Hinckley and Bosworth Borough Council

Hinckley and Bosworth Green Infrastructure Strategy

Final report
Prepared by LUC
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Hinckley and Bosworth Borough Council

Hinckley and Bosworth
Green Infrastructure Strategy

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Chapter 1
Executive Summary

Green infrastructure (or GI) is recognised as a cornerstone of sustainable development and communities. It is a 'must have', due to the many economic, social and environmental benefits it offers. It is essential to the quality of life of residents, business and nature, contributing towards creating places where people and the environment can thrive.

What is Green Infrastructure?

1.1 GI is the term used to describe the network of natural and semi-natural spaces and corridors in a given area. These include open spaces such as parks and gardens, but also allotments, woodlands, fields, hedges, lakes, ponds, playing fields, coastal habitats, footpaths, cycle routes and water courses. Crucially, GI provision is not limited to traditional green spaces such as parks and other open spaces, but can involve various interventions to thread nature into streetscapes, or provide corridors of connectivity between GI 'assets'.

1.2 Above all, GI is defined by its multifunctionality. A single GI asset can deliver a range of benefits to people (both physical and mental well-being), as well as biodiversity and landscape. GI can help to create high quality, attractive and functional places that will provide a setting for day- to-day living. It can also address the negative impact of habitat loss and fragmentation by promoting habitat creation, enhancement and connectivity (on site as part of development or through biodiversity off-setting), and plays an important role in reducing local temperatures, climate change adaptation and mitigation, and alleviating flood risk and soil erosion.

What is the purpose of this Strategy?

1.3 As a largely rural Borough, Hinckley & Bosworth is rich in GI assets of various kinds, and has a valued landscape that gives the Borough its identity and provides the context for flagship heritage assets such as Bosworth Battlefield and the Ashby Canal. Against a backdrop of future growth and development within the Borough, a strategic framework is needed to ensure that the existing GI network is protected, strengthened and expanded to deal with future challenges.

These include challenges associated not only with growth but also climate change and the need to provide a healthy and attractive environment for local residents and workers.

1.4 This strategy has three key aims:

- to review the extent to which GI assets (both 'green' and 'blue') are functioning well;
- to identify where there are existing and anticipated future gaps in GI provision; and,
- to set out what actions and interventions could enhance the current provision.

1.5 The Strategy is designed to reflect the changed policy landscape since the previous GI Strategy was prepared in 2008. In particular, this includes an increased emphasis on the importance of GI in responding to concerns over health, wellbeing and climate change resilience.

1.6 It is designed to act as a catalyst for a mosaic of diverse interventions, delivered by a wide range of partners, including amongst others: the Borough Council, government agencies, local business, developers and local community groups.

What are the key challenges for Hinckley and Bosworth?

1.7 There are a number of over-arching issues which underline the need for a robust GI network in Hinckley & Bosworth. The Climate Emergency, declared by the Borough Council in July 2019, means the GI network must play a pivotal role in both mitigating against climate change and boosting resilience to its impacts. Significant upcoming growth, particularly in the south of the Borough, and socio-demographic changes (detailed in **Chapter 4)** will also place additional pressures on the GI network.

1.8 In order to 'set the scene' for identifying suitable interventions, **Chapter 5** of this Strategy outlines the key issues and opportunities for GI in the Borough under six GI 'themes', as follows:

Theme 1: Landscape, Townscape and Historic Environment

1.9 The 'unspoilt' and largely agricultural landscape in Hinckley & Bosworth is highly valued by local residents, and afforestation initiatives within the northeast of the Borough - as part of the National Forest - have helped to regenerate the formerly industrial landscape, providing a valued community asset. The Borough also benefits from a number of high quality country parks and the landscape provides the setting for the 'flagship' medieval heritage asset of the Bosworth Battlefield, drawing visitors from far and wide. However, the Borough faces the following challenges which an improved GI network could help to address:

- Erosion of the character of the agricultural landscape, in part through the loss and weakening of hedgerow networks.
- Sparse woodland cover, particularly in the south and west of the Borough.
- Need for further 'greening' of the townscape of the Hinckley/Barwell/Earl Shilton built up area, and key 'gateways' into Hinckley.
- Few opportunities for access to heritage assets by active travel (ie by walking and cycling).
- Need to enhance the role of the Ashby Canal as a landscape feature.

Theme 2: Biodiversity

1.10 Key biodiversity sites within the Borough include Burbage Common and Woods in the south, as well as a number of important sites in the northeast such as Groby Pool and Woods, and Thornton Reservoir. The forested areas around the National Forest also play an important role in providing valuable habitats. All of these areas support a number of Priority Species, however the Borough faces the following biodiversity challenges which an improved GI network could help to address:

- Scarcity of biodiversity-rich assets in the Borough, and uncertainty over their condition.
- Intensive agriculture activities, particularly in the Western GI Zone, which are contributing to biodiversity loss and the fragmentation of habitats.
- Recreational pressure threatening key vulnerable habitats.
- Private gardens not fulfilling their potential in supporting biodiversity goals.

Theme 3: Active Travel

1.11 The extensive network of Public Rights of Way (PROW) in Hinckley & Bosworth provide an important resource for recreational walking through the Borough's valued landscapes. Two National Cycle Network (NCN) routes also cross the Borough, as well as various long distance walking routes. However, the Borough faces the following challenges to active travel which an improved GI network could help to address:

- Significant car dependence, including very short journeys which could be completed by walking or cycling.

