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Landscape Sensitivity and Green Infrastructure Study for Leicester & Leicestershire

Prepared for Leicestershire County, Leicester City, Blaby District, Charnwood
Borough, Harborough District, Hinckley & Bosworth Borough, Melton Borough, North
West Leicestershire District and Oadby & Wigston Borough Councils

Final Report
Prepared by LUC
October 2017



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Landscape Sensitivity and Green Infrastructure Study for Leicester & Leicestershire

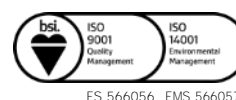
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1 Introduction and background



1 Introduction and background

Background and need for this study

- 1.1 Local authorities are in the process of preparing a non-statutory Strategic Growth Plan (SGP) for Leicester and Leicestershire. This will identify longer term proposals for housing and economic growth over a 15-20 year timeframe from now (from approximately 2031), and will also inform the preparation of local authorities' Local Plans. **The SGP will sit within an emerging regional growth framework - the 'Midlands Engine for Growth' Strategy and the associated 'Midlands Connect' Strategy, published in March 2017.**
- 1.2 The SGP aims to realise the economic potential of a number of key developments including Leicester Strategic Regeneration Area, the East Midlands Gateway Strategic Rail Freight Interchange, Loughborough University Science and Enterprise Park, HORIBA MIRA Technology Park and – in the longer term- the East Midlands HS2 Hub in Toton (beyond the county boundary in Nottinghamshire), with the current proposed route passing through North West Leicestershire. New housing is required to meet existing and projected need, and to serve these strategic developments. The Strategic Growth Plan will identify the broad locations that are likely to be developed to accommodate growth through up to 2050 but will leave the identification of specific sites to individual local plans. However, it is likely that residential growth will be concentrated in locations close to the key developments, including a mix of the options outlined in the 2016 Strategic Growth Statement such as sustainable urban extensions, growth corridors and new settlements.
- 1.3 Whilst securing economic growth and meeting current and future housing demands form a clear focus for the SGP, this will have to be achieved in a way that conserves and enhances landscape, biodiversity and green infrastructure (GI). The National Planning Policy Framework (2012) is clear in this respect, referring to the importance of conserving and enhancing valued landscapes, minimising impacts on biodiversity and achieving net gains in biodiversity wherever possible. It highlights the role of development plans in creating, protecting, enhancing and managing biodiversity and GI networks.
- 1.4 This study provides evidence to help ensure that locations identified for economic and housing development meet these requirements. Using a systematic assessment framework it examines the sensitivity of the landscape, exploring the extent to which different areas can accommodate development without impacting on their key landscape qualities, and how any impacts can be mitigated whilst delivering GI enhancement opportunities.
- 1.5 It also considers the potential for positive change, particularly through the development and enhancement of GI. This includes identifying opportunities to develop GI that delivers benefits or services including better connected biodiversity networks, flood risk management, recreation and carbon management. The aim is to create resilient, high quality development which meets **communities' aspirations whilst contributing to net biodiversity gains across the county as whole.**

Links to other landscape and GI evidence

- 1.6 This strategic study builds on a wealth of information produced at a range of scales, from settlement-specific sensitivity and capacity studies, local authority-wide landscape character/ sensitivity assessments and GI studies, specific initiatives (e.g. the National Forest), to county and region-wide landscape and GI studies. It is therefore important to recognise that this report is not intended to replace this evidence base; rather it has been used and built upon through new analyses to provide a fresh consideration of landscape sensitivity, GI assets and opportunities to help guide strategic decision-making. More detailed studies relating to specific site allocations and development proposals will be undertaken at the local authority level as part of the Local Plan

and development management processes. **Appendix 1** lists the main sources of existing evidence and data used to inform this study.

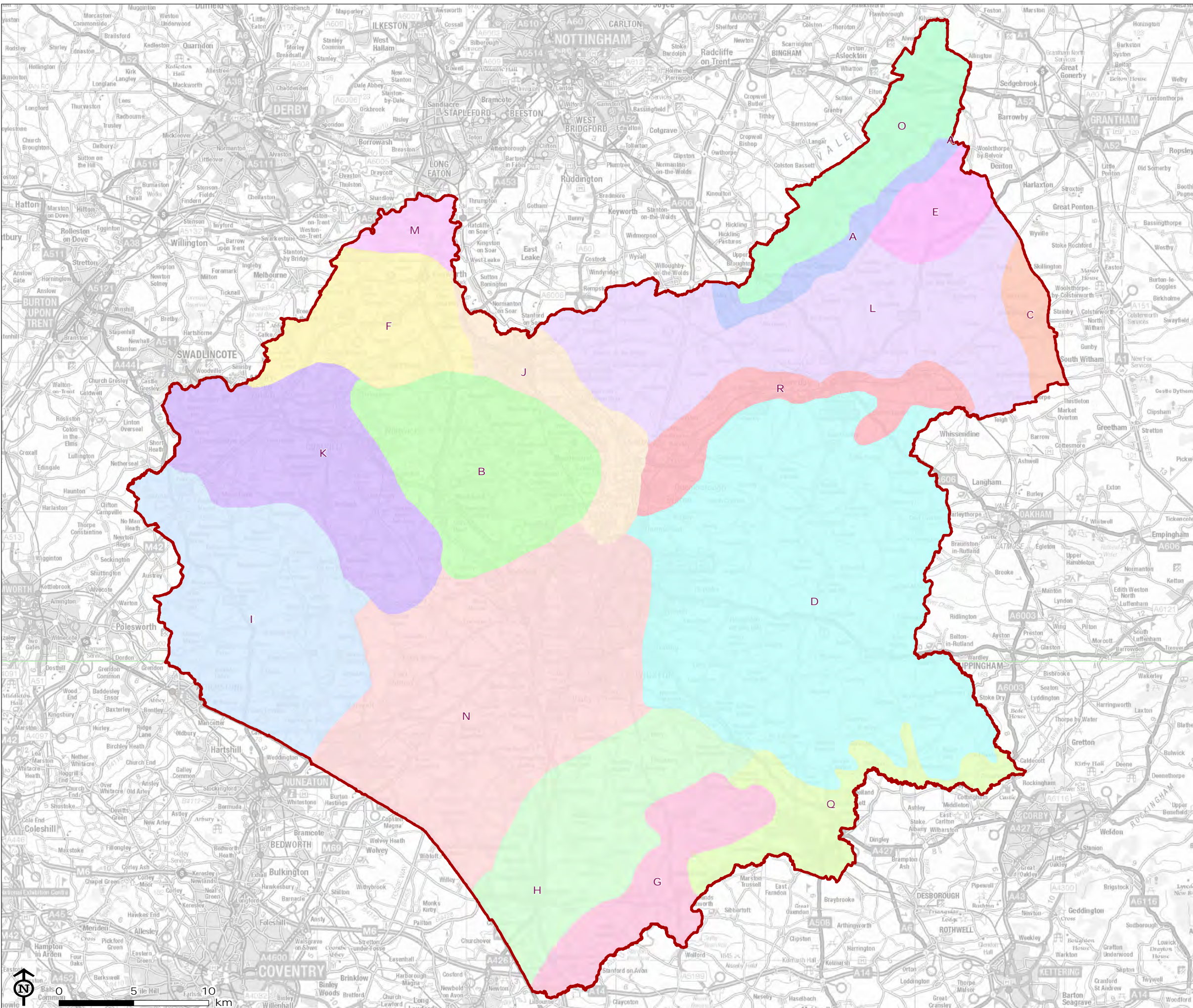
Study area and spatial framework used for this work

- 1.7 To ensure close integration between the Landscape Sensitivity Assessment and Green Infrastructure Study, both elements have undertaken their assessments and analyses using the same spatial frameworks:
1. The county-scale Landscape Character Areas (LCAs) defined by the Leicester, Leicestershire & Rutland Landscape and Woodland Strategy (2001, updated 2006)¹
 2. Broad areas identified by the Strategic Growth Plan team as indicating likely locations for future economic growth and related development. For the purposes of this assessment these **have been named 'Strategic Opportunity Assessment Zones' (SOAZs)**. It is important to note that these are indicative strategic-scale zones, rather than the certain location of committed developments. Six SOAZs have been identified, with names reflecting their broad location. These are as follows:
 - **Melton Mowbray**, Melton district
 - **Northern Gateway**, North West Leicestershire and Charnwood
 - **Southern Gateway**, Hinckley & Bosworth and Blaby
 - **Lutterworth**, Harborough
 - **Eastern Growth Corridor (split into two sections; North and South)**, Charnwood, Harborough, Oadby & Wigston and Blaby
 - **Six Hills**, Melton
- 1.8 The LCA framework is mapped at **Figure 1.1** and the SOAZ framework is shown at **Figure 1.2**.

¹ Please note: a small part of the Vale of Catmose LCA has been merged with The Wolds LCA (the majority of the Vale of Catmose LCA is found within the county of Rutland). This is for the purposes of this assessment only and does not have further implications on policy.

Leicester and Leicestershire Landscape Sensitivity and Green Infrastructure Study

Figure 1.1: Landscape Character Area (LCA) framework in the study area



- Study area
- LCA
- A: Belvoir Scarp
- B: Charnwood Forest
- C: Cottesmore Plateau
- D: High Leicestershire
- E: Knipton Bowl
- F: Langley Lowlands
- G: Laughton Hills
- H: Lutterworth Lowlands
- I: Mease/Sence Lowlands
- J: Soar Valley
- K: The Coalfield
- L: The Wolds
- M: Trent Valley
- N: Upper Soar
- O: Vale of Belvoir
- Q: Welland Valley
- R: Wreake Valley

Please note that the Landscape Sensitivity Assessment is focused on the rural parts of the county – i.e. it excludes dense urban areas

Map Scale @A3: 1:250,000



Leicester and Leicestershire Landscape Sensitivity and Green Infrastructure Study

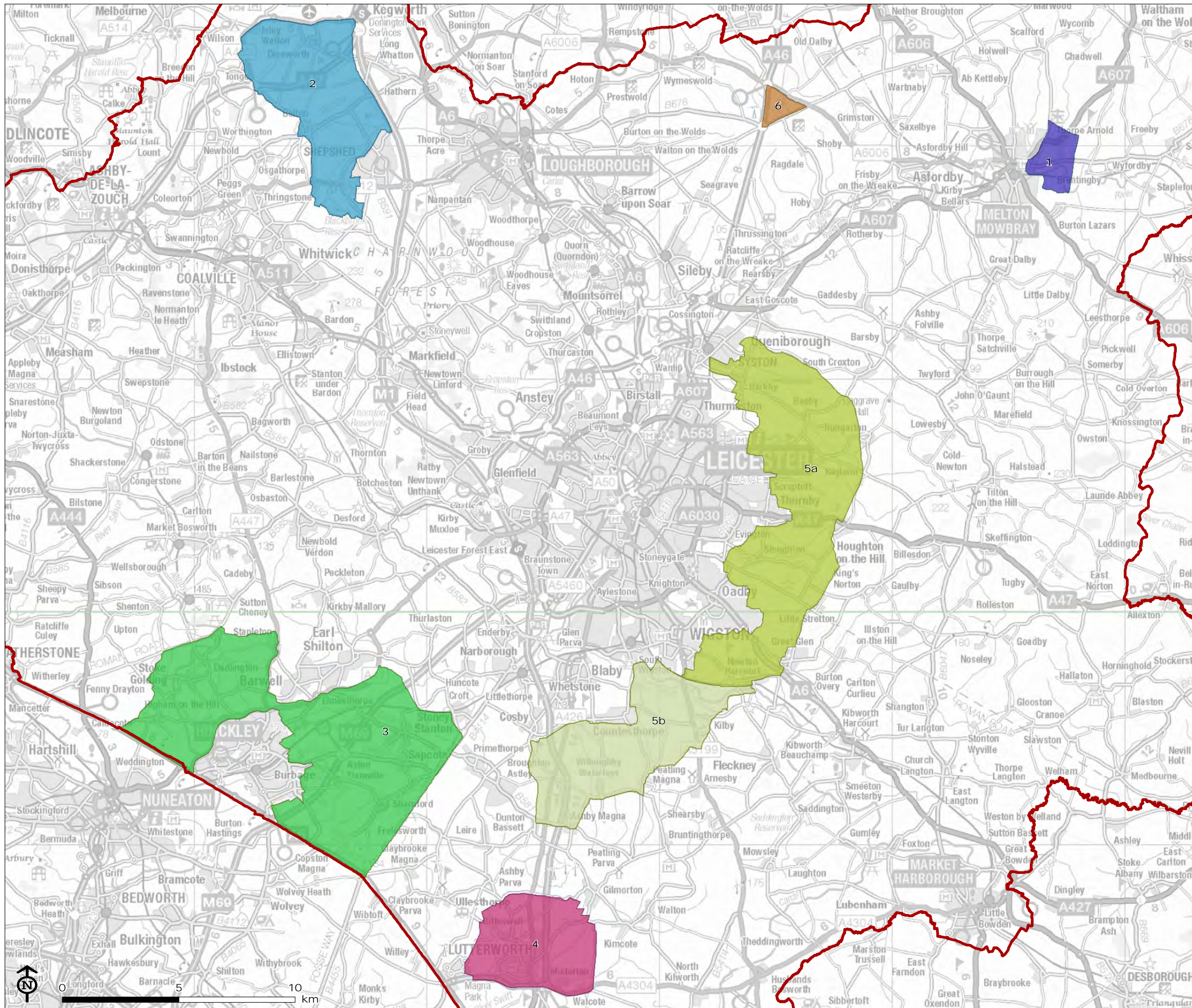
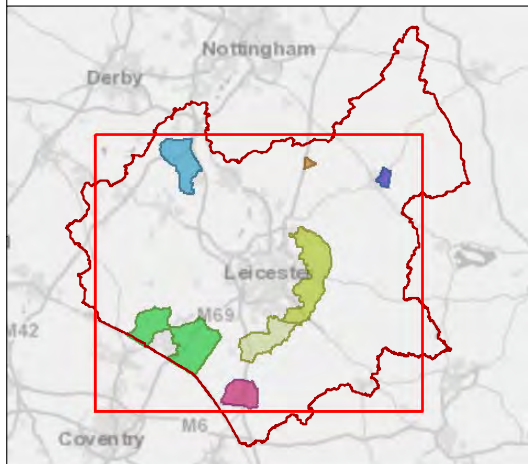


