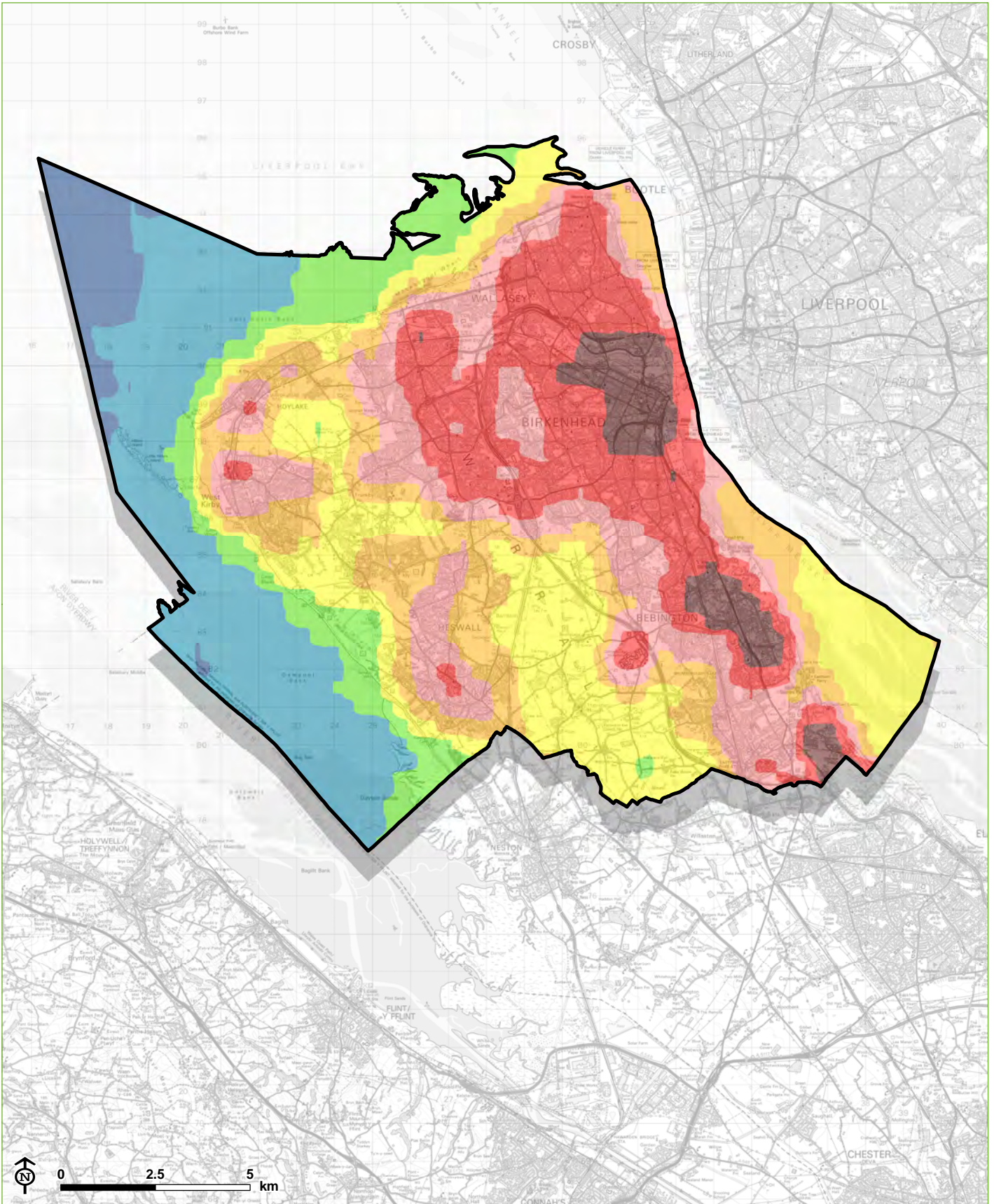


Least Tranquil

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Fig 3.7:
Tranquility



- Wirral Borough Boundary
- Night light (NanoWatts)**
- >32 (Highest Levels of Light Pollution)
- 16 - 32
- 8 - 16
- 4 - 8
- 2 - 4
- 1 - 2
- 0.5 - 1
- 0.25 - 0.5 (Lowest Levels of Light Pollution)

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Fig 3.8:
Levels of Dark Skies and
Light Pollution

Source: LUC, CPRE

Map Scale @ A4: 1:140,000