- Local disused railways which are under-used as active travel assets.
- Weak 'gateways' on the urban edge to the wider countryside that do not encourage recreational walking by local residents.
- Weak connectivity between key rural centres and villages by active travel means.
- Fragmented nature of existing 'greenways' and active travel links, particularly in urban areas.

Theme 4: Open Space, Play and Recreation

1.12 The Borough has a relatively strong network of formal parks and gardens and the Borough's two Green Wedges are important open spaces 'on the doorstep' of local residents. Improvements to green space in the Borough, including the improvements and play provision at Argents Mead, have been successful, however the Borough faces the following challenges relating to open space, play and recreation which an improved GI network could help to address:

- Identified areas of 'unmet need' for green space, overlapping in some urban areas with concentrations of relative health deprivation.
- Shortfall in allotment provision.
- A deficit of play facilities in various parts of the Borough, and questions over the quality of play opportunities.
- Green Wedges under-performing as recreational assets.

Theme 5: Carbon Sequestration

1.13 The afforestation of the 200-square-mile National Forest, which overlaps with the northeast of the Borough, has turned a post-industrial landscape into a valuable asset as a 'carbon sink'. However the Borough faces the following challenges in relation to carbon sequestration, which an improved GI network could help to address:

- Sparse tree cover outside the National Forest territory, making a limiting contribution to the Borough's 'carbon sink'.
- Threat from pests and diseases within existing forests.

Theme 6: Water Resources

1.14 The Ashby-de-la-Zouch Canal (the 'Ashby Canal') is an important blue 'spine' running through the Borough and provides a key recreational resource, a heritage asset and important aquatic habitats for local wildlife. The River Sence in the west of the Borough also forms an important 'blue' feature and biodiversity asset, as do wetland areas on the Borough's north border. However the Borough faces the following challenges, which an improved GI network could help to address:

- Intensive agricultural management causing poor water quality along watercourses.
- Increase in impermeable surfaces contributing to overall flood burden, and exacerbating flood risk.
- Need for improvement of marsh and wetland habitats on the Borough's northern boundary.

What are the key opportunities for Hinckley and Bosworth?

1.15 Chapter 6 of this Strategy builds on the Key Issues and Opportunities and identifies a 'long list' of potential opportunities which respond to the challenges identified above.

1.16 From this 'long list', a series of 11 Priority Opportunities were identified which will form the core of the delivery plan for GI in the Borough. All of the following Priority Opportunities have been identified as able to deliver multifunctional benefits and have an identifiable delivery mechanism:

1. 'Re-wilding' roadside verges.
2. Expanding woodland cover.
3. Managing public spaces for biodiversity.
4. Making space for play.
5. Enabling private gardens to act as 'stepping stone' habitats.
6. Enhancing the Southern Green Wedge.
7. Preparing a wayfinding strategy for mixed-ability walkers.
8. Creating a 'northern gateway' for Hinckley.
9. Creating greenways through Hinckley.
10. Creating a more resilient Burbage Common and Woods.
11. Creating a Battlefield 'loop line'.

1.17 Each of the identified Priority Opportunities are explored in more detail within **Chapter 6**. This also includes case studies of similar initiatives that have been implemented elsewhere. These Priority Opportunities are also illustrated in **Figure 1.1**.

1.18 In addition to the 11 Priority Opportunities, a further series of six ambitious 'big picture' opportunities were identified as follows. Case studies for each are also identified within **Chapter 6**:

1. Regenerating the Ashby Canal GI 'spine'.

2. Delivering urban greening in the Hinckley conurbation.
3. Creating 'New lives for old pits'.
4. Supporting a new era of countryside stewardship.
5. Enhancing the River Sence corridor.
6. Connecting the northern marshlands.

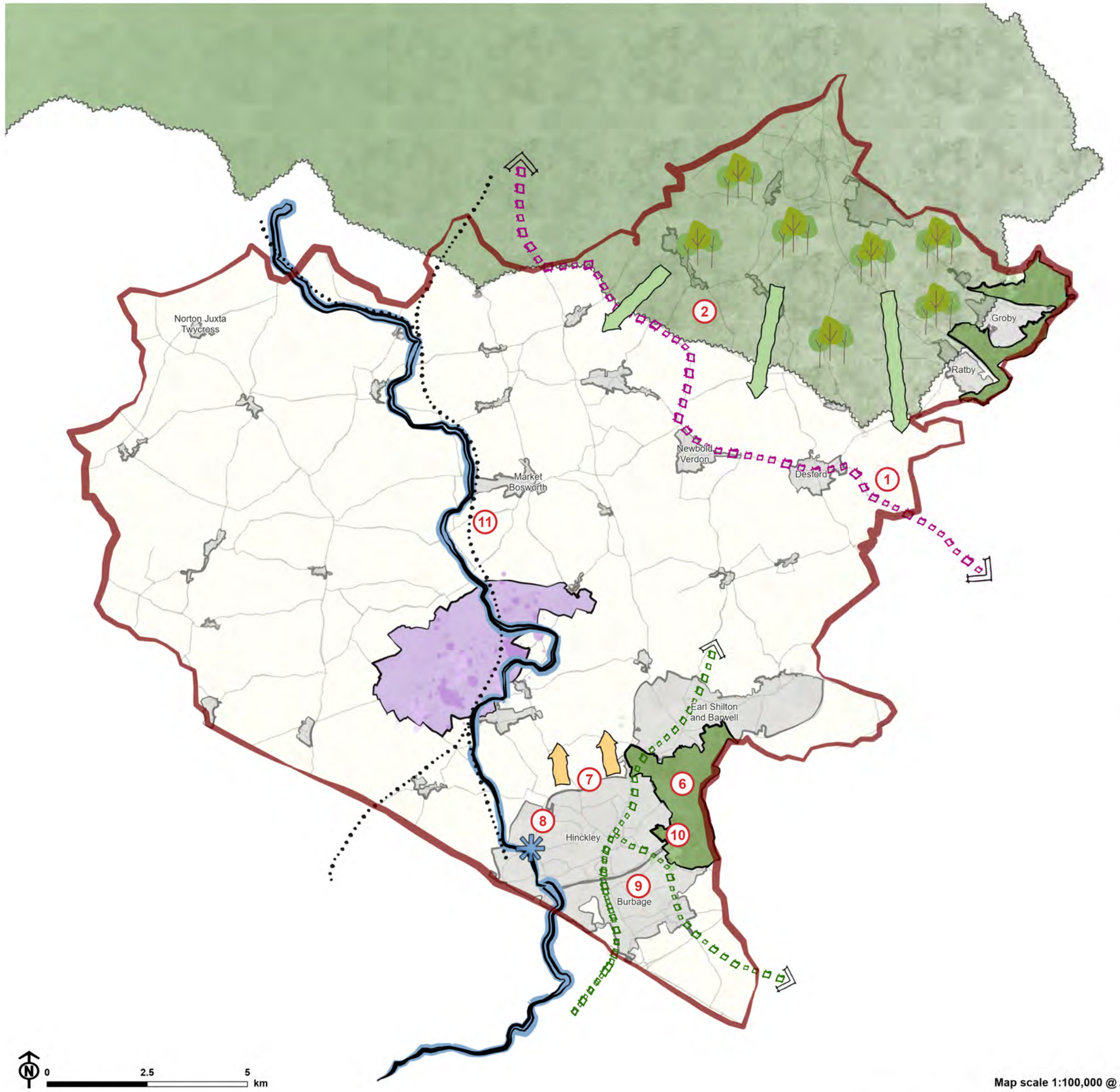
How will the GI network be delivered?