Figure 1.2: **Location of Strategic Opportunity Assessment Zones (SOAZ) in the study area**

- Study area
- SOAZ
- 1: Melton Mowbray
- 2: Northern Gateway
- 3: Southern Gateway
- 4: Lutterworth
- 5a: Eastern Growth Corridor (North)
- 5b: Eastern Growth Corridor (South)
- 6: Six Hills



Map Scale @A3: 1:160,000



Content of this report

1.9 The remainder of this report is structured as follows:

- **Chapter 2** provides a short User Guide for using the information contained in this report, with signposting to the relevant sections.
- **Chapter 3** sets out the methodologies developed for the Landscape Sensitivity Assessment and linked Green Infrastructure analyses.
- **Chapter 4** gives a general overview of landscape character and current Green Infrastructure assets found across Leicestershire.
- **Chapter 5** is the individual assessment profiles for the six Strategic Opportunity Assessment Zones (SOAZs).
- **Chapter 6** provides an overview of the landscape and visual sensitivity assessment results for the county, followed by individual assessment profiles for the 17 county-level Landscape Character Areas (which include integrated landscape and GI guidance and opportunities).
- **Chapter 7** provides high-level GI guidance and opportunities for consideration within the study area.
- **Appendix 1** contains a list of references and key data sources used to inform this study.

2

User Guide



2 User Guide

This report has been designed to help inform both the strategic location of future growth in the county, and to form part of the wider evidence base available to local authorities on landscape and Green Infrastructure to consider in site allocations and development management decisions. Ultimately it aims to help guide development to locations where impacts on landscape character and quality are minimised; and where opportunities to enhance local distinctiveness and Green Infrastructure delivery are maximised.

The following short 'User Guide' helps the reader navigate through this document for its various end uses.

How has this report been prepared?

- **Chapter 3** sets out the methodology followed for this study, including the criteria used for the Landscape Sensitivity Assessment, the development scenarios considered and information on how the results and professional judgements should be interpreted.
- It also sets out the key steps followed to analyse the current distribution of GI assets and potential opportunities for GI enhancements, in association with new development.

What is the landscape like and where are the current GI assets found across the study area?

- **Chapter 4** provides an overview of the character of the landscape as a whole, as well as a summary of current GI asset distribution, supported by illustrative maps.

How do I use the information contained in the SOAZ and LCA assessment profiles?

- The following key steps will help the reader use the information contained in the SOAZ (**Chapter 5**) and LCA (**Chapter 6**) profiles.

See Chapter 1 ('Study area and spatial framework used for this work') for an explanation of the spatial framework of SOAZs and LCAs.

Step 1: Where is the location / site of interest?

- **Is the location / site within a SOAZ?** See map at **Figure 1.2**. If so, please refer to the corresponding assessment profile in Chapter 5.
- **If not, which LCA is the location/site within?** See map at **Figure 1.1** and find the corresponding assessment profile in Chapter 6.

Step 2: Which landscape features / attributes are sensitive to change?

- **Do any of the sensitive landscape attributes or features of the SOAZ/LCA apply to the location of interest?** Please refer to table entitled 'Key landscape sensitivities to development within the area' in the relevant SOAZ profile (Chapter 5) or LCA profile (Chapter 6).
 - *Note: valued landscape attributes and sensitive features will be more sensitive to change/development and may need to be avoided or require particular mitigation.*

² If this information is being used to help inform policy and decision-making at a local level, ensure it is used in conjunction with other available evidence, as set out under the 'References for further local-level landscape and GI evidence' heading of each profile.

- **How does the location/site in question relate to the criteria assessments and overall landscape sensitivity judgement?** Please refer to the 'Description by evaluation criteria' and 'Evaluation of criteria and landscape sensitivity judgement' tables of the relevant SOAZ profile (Chapter 5) or LCA profile (Chapter 6). The criteria definitions set out in Table 3.2 (Chapter 3) and explanatory text regarding the overall judgements (paragraphs 3.8 to 3.10) should be referred to when interpreting this information.
 - *Note: as this is a strategic study the location/site in question may vary from the overall judgements made for the SOAZ/LCA (i.e. it may be more or less sensitive based on the characteristics present).*

Step 3: Are there any opportunities for landscape and GI enhancements in association with future development?

- **For a location/site within a SOAZ,** consider the Landscape Guidance as well as the table/accompanying mapping setting out 'Existing Green and Blue Infrastructure assets, constraints and opportunities' in the second half of the appropriate assessment profile.
- **For a location/site outside the SOAZs,** consider the 'Landscape and Green Infrastructure Guidance and Opportunities' set out at the end of the appropriate LCA assessment profile.

What are the priorities and opportunities for Green Infrastructure delivery in Leicestershire?

- **Chapter 7** provides an overview of key GI opportunities, key conclusions and considerations for Local Plans, delivery options and recommended next steps building on this study.

3

Methodology



3 Methodology

Landscape Sensitivity Assessment

Definition of 'landscape sensitivity'

- 3.1 There is currently no prescribed method for assessing landscape sensitivity. However, the *Landscape Character Assessment Guidance for England and Scotland Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity* (Scottish Natural Heritage and the former Countryside Agency, 2004) is a discussion paper on landscape sensitivity and capacity and has informed LUC's approaches over the years.
- 3.2 Paragraph 4.2 of Topic Paper 6 states that:
- 'Judging landscape character sensitivity requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change without adverse impacts on character. This involves making decisions about whether or not significant characteristic elements of the landscape will be liable to loss... and whether important aesthetic aspects of character will be liable to change'.*
- 3.3 In this study the following definition of sensitivity has been used, which is based on the principles set out in Topic Paper 6. It is also compliant with the third edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA 3, 2013) as well as definitions used in other landscape sensitivity studies of this type:

Landscape sensitivity is the relative extent to which the character and quality of an area (including its visual attributes) is likely to change.

Types of development considered

- 3.4 This Landscape Sensitivity Assessment assesses the landscape of each Strategic Opportunity Area (SOAZ) and Landscape Character Area (LCA) in terms of their **sensitivity to the 'principle' of built development**, without knowing the specific size, configuration or exact location (as this would be detailed at the planning application level). The assessment considers the types of development deemed most likely to come forward across Leicestershire in the coming years in support of planned economic growth. These are:
- housing developments (2-3 storey properties);
 - small-scale commercial developments (use classes B1 and B2); and
 - in some limited areas within the SOAZs, large-scale warehousing developments (use class B8).
- 3.5 All three development scenarios consider supporting infrastructure such as roads and open spaces (e.g. landscaping, gardens). Examples of typical developments found within the study area within these three categories are shown at **Figure 3.1** on the next page.

Figure 3.1: Examples of the development scenarios considered in the study area

Examples of housing developments



Examples of light industrial developments



Examples of large-scale warehousing developments



A criteria-based assessment

- 3.6 In line with the recommendations in Topic Paper 6 and NPPF, the landscape sensitivity assessment is based on an assessment of landscape character using carefully defined criteria – drawing on the experience of other similar studies in Leicestershire and elsewhere in the UK. Criteria selection is based on the attributes of the landscape most likely to be affected by **development, and considers both 'landscape' and 'visual' aspects of sensitivity.** The criteria used by this study are defined in **Table 3.2**, providing examples of the types of landscape character or features that could indicate low or high sensitivity against each.

Making an overall judgement on levels of landscape sensitivity

- 3.7 A five-point rating from 'low' to high' landscape sensitivity is used to illustrate overall levels of landscape sensitivity – i.e. how susceptible the character and quality of the landscape would be to change. These definitions are shown in the **Table 3.1** below.

Table 3.1: The five-point scale of landscape sensitivity

Sensitivity judgement	Definition
High	The key characteristics and qualities of the landscape are highly sensitive to change.
Moderate-high	The key characteristics and qualities of the landscape are sensitive to change.
Moderate	Some of the key characteristics and qualities of the landscape are sensitive to change.
Low-moderate	Few of the key characteristics and qualities of the landscape are sensitive to change.
Low	The key characteristics and qualities of the landscape are robust and are unlikely to be subject to change.

- 3.8 **As with all assessments based upon data and information which is to a greater or lesser extent subjective, some caution is required in its interpretation.** This is particularly to avoid the suggestion that certain landscape features or qualities can automatically be associated with certain sensitivities – the reality is that an assessment of landscape sensitivity is the result of a complex interplay of often unequally weighted variables (i.e. 'criteria').
- 3.9 Each SOAZ and LCA is assessed against each criterion in turn, with explanatory text indicating specific locations, features or attributes of lower or higher sensitivity. This culminates in an overall landscape sensitivity judgement (using the five-point scale above), taking account of the inter-relationships between the different criteria and the specific characteristics of the landscape being assessed. These overall judgements are also displayed in summary tabular and mapped format for all SOAZs and LCAs at the start of Chapters 5 and 6 respectively.
- 3.10 The LCAs and SOAZs often contain areas of higher and lower sensitivity within them that vary from the overall sensitivity rating. It is therefore very important to take note of the explanatory text supporting the assessments, particularly the landscape sensitivity judgement and key landscape sensitivities, as set out in the individual assessment profiles for the SOAZs (Chapter 5) and LCAs (Chapter 6). Whilst the Landscape Sensitivity Assessment results provide an initial indication of landscape sensitivity, they **should not be interpreted as definitive statements on the suitability of individual sites for a particular development.** All proposals will need to be assessed on their own merits through the planning process.

Landscape Sensitivity Assessment process

- 3.11 The process for undertaking the assessment followed the following key stages:
- Confirmation of spatial framework for the assessment (SOAZs and Landscape Character Areas as described in Chapter 1)
 - Confirmation of the development scenarios to be considered (see from para 3.4)
 - Review of criteria and approaches used by other studies in Leicestershire and the UK, followed by recommendation and confirmation of criteria to be used in this study (Table 3.2)
 - Desk-based Landscape Sensitivity Study – using available data and evidence (see Appendix 1)
 - Field verification – **each SOAZ and LCA was visited in the field by LUC's landscape professionals to verify desk based findings**
 - Moderation of overall judgement scores (presented in the overall summaries and individual profiles in Chapters 5 and 6) and finalisation of assessments

Table 3.2: Landscape and visual criteria and definitions

Landscape and Visual Sensitivity Assessment Criteria				
Physical character (including topography and scale)				
<p>This considers the shape and scale of the landform, landscape pattern and landscape elements in relation to the scale of potential development. Smooth, gently undulating or flat landforms are likely to be less sensitive to development than a landscape with a dramatic landform, distinct landform features or incised valleys with prominent slopes. This is because developments may mask distinctive topographical features which contribute to landscape character. This criterion also considers how developments fit with the scale of the landform (understanding the scale of the development proposed is important when applying this criterion). Larger scale, simple landforms are likely to be less sensitive to larger scale developments than smaller scale, enclosed landforms (where large scale developments could appear out of scale with the underlying landform). Conversely, smaller developments may be able to be screened within enclosed landforms, therefore reducing landscape sensitivity. Existing small-scale features in the landscape in the form of existing buildings or trees will influence the scale of development that can be accommodated in the landscape.</p>				
Low sensitivity	Low-moderate sensitivity	Moderate sensitivity	Moderate-high sensitivity	High sensitivity
<i>E.g. the landscape has smooth, gently undulating or featureless landform with uniform large-scale landscape pattern and low density of overlying landscape features.</i>		<i>E.g. the landscape has an undulating landform and some distinct landform features; it is overlain by a mixture of small-scale and larger scale field patterns and a moderate density of small-scale landscape features.</i>		<i>E.g. the landscape has a dramatic landform or distinct landform features that contribute positively to landscape character; the area has a high density of small-scale landscape features and is overlain by a small-scale field pattern.</i>
Natural character				
<p>This criterion considers the 'naturalistic' qualities of the landscape in terms of coverage of semi-natural habitats and valued natural features (e.g. trees, hedgerows) which could be vulnerable to loss from development. Areas with frequent natural features (including large areas of nationally or internationally designated habitats) result in increased sensitivity to development, while landscapes with limited natural features (including intensively farmed areas or areas with high levels of existing development) will be less sensitive.</p>				
Low sensitivity	Low-moderate sensitivity	Moderate sensitivity	Moderate-high sensitivity	High sensitivity
<i>E.g. much of the landscape is intensively farmed or developed with little semi-natural habitat coverage and few valued natural features.</i>		<i>E.g. there are areas of valued semi-natural habitats and features found in parts of the landscape, whilst other parts are intensively farmed or developed.</i>		<i>E.g. large areas of the landscape are nationally or internationally designated for their nature conservation interest; there is a frequent occurrence of valued natural features across the landscape.</i>

Historic landscape character				
<p>This considers the extent to which the landscape has 'time-depth' (a sense of being an historic landscape, with reference to the Historic Landscape Characterisation) and/or the presence of heritage assets that are important to landscape character (i.e. Conservation Areas, Scheduled Monuments, Listed Buildings, archaeological features and remains or other features listed in the landscape character assessment). Landscapes with small-scale, more irregular field patterns of historic origin are likely to be more sensitive to the introduction of modern development than landscapes with large, regular scale field patterns because of the risk of losing characteristic landscape patterns.</p>				
Low sensitivity	Low-moderate sensitivity	Moderate sensitivity	Moderate-high sensitivity	High sensitivity
<i>E.g. A landscape with relatively few historic features important to the character of the area and little time depth (i.e. large intensively farmed fields).</i>		<i>E.g. A landscape with some visible historic features of importance to character, and a variety of time depths.</i>		<i>E.g. A landscape with a high density of historic features important to the character of the area and great time depth (i.e. piecemeal enclosure with irregular boundaries, ridge and furrow)</i>
Form, density and setting of existing development				
<p>This considers the overall settlement form and character of any settlement edge and considers whether development in the assessment area would be in accordance with the general settlement form and the density/pattern of development. It also relates to the landscape pattern associated with the existing settlement edge (where relevant), for example if it is well integrated by woodland cover or open and exposed. This criterion also considers the extent to which the assessment area contributes to the identity and distinctiveness of settlements, by way of its character and/or scenic quality, for example by providing an attractive backdrop/setting to development, or playing an important part in views from a settlement. This also considers the extent to which the area contributes to a perceived gap between settlements (the loss of which would increase coalescence).</p>				
Low sensitivity	Low-moderate sensitivity	Moderate sensitivity	Moderate-high sensitivity	High sensitivity
<i>E.g. the area does not contribute positively to the setting of development or play a separation role between settlements. Development in the assessment area would have a good relationship with the existing settlement form/pattern, and could provide the opportunity to improve an existing settlement edge.</i>		<i>E.g. the area provides some contribution to the setting of development, or plays a role in the perception of a gap between settlements or development. Development in the assessment area may not fit with the existing settlement form/pattern.</i>		<i>E.g. the area provides an attractive backdrop/setting to development, plays an important part in views from settlements, or forms an important part in the perception of a gap between settlements. Development in the assessment area would have a poor relationship with the existing settlement form/pattern, and would adversely affect an existing settlement edge (which may be historic or distinctive).</i>

Views and visual character including skylines

This considers the visual prominence of the assessment area, reflecting the extent of openness or enclosure in the landscape (due to landform or land cover), and the degree of intervisibility with the surrounding landscape (i.e. the extent to which potential development would be visible). Visually prominent landscapes are likely to be more sensitive to development than those which are not so visually prominent. Landscapes which are visually prominent and intervisible with adjacent landscapes (both urban and rural) are likely to be more sensitive to development than those which are more hidden or less widely visible. It also considers the skyline character of the area including whether it forms a visually distinctive skyline or an important undeveloped skyline. Prominent and distinctive and/or undeveloped skylines, or skylines with important landmark features, are likely to be more sensitive to development because new buildings/structures may detract from these skylines as features in the landscape. Important landmark features on the skyline might include historic features or monuments.

Low sensitivity	Low-moderate sensitivity	Moderate sensitivity	Moderate-high sensitivity	High sensitivity
<i>E.g. the area is enclosed/visually contained and/or has a low degree of visibility from surrounding landscapes and the area does not form a visually distinctive or important undeveloped skyline</i>		<i>E.g. the area is semi-enclosed or has some enclosed and some open areas. It is likely to have some inter-visibility with surrounding landscapes, and may have some visually distinctive or undeveloped skylines within the area.</i>		<i>E.g. the area is open and/or has a high degree of visibility from surrounding landscapes, and/or the area forms a visually distinctive skyline or an important undeveloped skyline.</i>

Perceptual and experiential qualities

This considers qualities such as the rural character of the landscape (traditional land uses with few modern human influences), sense of remoteness or tranquillity. Landscapes that are relatively remote or tranquil (due to freedom from human activity and disturbance and having a perceived naturalness or a traditional rural feel with few modern human influences) tend to increase levels of sensitivity to development compared to landscapes that contain signs of modern development. High scenic value and dark night skies also add to sensitivity in relation to this criterion. This is because development will introduce new and uncharacteristic features which may detract from a sense of tranquillity and or remoteness/naturalness.

Low sensitivity	Low-moderate sensitivity	Moderate sensitivity	Moderate-high sensitivity	High sensitivity
<i>E.g. the area is significantly influenced by development/human activity, where new development would not be out of character.</i>		<i>E.g. A landscape with some sense of rural character, but with some modern elements and human influences.</i>		<i>E.g. A tranquil or highly rural landscape, lacking strong intrusive elements. A landscape of high scenic value with dark skies and a high perceived degree of rural character and naturalness with few modern human influences.</i>

Green Infrastructure analysis

- 3.12 The purpose of the GI analysis was to identify the current GI assets across the whole county, before looking in more detail at the six SOAZ areas, and using this information to highlight potential opportunities to address existing challenges, as well as enhancing existing assets.
- 3.13 The GI method involved a four-stage process, starting with desk audit, and then progressing to site audit and culminating with detailed analysis. The process is described below.

Stage 1: Analysis of current GI assets

- 3.14 A review of the available GI evidence base was completed, using a wide range of sources, of which the key documents are listed in **Appendix 1**. Spatial evidence on existing GI assets was explored using GIS, with each of the Strategic Opportunity Assessment Zones (SOAZs) considered in turn, and the key issues and opportunities summarised in a consistent way. In addition, GI opportunities were identified through a review of previous studies including the 6Cs study and local authority plans (including the Hinckley & Bosworth, Charnwood and Melton GI studies). This process provided an understanding of the nature and distribution of the current GI resource across the county particularly around the areas for potential growth. It has provided an indication of potential opportunities, for discussion with stakeholders.
- 3.15 A number of GI themes were identified in discussion with the client, representing the different functions and benefits GI provides. These are as follows, and are also depicted in **Figure 3.2** below, and the key principles for each theme described overleaf:
- Water
 - Biodiversity
 - Landscape (**note this is an overarching theme and covered in detail in the Landscape Sensitivity Assessment**).
 - Heritage
 - Active transport and connectivity
 - Recreation and play
 - Health, Wellbeing and Equality

Figure 3.2: Key GI themes considered for this study



3.16 The planning context was also an important consideration in the analysis, and existing planning constraints and agreed site allocations were taken into account. These include a number of Green Wedges, primarily around Leicestershire but also Hinckley, and a number of Areas of Separation, particularly around Melton, Hinckley, Coalville, Loughborough and north of Leicester (within Charnwood District). In terms of planned development, published site allocations, Sustainable Urban Extensions and Strategic Development Areas were also considered, along with any associated GI proposals to help inform and complement the GI opportunities identified by this study.

GI Themes

3.17 The GI themes reflect the key environmental and social functions that GI delivers at a strategic scale. There are other benefits that GI provides to society, however those detailed in **Figure 3.2** are most relevant to this study. The overarching objectives of each theme are outlined below:

GI Objectives

- **Water:** GI should take account of and integrate with natural processes and systems, ensuring flood plains are restored where possible, and contributing to climate adaptation.
- **Biodiversity:** GI should maintain and enhance biodiversity to deliver a net gain for biodiversity, and provide connectivity to provide ecological resilience in the face of climate change.
- **Landscape:** GI should contribute to the management, conservation and enhancement of the local landscape, with new development respecting (and where possible enhancing) landscape character and quality. This theme is addressed through the linked Landscape Sensitivity Assessment.
- **Heritage:** GI should contribute to the protection, conservation and management of the historic landscape, archaeological and built heritage assets.
- **Active Transport:** GI should include linear features and high quality off-road access routes for pedestrians and cyclists.
- **Recreation and Play:** New recreational and play facilities should be created, particularly in locations where there are opportunities to link the urban population to the countryside.
- **Health, Well Being and Equality:** GI should be designed to deliver social benefits to the local population, supporting their mental and physical health, providing shelter and shading for people, ameliorating poor air quality, and providing a focus for social inclusion, community development and lifelong learning.

Stage 2: SOAZ review and site audits

3.18 A focused field survey was completed to check the draft information compiled under the previous task, and confirm the quality and value of existing GI assets. The site audits also enabled the team to identify potential GI enhancements around each SOAZ, and any locations where new GI features might be necessary. The field survey was systematic, involving written observations, map annotations and photographs. The site audit also provided an opportunity to photograph examples of high and low quality GI features, to illustrate our recommendations.

Stage 3: Define SOAZ-specific GI opportunities

3.19 The evidence gathered through the desk and site audit work was considered alongside the results of the Landscape Sensitivity Assessment. This enabled the team to identify how GI opportunities might have the potential to manage or enhance sensitive features or attributes of the landscape.

3.20 The opportunities were identified and mapped according to the GI themes to which they contribute most directly, however in reality, most of the GI opportunities will perform a number of functions. The GI opportunities shown in Chapter 5 highlight the strategic opportunities for each SOAZ, which have been selected on the basis of:

- The need for this type of GI investment in the SOAZ
- The scale of the functions they can deliver
- Achievability

3.21 These figures only present those opportunities which can be spatially defined.

- 3.22 Those opportunities for the creation or enhancement of a Strategic Destinations are highlighted, and it is expected that these opportunities will deliver most or all of the GI functions.
- 3.23 The SOAZ areas vary considerably in scale, and as a result, the GI opportunities identified vary in terms of their focus and scale. The opportunities associated with Six Hills SOAZ for example, are more site specific than those proposed in the Eastern Growth Corridor, Southern or Northern Gateways.

Stage 4: Focused consultation and refining opportunities at SOAZ and county level

- 3.24 The strategic GI opportunities for each SOAZ were shared with the Steering Group for discussion. This resulted in amendments and additions to some opportunities, to reflect local and technical knowledge and priorities. The main amendments related to site allocations in proximity to the SOAZ, and the need to ensure the GI opportunities reflected these.
- 3.25 Once the GI opportunities were agreed, each GI opportunity was reviewed to determine the functions it could deliver. A number of Leicestershire-specific principles for the effective delivery of GI were agreed. Finally, guidance was prepared on the interpretation of the GI study through the local authorities forthcoming Local Plan reviews. This is presented in **Chapter 7**.
- 3.26 To help target future investment in GI across the wider county, heat mapping was utilised to indicate those parts of the county with the lowest levels of GI provision and the highest population. This is discussed in paragraphs 4.26-4.28 and illustrated in **Figure 4.9**.