1.19 Each Priority Opportunity outlined in **Chapter 6** is accompanied by an indication of potential delivery partners and delivery mechanisms, which draw on a wide range of partners, including developer contributions, community groups, local businesses and grant opportunities.

1.20 The NPPF (2019) and legislative context provides strong support for enhancing GI because of the wide range of benefits it affords. The review of the Local Plan therefore provides a key opportunity to strengthen the Council's GI policy approach by protecting existing GI assets and maximising the opportunities to enhance the network. The evidence set out in this Strategy will assist in this process of embedding robust GI policies within the forthcoming Local Plan.

LUC

Figure 1.1 Priority Opportunities for Hinckley and Bosworth's GI network



- Hinckley and Bosworth boundary
- Settlements
- National Forest
- Bosworth Battlefield
- Green Wedge
- Ashby Canal

Spatial Priority Opportunities

- 1. 'Re-wilding' roadside verges
- 2. Expanding woodland cover
- 6. Enhancing the Southern Green Wedge
- 7. Wayfinding strategy for mixed-ability walkers
- 8. A 'northern gateway' for Hinckley
- 9. 'Greenways' through Hinckley
- 10. A more resilient Burbage Common and Woods
- 11. Battlefield 'loop line'

Borough-wide Priority Opportunities

3. Managing public spaces for biodiversity
4. Making space for play
5. Private gardens as 'stepping stone' habitats

N 0 2.5 5 km

Map scale 1:100,000 @ A3

CB: EB:Manson D LUC FIG1_1_10655_01_Key_diagram_A3L 27/08/2020
Source: OS, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Chapter 2
Introduction

2.1 'Green infrastructure' (or GI) is an essential component of healthy, thriving communities and ecosystems. Working on behalf of Hinckley and Bosworth Borough Council, and in consultation with key stakeholders, LUC was commissioned to prepare an updated Green Infrastructure Strategy for the Borough. This new Strategy identifies opportunities across the Borough to protect and enhance GI, helping guide the investment and delivery of GI and its associated benefits. This strategy replaces the previous GI Strategy,[1] extending it to the year 2036 in order to align with and support the Council's new Local Plan.[2]

What is the purpose of the Strategy?

2.2 The updated strategy has three aims:

- to review the extent to which GI assets (both 'green' and 'blue') are functioning well;
- to identify where there are existing and anticipated future gaps in GI provision; and,
- to set out what actions and interventions could enhance the current provision.

2.3 Since the 2008 Green Infrastructure Strategy was published, the policy landscape relating to GI provision has changed significantly, including the introduction of the National Planning Policy Framework (NPPF) in 2012 (as subsequently amended with associated Planning Practice Guidance (PPG)) and the National 25 Year Environment Plan in 2018. The intervening period has also seen an increased emphasis on the importance of GI in responding to concerns over health, wellbeing and climate change resilience.

2.4 On 17th July 2019 Hinckley & Bosworth Borough Council declared a Climate Emergency, pledging to make the Borough carbon neutral by 2030 and limit the effects of global warming. This provides a new stimulus to efforts to mitigate and adapt to the impacts of climate change. The revision of the Borough's GI strategy is therefore very timely and the Borough's Climate Emergency declaration, together with the ongoing biodiversity crisis, is considered one of the key contextual considerations for the updated strategy.

[1] Hinckley and Bosworth Borough Council (2008), *A Green Infrastructure Strategy for Hinckley & Bosworth*

[2] Hinckley & Bosworth's emerging Local Plan, once adopted, will set out land allocations and planning policies for the period 2016-2036.