4 Overview of landscape character and Green Infrastructure assets in Leicestershire



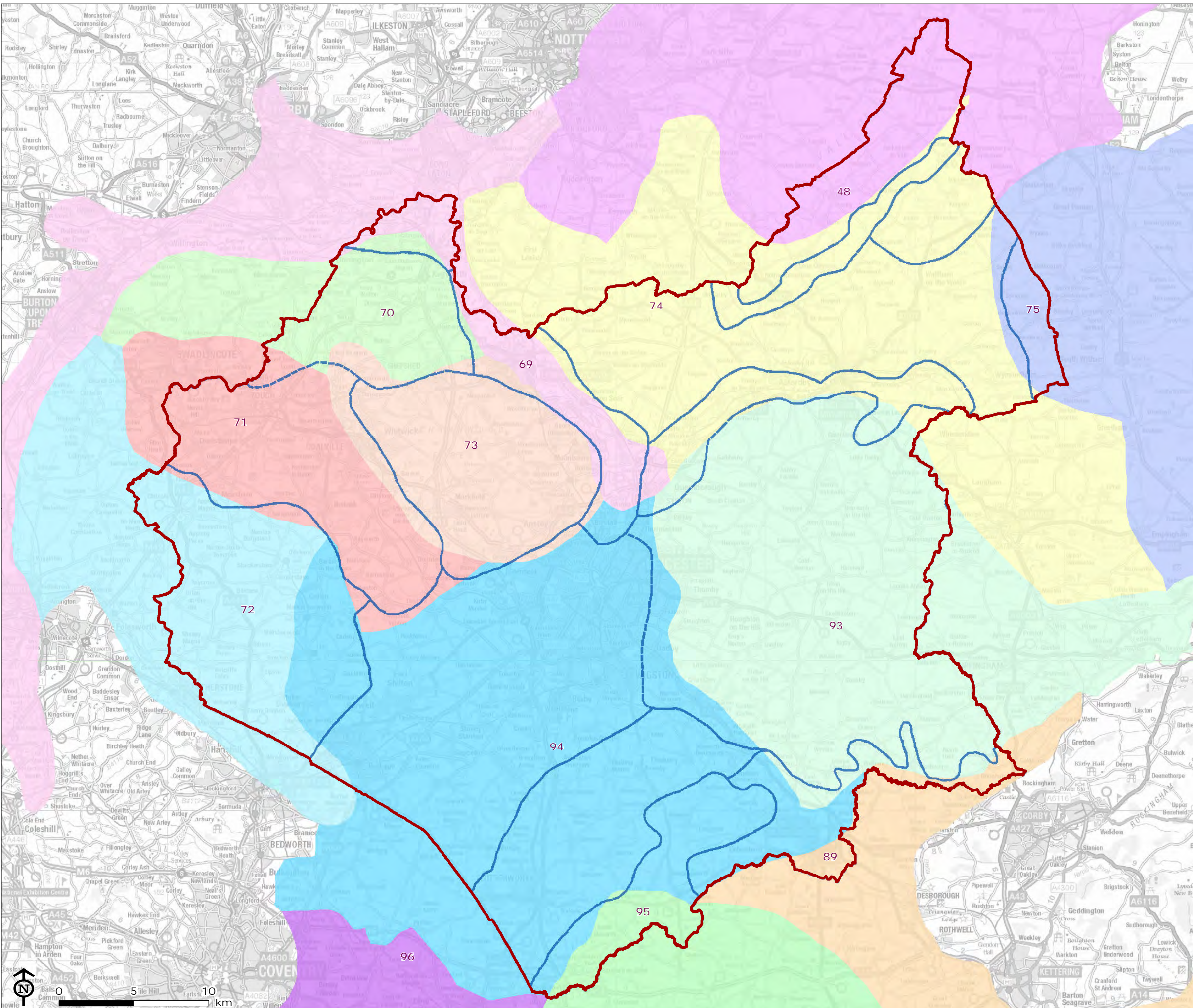
4 Overview of current landscape character and Green Infrastructure assets in Leicestershire

Overview of landscape character

- 4.1 The county of Leicestershire contains a variety of landscapes including the elevated, undulating farmland of The Wolds and High Leicestershire, river valleys and vales including the Soar, Wreake, Welland, the distinctive upland landscape of Charnwood Forest and the Belvoir escarpment (with the landmark Belvoir Castle on the skyline). The underlying geology has a strong influence on the landscape, with ironstone and clay in the east of the county which reflects in the built vernacular of the villages and underlying coal measures in the west which have been mined for many centuries. The City of Leicester lies at the heart of the county, although it is not prominent in views and urbanising influences are usually limited to its immediate fringes. The main settlements outside Leicester are Loughborough, Melton Mowbray, Coalville, Hinckley and Market Harborough, most of which are centred on major river crossing points.
- 4.2 The primary use of the landscape is agriculture, with arable cultivation dominating. Prior to the Second World War, pasture was more frequent and fields smaller – with intensification and larger machinery leading to the loss of traditional hedgerow boundaries and the amalgamation of fields in many parts of the county. Nevertheless, thick hedgerows with frequent boundary and in-field trees are a common feature **in today's landscape**, providing a well-wooded character to many areas despite the lack of significant woodland cover. Semi-natural habitats generally occur in pockets amongst the intensive farmland. These mainly comprise ancient woodland, heath, semi-natural grasslands and wetland habitats adjacent to watercourses. The distinctive landscape of Charnwood Forest has frequent rocky outcrops and areas of woodland, resulting in this part of Leicestershire having a higher density of natural habitats compared with the rest of the county.
- 4.3 Much of the landscape is strongly influenced by industrial heritage with past coal mining (mostly to the west of Leicester) and ongoing quarrying for sand and gravel drawing from the rich alluvium deposits along the river valleys. Many of these sites are now disused and have been restored for the benefit of biodiversity and recreation. Associated canals and railways (some now disused) used for the transportation of materials from the mines and quarries are also common heritage features within the landscape, and now serve as valued ecological corridors. The industrial activity has also shaped the settlement of the county, with large former mining villages, particularly close to Leicester. In the more rural eastern areas, villages tend to have seen lower levels of development in the past century and retained their historic character. Additionally, there are many ornamental parklands and historic estates scattered amongst the farmland, some of which are Registered Parks and Gardens or Country Parks. The Battle of Bosworth was a decisive 15th century battle during the Wars of the Roses and took place north of Hinckley; its national significance recognised in its designation as a Registered Battlefield.
- 4.4 The north western part of the county is within the National Forest initiative which aims to link up Charnwood Forest with Needwood Forest in Staffordshire. Areas of new planting are visible throughout this area and are gradually changing the natural and perceptual qualities of the landscape. Generally, the landscape is strongly rural away from the major urban centres, often with a remarkably stark transition from urban to open countryside. River valleys also tend to be transport and power corridors with major roads, railways and pylon lines following the valley floors. Major transport routes including the M1, M69 and M42 motorways, dualled A-roads and railways are visually well screened, although noise can detract from tranquillity. Development tends to be **well-integrated into the landscape by surrounding woodland, retaining the landscape's rural character**, even when in close proximity to large urban settlements.
- 4.5 The key variations **of the county's landscape are reflected in the classification and description of geographically unique Landscape Character Areas (LCAs) at a range of scales**. As this is a county-level study, the primary evidence base used is the Leicester, Leicestershire & Rutland Landscape

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Figure 4.1: **The framework of National Character Areas and Study Area Landscape Character Areas**



- Study area
- Landscape Character Area
- National Character Area**
- 48: Trent and Belvoir Vales
- 69: Trent Valley Washlands
- 70: Melbourne Parklands
- 71: Leicestershire and South Derbyshire Coalfield
- 72: Mease/Sense Lowlands
- 73: Charnwood
- 74: Leicestershire and Nottinghamshire Wolds
- 75: Kesteven Uplands
- 89: Northamptonshire Vales
- 93: High Leicestershire
- 94: Leicestershire Vales
- 95: Northamptonshire Uplands
- 96: Dunsmore and Feldon

Map Scale @A3: 1:250,000



and Woodland Strategy (noting that Rutland is excluded from this particular study). At a local level, many of the local authorities have their own Landscape Character Assessments which consider a finer grain of detail.

- 4.6 Sitting above the county and local landscape character assessment framework are Natural England's National Character Areas (NCAs)³. England is divided into a total of 159 NCAs, which identify and describe areas based on their landscape character, biodiversity and geodiversity. **Figure 4.1** above shows the relationship between the county LCAs and national NCAs found within and on the boundary of Leicestershire.

Current distribution of key Green Infrastructure assets

Overview

- 4.7 **Figure 4.2** depicts the existing GI assets across the study area. The map includes a number of data layers as indicators of Green Infrastructure, including open spaces and country parks, woodland and semi-natural habitats, designated wildlife sites, registered parks and gardens, and the flood plain. This figure demonstrates that there are areas with sparse coverage of Green Infrastructure, particularly in the north-east, east and south-eastern parts of the study area. This may be linked to the intensively farmed nature of large parts of Leicestershire, particularly for cereal cultivation. Redressing the fragmented nature and often limited extent of areas of semi-natural habitat such as woodlands, wetlands and semi-natural grasslands should be a priority for future GI investment. These habitats play an important role in delivering environmental functions such as flood and water management, climate control, ecological connectivity and resilience. However, it is important to note that the data used to create the mapping does not account for individual trees or hedgerows that are key features of the Leicestershire landscape; with mature hedgerows, frequent hedgerow and in-field trees (including within parkland estates) cumulatively providing valued GI assets and multi-functional benefits particularly in the intensively farmed and urban fringe areas.

Strategic GI assets

- 4.8 A large proportion of the area northwest of Leicester is within the National Forest and Charnwood Forest initiative areas. The National Forest is a new multi-purpose forest in the making, covering 200 square miles across parts of Derbyshire, Leicestershire and Staffordshire. It was launched in 1990 and the National Forest Company was officially set up in 1995. The overall aim of the National Forest is to increase woodland cover in this previously sparsely wooded region to cover about a third of the area. The National Forest has increased woodland coverage from 6% to 19.5% between 1991 and 2013 and offers a variety of attractions and benefits for people and nature.
- 4.9 Charnwood Forest Regional Park overlaps with part of the National Forest. It is a partnership of local authorities, agencies, user groups and land management organisations, who work to manage and promote the unique cultural and heritage features of the area. The area covers nearly 70 square miles and covers parts of Charnwood Borough, North-West Leicestershire District, and Hinckley and Bosworth Borough. These forest initiatives provide incentives for the creation of woodland and associated habitats, and have delivered a net gain in semi-natural habitat coverage, compared to other parts of the study area.
- 4.10 There are a number of strategic recreation assets across the county. These are predominantly clustered within Leicester and the National and Charnwood Forests. Such destinations include Sence Valley Forest Park, Hicks Lodge Cycle Centre, Queen Elizabeth Diamond Jubilee Wood, Martinshaw Wood, Thornton Reservoir, Bradgate Park, Coleorton Hall and Watermead Country Park. The southern and eastern parts of Leicestershire also contain strategic assets, such as Belvoir Castle, Burrough Hill Country Park and Langton Hall. However, these parts of Leicestershire contain fewer strategic recreation assets and a smaller coverage of GI assets overall. This deficiency in access to accessible natural green space, in comparison to the GI

³ For more information, including the descriptive profiles for NCAs found within the study area, see <http://publications.naturalengland.org.uk/map?category=587130>

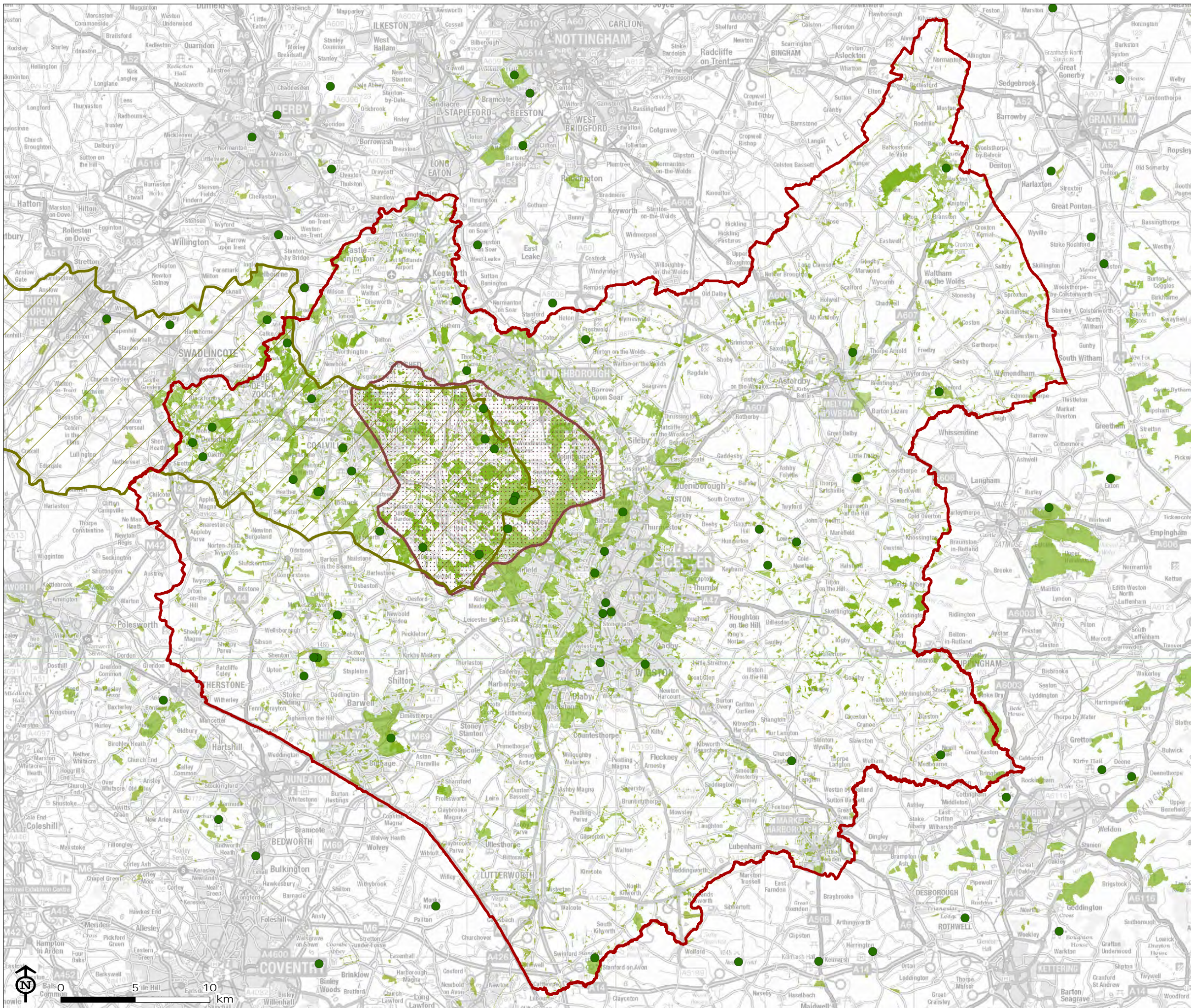
provision in the northwest of the region, is reflected in the findings of the 2010 6Cs Green Infrastructure Strategy⁴.