2.5 However, Green Infrastructure delivery arguably remains as challenging now as it ever has been, with funding opportunities from 'traditional' funding streams continuing to be limited. This means that GI actions are required to draw on the energy, expertise and resources of a broad range of partners, including community-led and voluntary initiatives - in order to build the GI network.

2.6 While recognising the value of the range of activities taking place at a neighbourhood or site-specific scale, this Strategy seeks to place individual interventions within the context of the Borough's GI network as a whole, providing a high-level strategy for the whole Borough. In this way, the strategy will act as a catalyst and broad framework for a mosaic of diverse interventions, delivered by a wide range of actors, both within and external to the Council.

2.7 Green Infrastructure can be delivered, protected and enhanced via the planning system, particularly where there is a clear relationship between GI opportunities or threats, and proposed development. This Strategy considers such opportunities, but also considers GI on a wider and more holistic basis, highlighting the multifunctional and 'network-based' nature of GI. However, the Strategy also recognises that the Borough Council itself does not have control of the majority of the land within Hinckley and Bosworth via planning, or even by other means. This means that a successful Strategy must include consideration of opportunities for GI delivery and enhancement via partnership and collaboration, extending beyond conventional planning mechanisms.

What does the Strategy cover?

2.8 This strategy is structured as follows:

- **Chapter 3:** sets out the **policy context** within which this strategy sits, at the national, regional and local level.
- **Chapter 4:** outlines the key over-arching **environmental and socio-economic influences** affecting the demands on GI in the Borough.
- **Chapter 5:** identifies the **key issues and opportunities** for GI within the Borough, under the following six themes:
  - Landscape, townscape and historic environment
  - Biodiversity
  - Active travel
  - Open Space and Air Quality
  - Carbon Sequestration
  - Water Resources
- **Chapter 6:** outlines how the GI network can be strengthened by focussing in on a series of **'Priority Opportunities' and 'Big Picture' opportunities,** based on the GI functions they deliver. It introduces case studies to illustrate how similar projects have been taken forward elsewhere. The Strategy concludes with some clear principles for embedding GI within the Borough's Local Plan and other strategies.

What is Green Infrastructure?

2.9 'Green Infrastructure' (or 'GI') can mean many things to many people and there are various definitions and approaches to GI that have been used throughout the country. 'Green infrastructure' is typically a term used to describe the network of natural and semi-natural spaces and corridors in a given area. These might include open spaces such as parks and gardens, but also allotments, woodlands, fields, hedges, lakes, ponds, playing fields, coastal habitats, as well as footpaths, cycle routes and water courses. Crucially GI provision, even within urban contexts, need not be limited to traditional green spaces such as parks and other open spaces, but can involve various interventions to thread nature into streetscapes, or to provide corridors of connectivity between non-linear GI 'assets'. GI can be in public or private ownership, can be at a range of scales (from individual gardens to river valleys) and can be in any condition.

2.10 National Planning Practice Guidance[3] defines GI as:

> "A network of multifunctional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities. Green infrastructure is not simply an alternative description for conventional open space. As a network it includes parks, open spaces, playing fields, woodlands, but also street trees, allotments and private gardens. It can also include streams, canals and other water bodies and features such as green roofs and walls"

2.11 Environmental features contributing to the water cycle are also known as 'blue infrastructure', but it is important that these are integrated into a 'green' infrastructure strategy. This is due to the interaction between 'green' and 'blue' environmental features, which can in combination, for example, deliver water and flood management simultaneously

[3] Ministry of Housing, Communities & Local Government 2018 Planning Practice Guidance for the Natural Environment – Paragraph: 027 Reference ID: 8-027-2160211 https://www.gov.uk/guidance/natural-environment#para027

with protection and enhancement of biodiversity. Within this Strategy, the term 'Green Infrastructure' encompasses both 'blue' and 'green' features throughout.

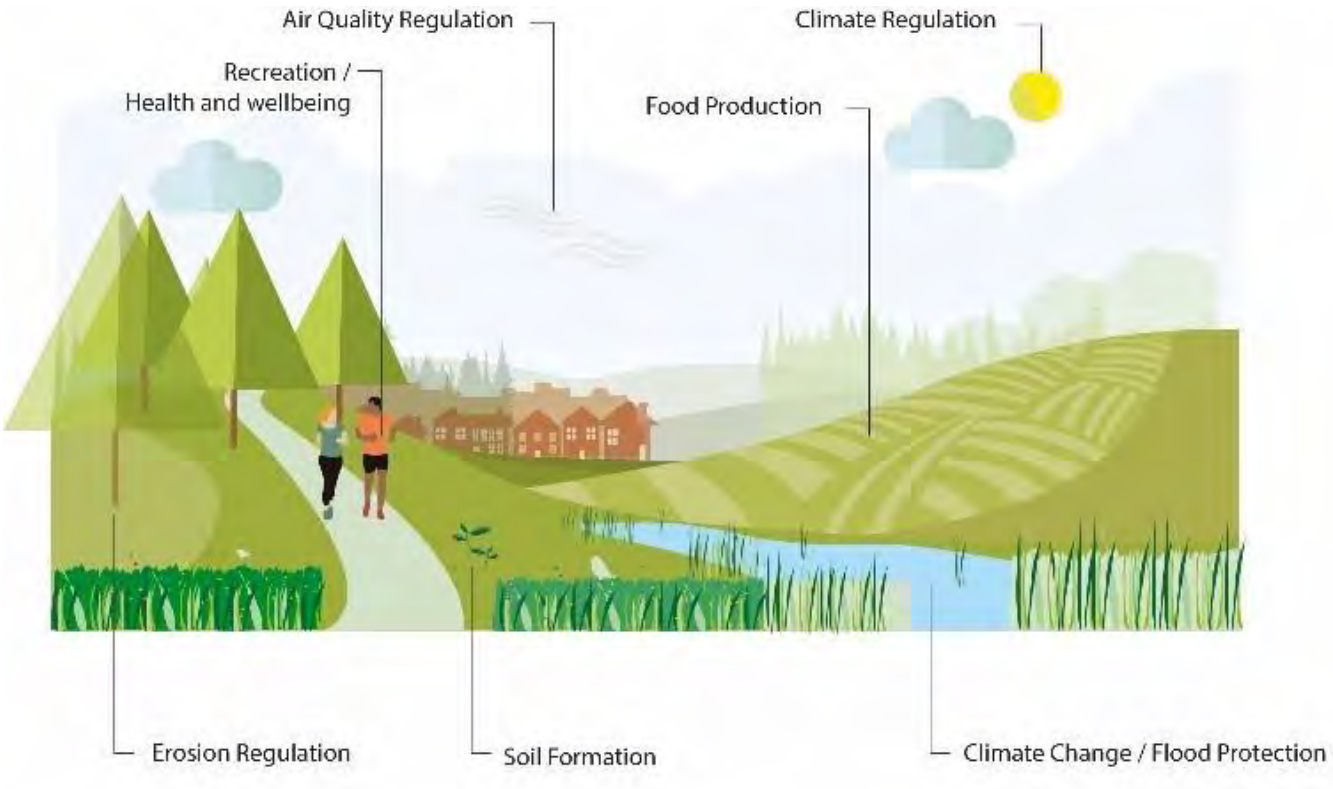
Why is Green Infrastructure important for Hinckley and Bosworth?