- 4.11 There are also areas of land within the study area that have been included in local planning designation as Green Wedges. These areas are protected from development by the relevant Local Plan, in order to deliver a number of functions including preventing the merging of settlements; guiding development form; providing a green lung into urban areas; and acting as a recreational resource. Green Wedges have been designated around Leicester, including land within neighbouring authorities and Hinckley. They offer potential for enhancement to deliver multi-functional green infrastructure, in line with their functions, and this study has identified opportunities within these areas.
- 4.12 Several local authorities have also designated Areas of Local Separation (ALS). These areas of land are designated within the relevant Local Plan where there is potential for separate urban areas to merge together as a result of new development, and where there is predicted to be a negative impact as a result of this on landscape quality and settlement identity. The function of Areas of Separation is to ensure that development does not harmfully reduce the separation in these sensitive areas. Areas of land have been designated as ALS around Leicester, Hinckley, Loughborough, Melton, Coalville as well as some smaller settlements. As with Green Wedges, there is potential to ensure the land within these areas offers more benefits to the local communities by incorporating green infrastructure features where appropriate.

⁴ The 6Cs Partnership (2010) Green Infrastructure Strategy: Volume 1: Sub-Regional Strategic Framework - Figure 1.2 Existing Strategic GI Assets

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Figure 4.2: Existing Green Infrastructure Assets



- Study area
- Strategic recreation assets
- National Forest
- Charnwood Forest
- Green infrastructure assets*

*Green Infrastructure assets include:
 Special Area of Conservation
 Special Protection Area
 Ramsar
 Site of Special Scientific Interest
 National Nature Reserve
 Ancient woodland
 National Forestry
 Inventory (Woodlands > 0.5ha)
 Local Nature Reserve
 Local Wildlife Site
 Open space
 Ordnance Survey green spaces
 Green wedge
 Area of separation

Map Scale @A3: 1:250,000



Water

- 4.13 A significant proportion of GI within the county relates to the river corridors, which themselves are heavily influenced by surrounding land uses. Many river corridors within Leicestershire have potential to be enhanced in terms of their capacity to retain water, and support biodiversity through restoration of appropriate wetland habitats.
- 4.14 The Leicestershire Flood Risk Management Strategy⁵ states that the main catchments which intersect with the county are:
- Lower Trent And Erewash Catchment
 - Soar Catchment
 - Tame, Anker and Mease Catchment
 - Welland Catchment
 - Witham Catchment
 - Warwickshire Avon Catchment
- 4.15 **Figure 4.3** (at the end of this chapter) illustrates that the main trunk rivers within the county are the Soar, Wreake, Eye, Sence and Welland, all of which have a number of tributary rivers and brooks.
- 4.16 Larger river corridors include the River Soar extending through Leicester and northwest through Loughborough, the River Wreake and Eye joining the Soar from Melton Mowbray to the northeast, the Sence joining the Soar from the southwest, and the River Welland which flows along the southern border of Harborough District. Significant areas along these waterways are within Flood Zone 3, and have potential to perform a valuable role in flood management. Several smaller waterways are also notable GI assets due to their designation for their biodiversity value (see below). This approach to natural flood management is also recommended by the Leicestershire and Leicester City Level 1 Strategic Flood Risk Assessment.
- 4.17 In addition to the rivers within the study area, canals, reservoirs, lakes and ponds are also present and are valuable GI assets. Canals, such as the Grand Union Canal in the southwest of Leicester and the Grantham Canal on the northern fringe of the county, offer linear corridors for walking, cycling and boating, as well as providing valuable habitats and wildlife corridors. Water spaces such as reservoirs, lakes and ponds are also scattered across the county and offer GI benefits. Many of these are publicly accessible, such as Thornton Reservoir, providing recreational routes, the health and well-being benefits of open space, as well as valuable spaces for nature. However, there are also a number of reservoirs and linear waterways that cannot currently be accessed by the public for recreational purposes – something that could be considered in terms of providing additional open space for recreation and play (subject to landowner agreement).

Biodiversity

- 4.18 There are numerous national and local biodiversity designations present across the county (see **Figure 4.4**). The River Mease Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) (in the far west of the study area in North West Leicestershire District) is the only designated Natura 2000 site within the study area. Rutland Water Special Protection Area (SPA) and Ramsar Site is however located approximately 5km east of the county. Pockets of ancient woodland and several Sites of Special Scientific Interest (SSSIs) are located within the study area, with clusters present along the eastern fringes and within Charnwood Forest. Several waterways within the area are also designated as SSSIs including the River Eye, Ashby Canal, Kilby-Foxton Canal and the Grantham Canal, highlighting the importance of these features as ecological corridors. The study area contains three National Nature Reserves; Charnwood Lodge within the Charnwood Forest, Muston Meadow in the northern fringe of the county, and Cribbs Meadow on the north-eastern fringe of the county. Numerous Local Nature Reserves are also located within the county, primarily confined to the centre and north-west of the study area. The

⁵ Leicestershire County Council (2015) Local Flood Risk Management Strategy

east of the county appears to have comparatively few Local Nature Reserves, which should be considered when prioritising GI investment. Local Wildlife Sites are present across all of the authorities within the county, with fewer present in Blaby District and Hinckley and Bosworth Borough.

Heritage

- 4.19 Several Scheduled Monuments are located across the county (see **Figure 4.5**). Of these, six are within the Historic England Heritage at Risk Register. Some of these are due to vehicle damage and arable ploughing, and others are in the process of being restored. Numerous Conservation Areas are found within all of the local authorities, reflecting the rich and varied local vernacular **and the settlements' historic origins**. Of these, nine are listed on the Historic England Heritage at Risk Register - four are located within Leicester City, and the remainder within Hinckley and Bosworth or Charnwood Districts.
- 4.20 The Battle of Bosworth Field is a nationally important Registered Battlefield and key visitor destination (also a Country Park) within Leicestershire and the East Midlands more widely. This is located within Hinckley and Bosworth District – the wider site covering over 1,000 hectares. Several Registered Parks and Gardens are also located within the county, along with a larger number of non-registered parklands and estates which often make a key contribution to local landscape character. The only Registered Park and Garden on the Historic England Heritage at Risk Register is Garendon Park in Charnwood Borough.

Active transport and connectivity

- 4.21 There is a network of public rights of way within the County, although there are some areas of deficiency in the east of Melton District and the south of Harborough District (see **Figure 4.6**). Sustrans National Cycle Routes cross through all of the authorities within the county, although some of the towns are not connected to these via formal cycle routes. There are notable gaps in east to west routes between Charnwood and Melton Districts and between Hinckley and Bosworth, Blaby and Harborough Districts. Many of the cycle routes are located along roads, and there is considerable scope to improve provision for cyclists through creating off road cycle routes and linkages along existing byways and, potentially, sections of dismantled railway line.
- 4.22 Promoted Long Distance paths within the County include:
- The Leicester Round – 100 mile circular trail around the county.
 - National Forest Way – A 75 mile linear trail which explores the highlights of the National Forest.
 - Ivanhoe Way – A 35 mile circular trail in the north-west of the county.
 - Midshires Way – A long distance walking route covering 225 miles which spans five counties from Buckinghamshire to Greater Manchester.
 - Viking Way – A long distance route which runs along the Leicestershire-Lincolnshire border.
 - Melton Round – A 64 mile route which circles Melton Mowbray.

Recreation and play

- 4.23 **Figure 4.7** illustrates the provision of open space across the county. The provision of local open spaces is focussed around the existing centres of population, whilst there are a number of larger strategic open spaces in more rural locations. A significant cluster of recreational space is present within Leicester and to the north-west of Leicester, with less provision to the south and east of Leicester. The provision of open space in Melton District is not accurately represented, due to data incompatibility.
- 4.24 There are a number of Country Parks across the study area, including Bradgate Park and Swithland Woods Country Park, Burbage Common and Woods Country Park, and Sence Valley Country Park. These are important strategic assets and opportunities to enhance these through securing funding from nearby development should be considered. Of the 20 Registered Parks and Gardens across Leicestershire, 13 are publically accessible (based on information available online). Previous research into the provision of accessible natural green space in accordance with

Natural England's Accessible Natural Green Space Standards⁶ has indicated there are deficiencies within the county in the settlements of Leicester, Coalville, Hinckley (including Barwell and Earl Shilton), Loughborough (including Shepshed), Market Harborough and Melton Mowbray⁷. Many of the county's historic parkland landscapes are private estates with little or no public access, and opportunities to increase access to these estates should be considered.

- 4.25 As noted under the 'Water' theme, a number of waterways, reservoirs and other areas of open water are present and many also contribute to open space provision (with some potential opportunities to explore increasing this provision).

Health, wellbeing and equality

- 4.26 The levels of health and good quality living environment are presented in **Figure 4.8**. Leicester suffers from poorer average health levels than the surrounding authorities. Parts of Loughborough and south-west of Loughborough also demonstrate poorer average health levels. Leicester is also notably more deprived than the surrounding authorities with regards to living environment. The far east of the county, and parts of North West Leicestershire and Hinckley and Bosworth Districts have generally poorer living environment than other areas. The delivery of high quality green infrastructure alongside new development has the greatest potential impact on health and well-being in these areas.

Areas deficient in GI

- 4.27 **Figure 4.9** shows the locations within Leicestershire that are either more deprived (Map 1) or have greater population density (Map 2), and are lacking in GI assets. The deprivation data comes from the overall score of the Index of Multiple Deprivation (IMD) data from DCLG. IMD data comes as (larger) Lower Super Output Areas (LSOA) defined by the Office for National Statistics. Output Areas (OA) are defined as the smallest census areas in England.
- 4.28 The area of GI was calculated by measuring the overall coverage of green infrastructure in any OA or LSOA. On the map, only areas that are less than 10% GI are shown. Note that the map does not take into account GI adjacent to each LSOA or OA, but it serves to give an indication of which locations would benefit most from improved GI provision. As indicated in **Figure 4.9 (Map 1)**, the areas which suffer from comparatively high social and economic challenges, and are lacking in GI assets include:
- Large areas in the City of Leicester;
 - Blaby;
 - South Wigston;
 - Loughborough;
 - Coalville (east);
 - Market Harborough (west);
 - Melton Mowbray (north);
 - Syston; and
 - Earl Shilton.
- 4.29 **Figure 4.9 (Map 2)** demonstrates that many of the towns in the county have a population density greater than 25 people per hectare, and also have comparatively low provision of GI assets. Towns which are particularly low in GI cover include:
- Leicester;
 - South Wigston;
 - Blaby;
 - Loughborough;