2.12 GI is multifunctional as it delivers a range of benefits to people (both physical and mental well-being), biodiversity and landscape. GI can help to create high quality, attractive and functional places that provide a setting for day- to-day living, enhance the character and diversity of the landscape, and protect heritage assets that contribute to the area's unique sense of place and cultural identity. It can enrich the area's wildlife value by addressing the negative impact of habitat loss and fragmentation by promoting habitat enhancement and connectivity. It can also play an important role in reducing local temperatures, climate change adaptation and mitigation, and alleviating flood risk and soil erosion. As well as offering environmental benefits, GI affords economic and social benefits through:

- supporting healthy lifestyles;
- reducing healthcare costs by improving physical and mental well-being;
- connecting people to places by linking residents and visitors to leisure and work destinations along a network of safe and clearly defined routes;
- increasing the attractiveness of a local area; and,
- promoting tourism and recreation.

2.13 The benefits of GI can be felt at a local, regional and national scale and some of the benefits identified above are shown in **Figure 2.1** below.

Figure 2.1: Multi-functional benefits of GI



What are the Guiding Principles for GI provision in Hinckley and Bosworth?

2.14 Seven guiding principles have been identified to drive the development and delivery of good multifunctional GI within Hinckley and Bosworth in a manner that responds to the needs of people and the environment at all scales and contexts. These include:

1. **Delivery of multifunctional benefits and essential services:**

   GI assets will be expected to deliver a number of benefits and services for people at all stages of their lives. Strategic planning and development will recognise the multifunctional value of GI and embed principles across multiple areas of society to connect people and the environment. The importance and value of GI assets will be considered of equal importance alongside other infrastructure requirements.

2. **Planning, design, connectivity:**

   GI interventions will look beyond delivering successful isolated sites and will be planned and designed from the outset as a network of multifunctional spaces, operating across both local and landscape scales, including across administrative boundaries. New development within the Borough will proactively consider how it can positively contribute to the delivery of the key GI priorities and projects highlighted within this strategy and maximise opportunities for the enhancement of local and strategic GI networks, not merely mitigating for the direct impact of the development itself. GI interventions and assets delivered through development will be designed, implemented and managed to be appropriate to, and enhance, the existing landscape, urban context and sense of place across the Borough.

3. **Creating value:**

   The delivery of GI in the Borough will drive economic growth and regeneration by aiding in the delivery of high-quality environments to increase development value, attracting business and investors, and supporting the visitor economy. GI will be seen as a driver of economic and commercial value as well as environmental value. Potential investors will be identified to help deliver GI interventions and those attributes of GI that have the greatest regenerative impact and multifunctionality will be prioritised for each development project.

4. **Funding, stewardship and governance:**

   The delivery of effective GI is dependent on the development and promotion of a sustainable business case in order to secure long term funding. The development, management and maintenance of the long-term effectiveness of GI projects will be reliant on the development of a strong governance structure that will promote positive stewardship and monitor the performance of GI assets. Regular data gathering will be undertaken to measure the multifunctional performance of GI to determine whether further interventions will be required and to direct and shape future investment priorities. An appropriate mechanism for this may be a GI Delivery Plan following on from this Strategy and structured by GI 'theme'.

5. **Climate change resilience and mitigation:**

   Development and investment in the Borough will be designed, implemented and managed to provide a range of benefits to society and nature to help manage, and adapt to, the effects of climate change. The effective delivery of GI will provide a positive response to the Climate Emergency declared by Hinckley and Bosworth Borough Council. This will include, but will not be limited to, substantial contributions to carbon sequestration efforts, greenways for active and low carbon travel, flood risk alleviation and reducing the urban heat island effect.