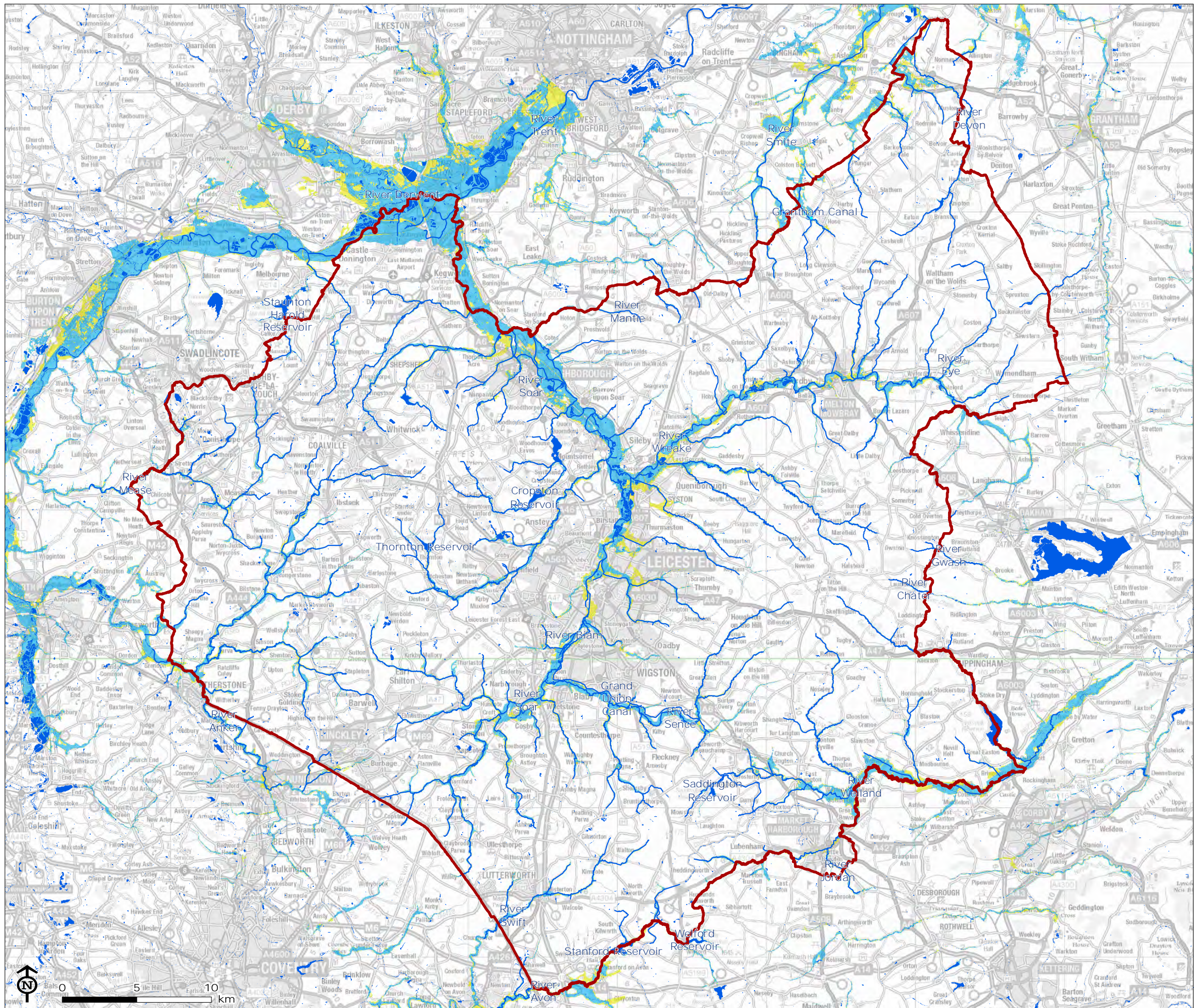
⁶ Natural England (2003) Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their Implementation

⁷ The 6Cs Partnership (2010) Green Infrastructure Strategy.

- Melton Mowbray;
 - Market Harborough;
 - Shepshed;
 - Coalville (east); and
 - Hinckley.
- 4.30 There is significant overlap between the areas which have relatively high social and economic challenges, and those with high population density, and these areas of the county should be considered a priority for investment in new GI provision.
- 4.31 Whilst this study has focussed on specific GI opportunities related to the six SOAZ, the GI principles outlined in paragraph 7.10 should be applied in central Leicester and other urban centres whenever possible. The deficiency in GI in central Leicester also emphasises the importance of the various green corridors identified in relation to the Eastern Growth Corridor SOAZ, as key opportunities to better connect the existing residents of Leicester to the surrounding countryside.
- 4.32 Whilst there is less land available for GI creation within urban centres, opportunities to create new GI features to plug gaps in the existing network should be identified and harnessed. There are a range of GI interventions which can be delivered at small urban sites, including:
- Tree planting;
 - Transforming paved areas to pocket parks;
 - Habitat enhancements along river corridors;
 - Opening up culverted brooks;
 - Rain gardens and Sustainable Urban Drainage (SuDS);
 - Adapting maintenance of green spaces to improve biodiversity;
 - Building-mounted features such as green roofs and walls; and
 - Improved signage connecting parks and green corridors.

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Figure 4.3: Hydrology



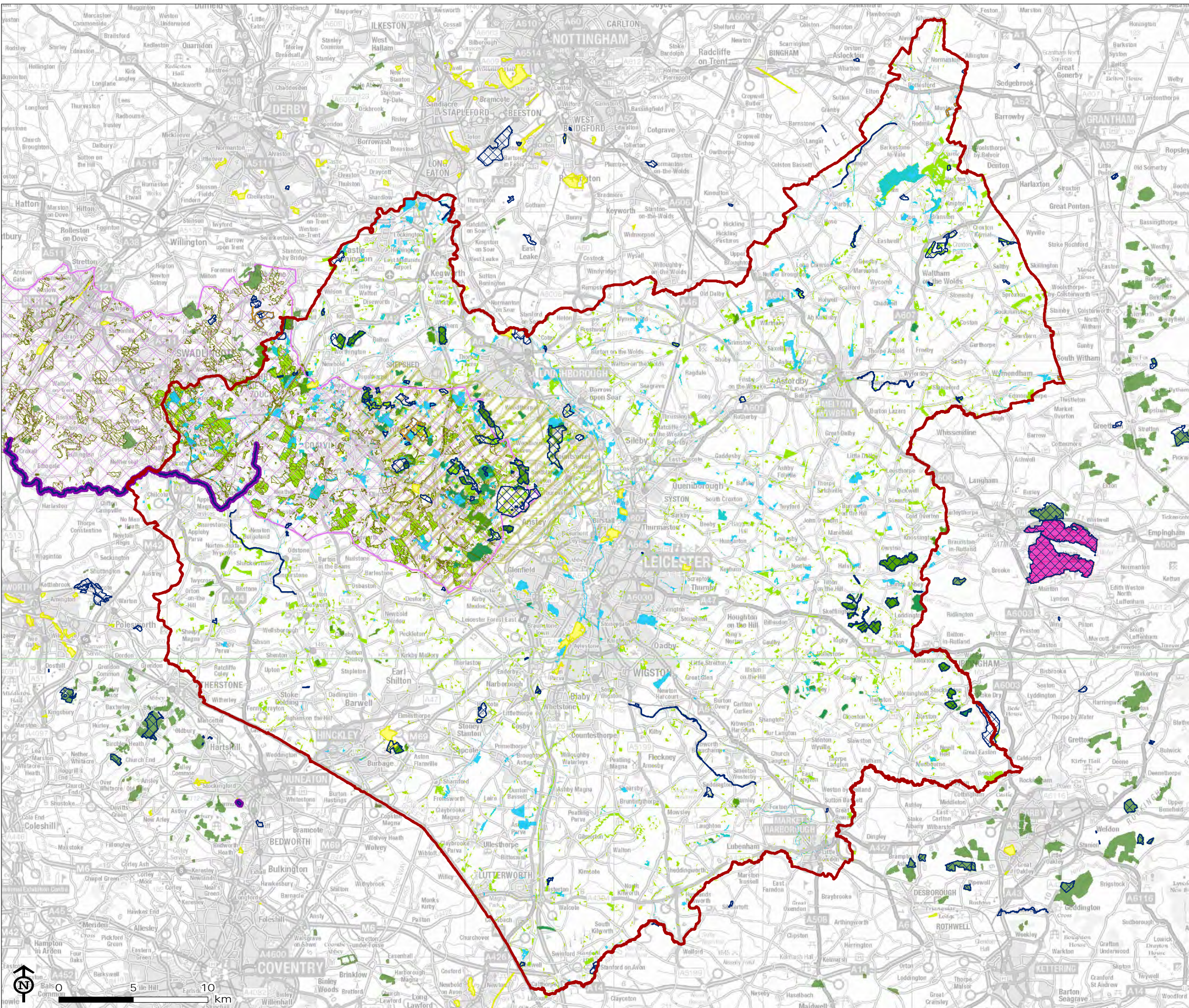
- Study area
- Rivers, canals, reservoirs, lakes, ponds
- Flood zone 3
- Flood zone 2

Map Scale @A3: 1:250,000



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Figure 4.4: Biodiversity assets and designations



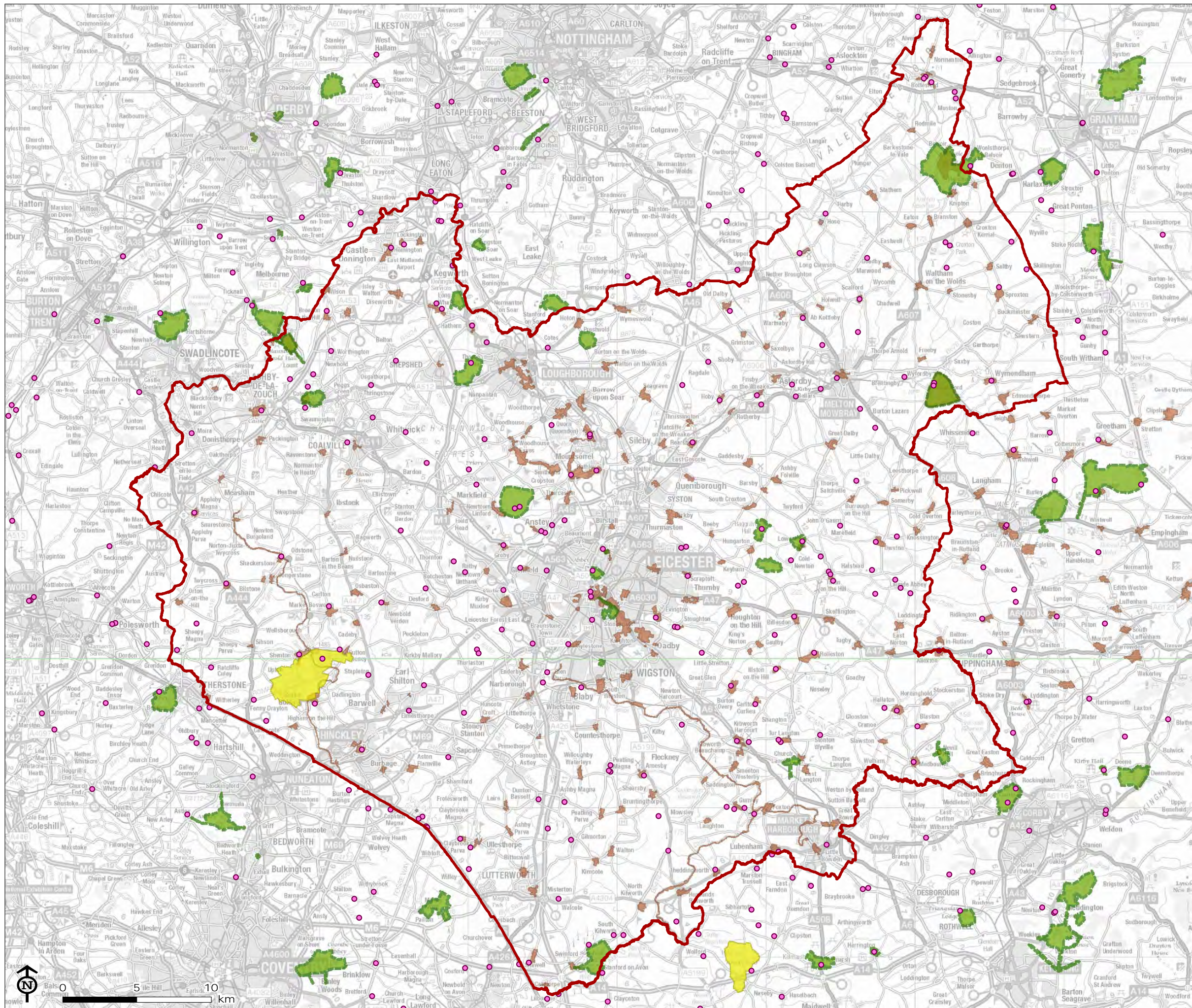
- Study area
- Special Area of Conservation
- Special Protection Area
- Ramsar
- Site of Special Scientific Interest
- National Nature Reserve
- Local Nature Reserve
- Local Wildlife Site
- National Forestry Inventory (Woodland >0.5ha)
- Ancient woodland
- National Forest Schemes
- National Forest
- Charnwood Forest Regional Park

Map Scale @A3: 1:250,000



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Figure 4.5: Heritage **designations**



- Study area
- Scheduled Monument
- Registered Park and Garden
- Registered Battlefield
- Conservation Area

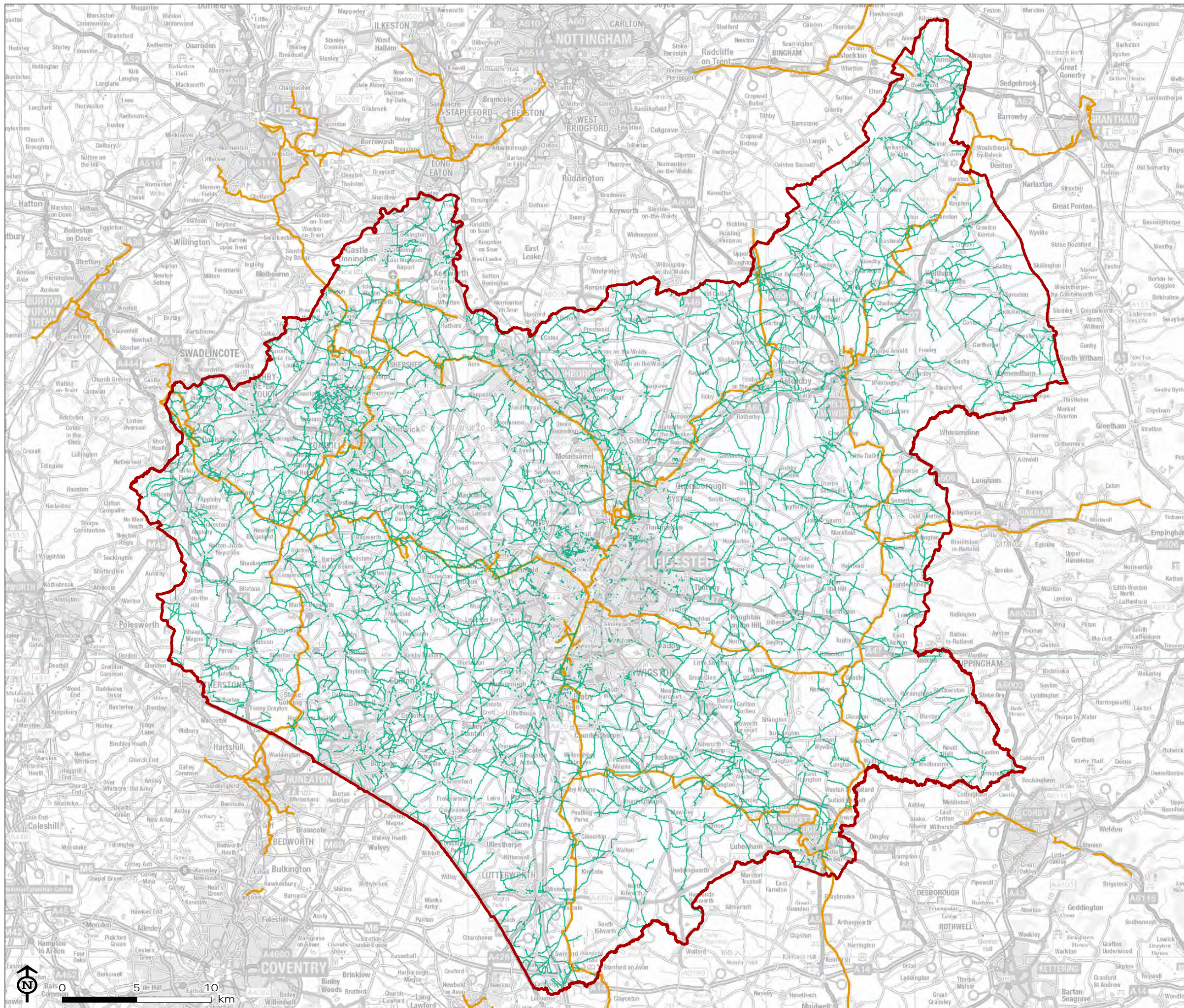
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Figure 4.6: Active Transport and Connectivity

- Study area
- Public Rights of Way
- Cycle routes

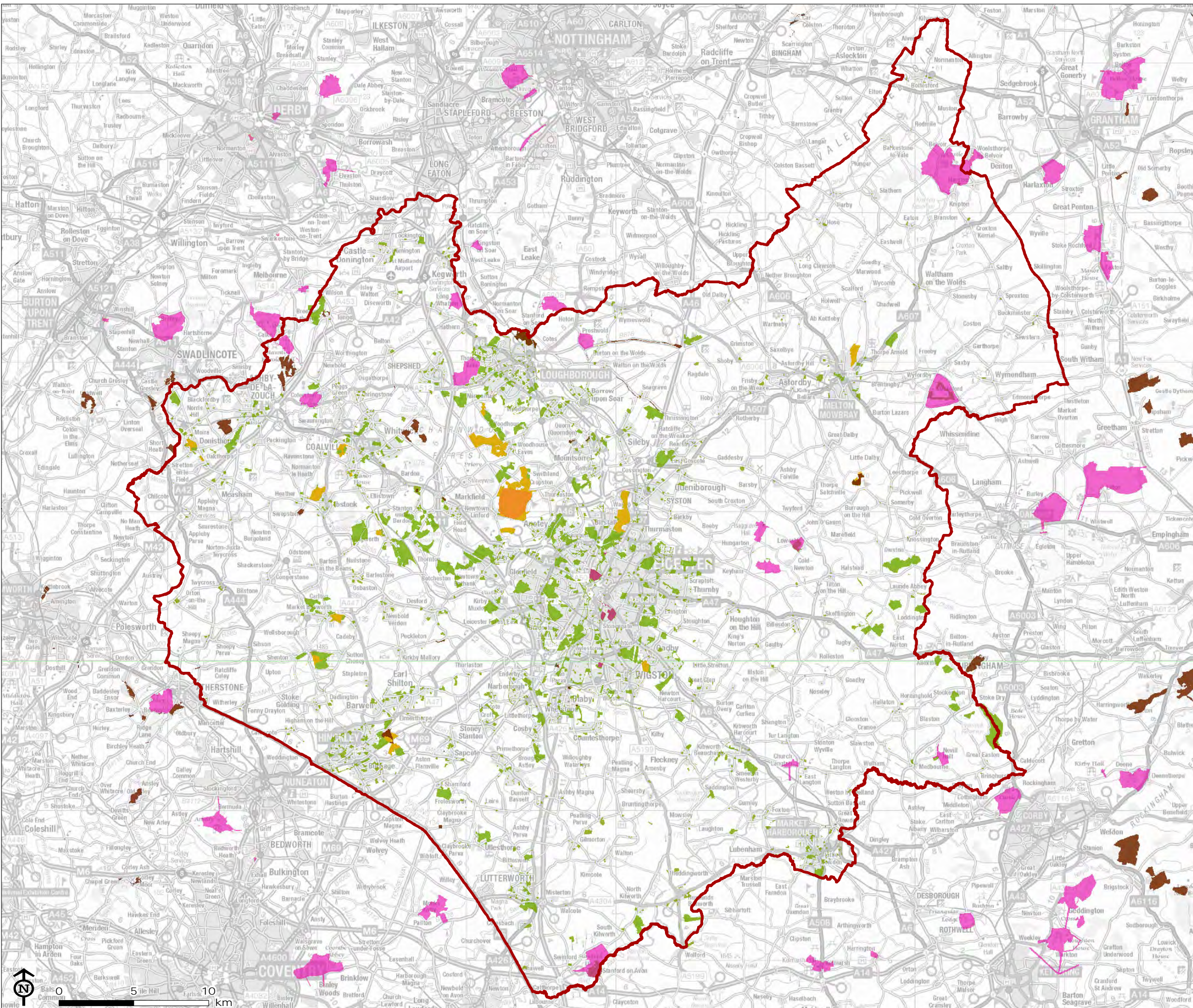


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Figure 4.7: Recreation and Play

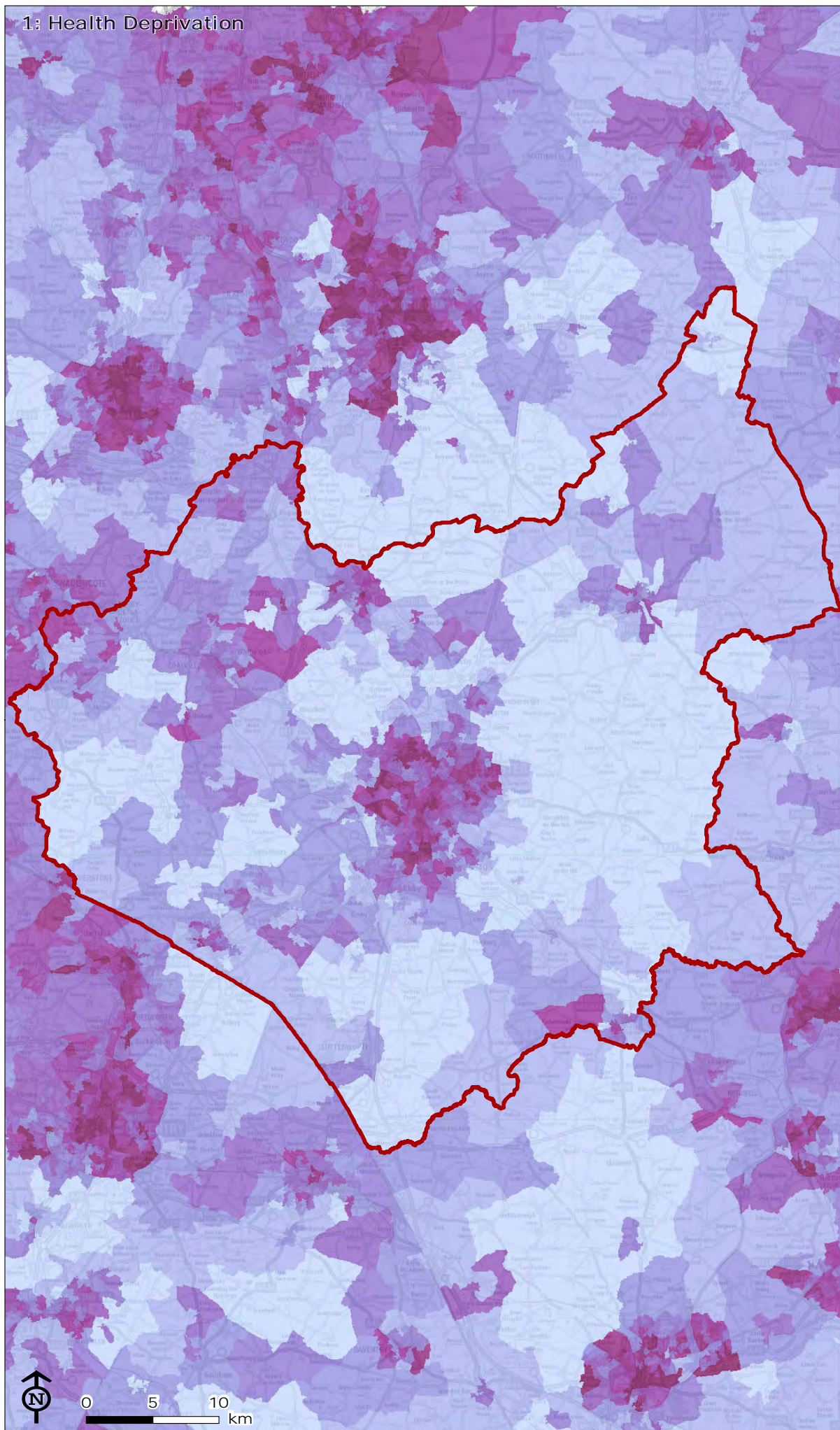


- Study area
- Open space
- Country Park
- Registered Park and Garden
- CRoW open access land

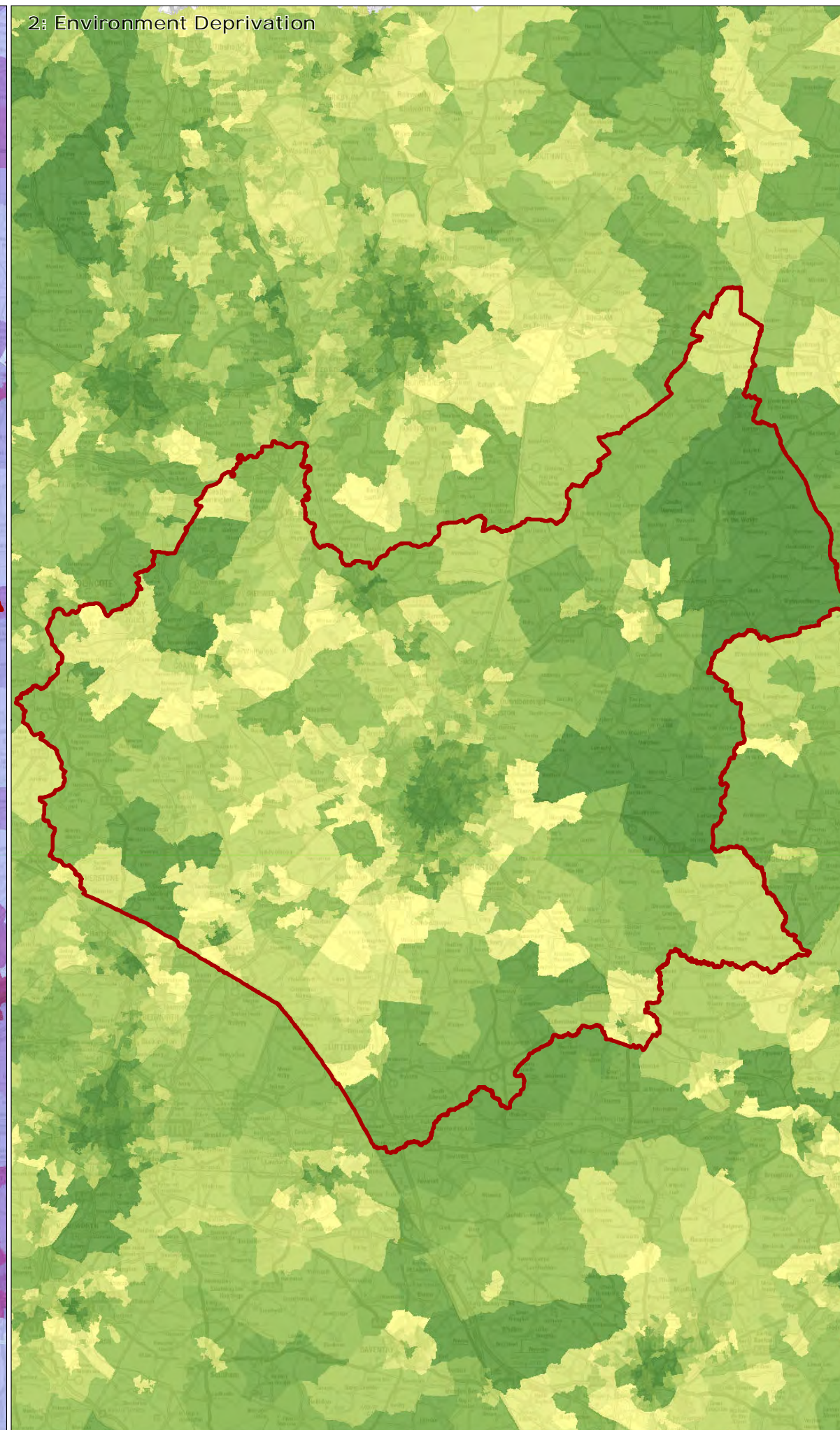
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1: Health Deprivation