6. **Supporting the recovery of biodiversity networks:**

   The design and implementation of GI across the Borough will achieve a measurable net gain in biodiversity through the creation, enhancement and connectivity of new and existing habitats, consideration of ecosystem services, through the design of future development and biodiversity off-setting. Environmental improvements will be made across both local and strategic scales throughout the Borough and into neighbouring areas. The implementation of GI at varying scales across the Borough will contribute positively to Nature Recovery Networks that will guide the reversal of habitat fragmentation and make space for nature. All development and strategic planning in the Borough should be informed by the emerging Ecological Network and Permeability Mapping for Leicestershire, which identifies priority areas for creating connections between existing areas of habitat to strengthen the overall network and allow for species movement.

7. **Partnership working and stakeholder engagement:**

   The energy, resources and locally rooted knowledge of community and volunteer groups will be actively engaged with when planning, designing, delivering and managing GI interventions in the Borough. This will help to ensure that GI assets are valued and that the wider benefits that GI can bring are maximised. Efforts will be made to maximise partnership working from stakeholders across multiple disciplines and across a

broad range of community interests to ensure that GI is integrated with environment, health and socio-economic policy. This will include working with a variety of stakeholders in such areas as transport, utilities, public health, education, ecology, heritage, public open space, business, charities and volunteer groups. Wherever practicable, landowners and managers will be encouraged to improve the quality, provision and safety of access routes and provide accessible and high quality natural green spaces. This will enable the active use of the wider GI network by communities and help to connect people to the environment around them.

How was the Strategy prepared?

2.15 The process of developing the strategy comprised the following five stages:

Stage 1: Policy Review

2.16 A desk review was undertaken of the relevant national, regional and local policy and strategy context and the implications for the GI strategy.

Stage 2: Data Assembly and Analysis

2.17 A 'baseline' of mapped data was collected using Geographical Information Systems (GIS) to understand the spatial distribution of the existing GI network as well as socio-economic data to identify the nature and spatial distribution of GI 'need'. This included data from a wide variety of national and local sources. Details of spatial data sets used are included within the maps provided.

Stage 3: Stakeholder Consultation

2.18 Recognising the importance of harnessing local knowledge and identifying key delivery partners, stakeholder consultation was carried out in two stages. The consultation sought to capture information and views on the following key issues:

- where GI is performing well locally;
- gaps and weaknesses in the GI network;
- pressures on the GI network;
- ongoing GI initiatives; and,
- opportunities for GI protection and enhancement.

2.19 The first stage of consultation was carried out via an online survey (and in some cases e-mail responses) with a wide range of stakeholders invited to contribute. Consultees included neighbouring authorities, County Council representatives, Local Plan consultees, utilities representatives, local and national NGOs, and community and voluntary groups. Neighbouring authorities were also contacted by e-mail in order to draw out any key issues regarding cross-border cooperation in GI provision.

2.20 The second phase of consultation took the form of a series of extended telephone interviews with a number of key stakeholders. These consultees included national bodies such as Historic England, Natural England and the Forestry Commission, and local stakeholders such as Hinckley Ramblers, the local Wildlife Trust and the National Forest Company. This approach gathered insights on current GI strengths, weaknesses and priority areas for action. A full list of consultees is provided in **Appendix A.**

Stage 4: Thematic Issues and Opportunities Assessment

2.21 The information gathered through the first three stages was drawn together to underpin an assessment of GI issues and opportunities across the Borough, considered across a number of GI 'themes'. GI themes reflect the key environmental and social functions that GI delivers at a strategic scale. Based on a consideration of both GI functions in general, and the specific characteristics of Hinckley and Bosworth Borough, the Strategy is organised according to the six themes set out in **Table 2.1**

2.22 The analysis of maps, consultation feedback and the policy review led to the development of a 'long list' of potential GI actions/interventions that could be implemented during the strategy period.

Stage 5: Priority Interventions

2.23 Through a process of further exploration of the long list of opportunities, and in conjunction with the Borough Council, a 'short list' of priority actions and interventions for implementation during the strategy period was developed. These opportunities are multi-functional, respond directly to

the challenges anticipated during the Plan period and have, wherever possible, identifiable delivery and funding mechanisms. These are explained in more detail in **Chapter 6**.

Table 2.1: GI 'themes' identified for Hinckley and Bosworth

	Landscape, townscape and historic environment	The GI network can form an important part of the 'setting' of historic features, and contribute to their historical value. Landscape features provide GI functions including supporting nature-based tourism and through their scenic interest.
	Biodiversity	The GI network can support bigger, better and more connected habitats, in order to help address and reverse the biodiversity crisis.
	Active Travel	The GI network can provide 'green corridors' for walking and cycling across the Borough, providing health and wellbeing benefits as well as climate change mitigation.
	Open space, play and recreation	The GI network, through the open space network, can create space for communities to play, rest and recuperate 'on their doorstep'.
	Carbon sequestration	The GI network can help to build the Borough's 'carbon sink' for climate change mitigation, through woodland creation as well as other habitat types.
	Water Resources	'Blue' elements of the GI network can provide a range of functions, including aquatic habitats, natural flood management opportunities and blue-green corridors for walking, cycling and habitat connectivity.

Chapter 3
Policy Context

3.1 This section introduces the key national, regional and local policy, relevant strategies and other literature which have influenced the development of this strategy.