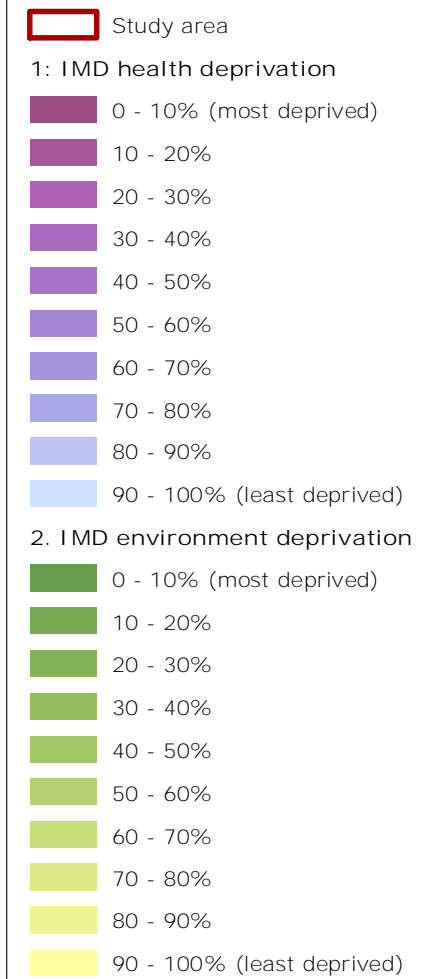


2: Environment Deprivation



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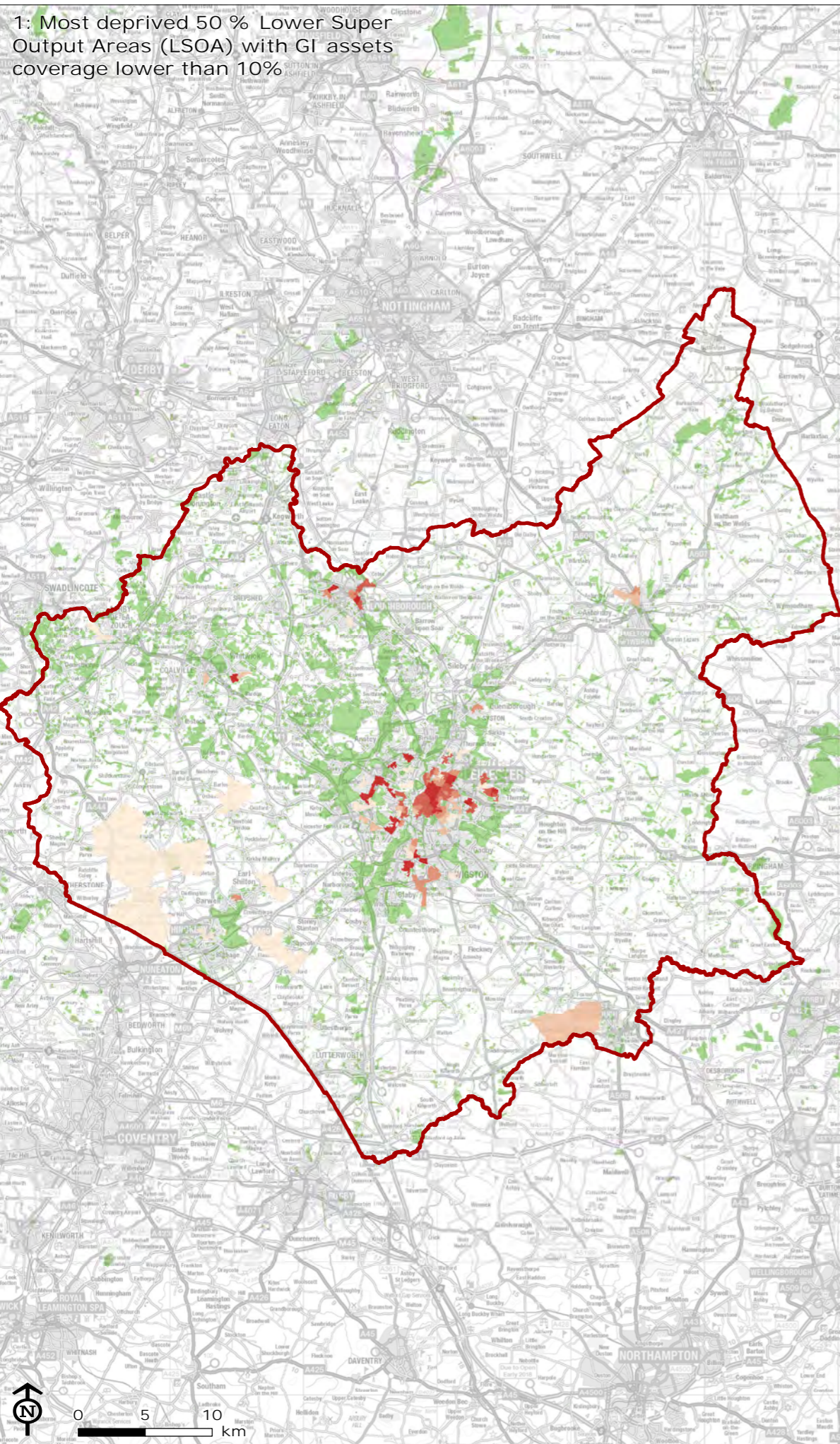
Figure 4.8: Index of Multiple Deprivation (IMD) for health and environment indicators



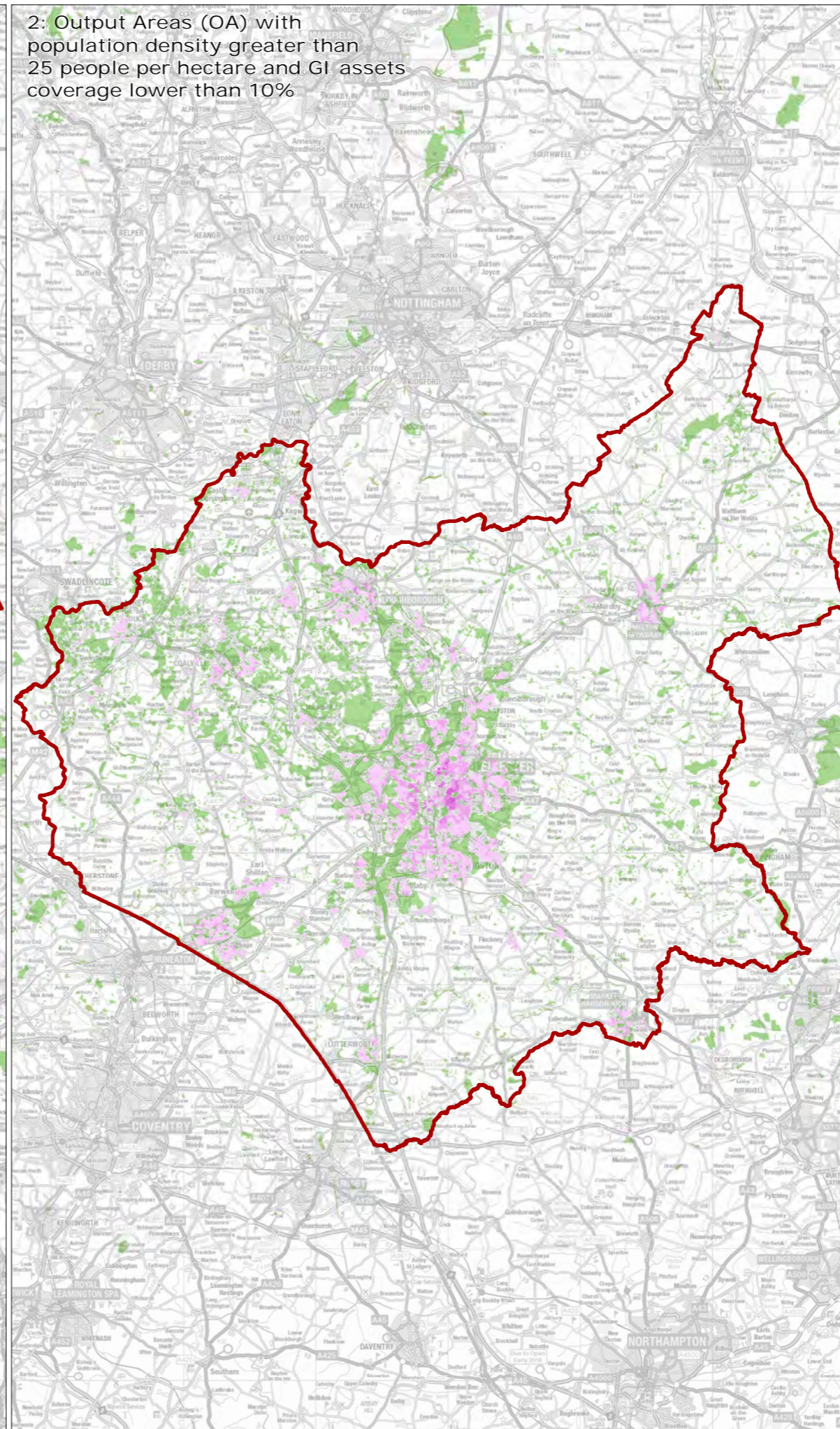
Map Scale @A3: 1:400,000



1: Most deprived 50 % Lower Super Output Areas (LSOA) with GI assets coverage lower than 10%

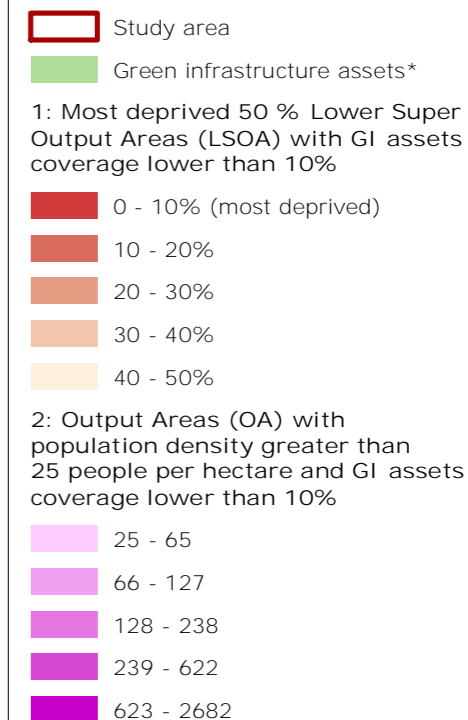


2: Output Areas (OA) with population density greater than 25 people per hectare and GI assets coverage lower than 10%



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Figure 4.9: Comparison of GI Assets, Index of Multiple Deprivation (IMD) and Population Density



*Green Infrastructure assets include:
 Special Area of Conservation
 Special Protection Area
 Ramsar
 Site of Special Scientific Interest
 National Nature Reserve
 Ancient woodland
 National Forestry
 Inventory (Woodlands > 0.5ha)
 Local Nature Reserve
 Local Wildlife Site
 Open space
 Ordnance Survey green spaces
 Green wedge
 Area of separation

Map Scale @A3: 1:400,000