National

25 Year Environment Plan

3.2 The 25 Year Environment Plan (25YEP), published in 2018, sets out the Government's support for habitat creation, multi-functional sustainable urban drainage systems (SuDs), and natural spaces close to where people live and work. It represents an important shift in thinking towards long term positive action to improve people's lives and the environment. It views the planning system as a key mechanism for delivering upon its ambitions. The first action of the 25 Year Environment Plan, seeks to embed an 'environmental net gain' principle into development:

> *"We want to establish strategic, flexible and locally tailored approaches that recognise the relationship between the quality of the environment and development. That will enable us to achieve measurable improvements for the environment – 'environmental net gains' – while ensuring economic growth and reducing costs, complexity and delays for developers."*

3.3 It goes on to state that the Government wants:

> *"to expand the net gain approaches used for biodiversity to include wider natural capital benefits, such as flood protection, recreation and improved water and air quality. They will enable local planning authorities to target environmental enhancements that are needed most in their areas and give flexibility to developers in providing them."*

The Environment Bill

3.4 The emerging landmark Environment Bill sets out to place the ambitions of the 25YEP on statutory footing, by creating a new governance framework for the environment, to ensure a 'cleaner, greener and more resilient country for the next generation' as the UK leaves the EU. The Bill is currently before Parliament, having been introduced in January 2020.

3.5 The provisions of the draft Bill require biodiversity net gains (BNG) to be demonstrated and emerging metrics such as the DEFRA 2.0[4] will become commonly used when assessing planning applications. There is also a provision for off-site provision of biodiversity enhancements in order to offset biodiversity losses, which may provide an additional funding mechanism for GI improvements in the local area. The Bill will also support the establishment of 'Nature Recovery Strategies' and give communities a greater say in the protection of local trees.

The Agriculture Bill

3.6 Current agricultural policy in the UK is amid a wave of change. The emerging Agriculture Bill (2017-19) intends to shift emphasis from direct payments to farmers based on land area to a focus on the delivery of public goods (including improved water quality, flood management, recreational services and biodiversity), phased in over a 7 year period from 2021. The current system is to be replaced by a new Environmental Land Management Scheme (ELM) designed to incentivise farmers to deliver environmental benefits on the land they manage.

3.7 The Agriculture Bill was introduced and had its first reading in September 2018, was reintroduced to Parliament in early 2020, and is set to provide the framework for UK agriculture policy and environmental stewardship arrangements following the country's exit from the EU.

National Planning Policy Framework

3.8 Since the 2008 GI Strategy was published, the national planning system has undergone significant change, in particular as a result of the introduction of the NPPF in 2012 and its subsequent updates (as the 'NPPF2')[5] in July 2018 and February 2019. The 2018 update, notably, translated the provisions of the 25YEP into national planning policy, and the more minor 2019 updates provided further protection for habitats sites.

3.9 The revised NPPF states that strategic policies in plans should set out an overall strategy that makes sufficient provision for the conservation and enhancement of green infrastructure (Paragraph 20). It also requires that planning policies should aim to achieve healthy, inclusive and safe places, including through the provision of 'safe and accessible green infrastructure' (Paragraph 91) and should plan positively for the provision of shared spaces and community facilities, including open space (Paragraph 92). This need should be established through up-to-date assessments of open space need (Paragraphs 96 and 97). Regarding new development, the NPPF requires that it be planned in a way that avoids increased vulnerability to the range of impacts arising from climate change, particularly in vulnerable areas, and states that risks can be managed through the planning of green infrastructure (Paragraph 150).

3.10 Paragraph 171 of the NPPF also requires that a strategic approach is used to ensure that, within a plan area, networks of habitats and green infrastructure are maintained, and that planning is undertaken for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

3.11 Existing open space is protected by the NPPF, and Paragraph 97 sets out the only circumstances under which an open space can be developed for different uses. The NPPF also provides a mechanism by which local authorities can protect some open spaces under a 'Local Green Space' designation (Paragraphs 99, 100 and 101) and states that such areas should be managed by policies which are consistent with those for Green Belt.

Planning Practice Guidance

3.12 The updated national Planning Practice Guidance (PPG), as of July 2019, encourages a strategic approach to implementing green infrastructure through policies that use an evidence-based approach identifying existing GI networks and any gaps in provision. The multiple benefits that green infrastructure can provide are highlighted through this guidance, notably via ecosystem services derived from natural systems and processes – services benefiting the individual, for society, the economy and the environment.

3.13 The guidance states that authorities should collaborate when developing policies with neighbouring authorities and other stakeholders, including Local Nature Partnerships, Health and Wellbeing Boards and Local Enterprise Partnerships.

Regional and County-wide

The 6 'C's Green Infrastructure Strategy (2010)

3.14 The 6 'C's Strategy was produced in 2010 as an overarching strategic framework through to 2026 for GI planning, investment and delivery across the sub-region, including the three counties of Derbyshire, Leicestershire and Nottinghamshire. Although several years old, this study is

[4] The Biodiversity Metric 2.0 (currently in 'beta test' version) provides a way of measuring and accounting for biodiversity losses and gains resulting from development or land management change. Guidance available at: http://publications.naturalengland.org.uk/publication/5850908674228224

[5] Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework

useful in identifying the relationship between Hinckley and Bosworth's GI assets and wider GI networks.

3.15 Within the Leicester sub-area (of which Hinckley and Bosworth is part), the Strategy identifies nine 'Strategic Opportunity Areas' which are capable of delivering combined multiple public benefits. Three of these lie at least partially within the Borough's territory:

- 'Ibstock to Newbold Verdon' (centred around three quarries in the west of the Borough);
- East Hinkley/Burbage Common (seen as having high functional value to local communities); and,
- Charnwood Forest (with opportunities focussed on protection and extension of existing woodland).

3.16 These sites are linked in the Borough by a number of 'city-scale GI corridors' envisaged as linking settlements, strategic GI assets and sub-regional corridors, and enabling doorstep-to-countryside connections.

Landscape Sensitivity and Green Infrastructure Study for Leicester and Leicestershire (2017)

3.17 As well as examining the ability of different areas of Leicestershire to accommodate new development, this study considers the potential for positive change through the development and enhancement of GI. The study highlighted a number of areas of deficiency regionally which are considered in further detail within this strategy.

3.18 The 'Southern Gateway' diagram taken from the study and shown in **Figure 3.1** identifies a number of opportunities to enhance GI linkages within the Borough, with a focus on: access along the Ashby Canal; active travel between Hinckley and Nuneaton; biodiversity enhancements along the disused railway corridor; enhancing the River Tweed Corridor; a Hinckley-Barwell Green Way; and enhanced amenities at Burbage Common and Woods.

Space for Wildlife: Leicester, Leicestershire and Rutland Biodiversity Action Plan (BAP), 2016-2026

3.19 The BAP provides 19 Priority Habitat Summaries across the region, highlighting areas where decline is being observed, in particular various types of grassland, sphagnum ponds and roadside verges. It highlights the influence of increasingly intensified farming practices across the region (which as a whole is made up of 80% farmed land) and highlights particular deficiencies, compared to national standards, in the provision of sites designated for nature conservation.

Leicestershire Rights of Way Improvement Strategy (ROWIS) 2011-2016

3.20 The 2011-16 ROWIS (currently being updated) sets out a programme for continuing delivery of the Rights of Way network. It highlights the importance of walking against a backdrop of increasingly sedentary lifestyles, summarises existing PROW provision, and outlines a number of future actions, including managing the network, maintaining up to date maps, ensuring public access, and maximising the benefits of network by encouraging increased use.

Ecological Network and Permeability Mapping project (emerging)

3.21 Designed as a scientific evidence base to inform strategy, this mapping is being commissioned by Leicestershire County Council in collaboration with the National Forest Company and the Leicestershire and Rutland Wildlife Trust. It uses a Habitat Network Model and assigns a permeability value to various habitats, indicating how easily a species can move through them. It then identifies using modelling for where 'core habitats' can become linked through 'habitat networks'. The mapping aims to help provide a foundation for the region's Nature Recovery Network and is a basis of discussion with public authorities and the private sector regarding opportunities for habitat protection, enhancement and creation. Local Policy and Strategy.

Adopted Hinckley and Bosworth Core Strategy (2009) and Emerging Local Plan

3.22 The Hinckley and Bosworth Core Strategy (HBBC Core Strategy) was adopted in 2009 and sets out the strategic planning policies the Council would use to help guide development to the most sustainable places over the 20 year period from 2006 to 2026. The Borough is currently reviewing the Local Plan, with a new plan covering the period 2016-2036 intended for adoption in 2021. This GI Strategy will inform the development of this emerging Local Plan.

3.23 The 2009 Core Strategy put green space and GI at the heart of its vision for strategic development, with plans to not only protect, but improve the environment. It notes a number of natural attractions within the Borough, including Burbage Common, Charnwood Forest, Ashby Canal and part of the National Forest, but also highlights a low percentage of woodland cover by national standards.

3.24 Core Strategy Policy 20 'Green Infrastructure' is a dedicated GI policy. The policy outlines a number of strategic GI interventions across the Borough, as further detailed in the 2008 Green Infrastructure Strategy. However, a number of other policies support GI delivery, including Policy 6 (Hinckley/Barwell/Earl Shilton/Burbage Green Wedge) and Policy 9 (Rothley Brook Meadow Green Wedge'), which

encourage positive uses of the land within these two designated 'green wedges'. In addition, Policy 19 (Green Space and Play Provision) sets out a standard for green space and play, and Policies 21 (National Forest) and Policy 22 (Charnwood Forest) support proposals that contribute to the delivery of both.

The Infrastructure Plan that forms part of the 2009 Core Strategy lists parties responsible for delivery of the GI strategic interventions as: Hinckley and Bosworth Borough Council; landowners; the tourism partnership; and Leicestershire County Council. GI costs were not estimated, however possible funding sources are identified as: developer contributions; New Growth Point Initiative Funding; Land Fill Tax Credit and Aggregates Levy; Lottery Funding; and the Woodland Grant Scheme.

Hinckley Town Centre Area Action Plan (2011)

3.25 The Hinckley Town Centre Action Plan (AAP) also sits under the HBBC Core Strategy and sets out statutory policy for Hinckley town centre, the main urban built up area in the Borough and identified as an area where significant change is proposed. It highlights that the proposed growth and regeneration within the town centre needs to be accompanied by improvements to physical and social infrastructure, including green infrastructure, and a more sustainable public realm. It also encourages more attractive cycling routes within the town centre.

Earl Shilton and Barwell Area Action Plan 2006-2026 (2014)

3.26 The Earl Shilton and Barwell Area Action Plan (AAP) sits under the HBBC Core Strategy. Adopted in 2014, it sets out the framework for the delivery of two Sustainable Urban Extensions (SUEs) planned for the south-east of Earl Shilton and the north-west of Barwell (designed to accommodate 4,500 new dwellings) and how they are to integrate into the existing settlements.

3.27 The vision for the two SUEs states that the two communities should be:

> *"supported by infrastructure that encourages green living", and Spatial Objective 8 aims "to provide green infrastructure which forms the heart of new communities with well-designed green spaces and links to the surrounding countryside and supports sustainable, healthy and active lifestyles for residents".*

Site Allocations and Development Management Policies DPD (2006-2026)

3.28 The Site Allocations and Development Management Policies DPD (SADM) was produced in order to identify sufficient sites to accommodate the level of development required by the Core Strategy. A number of the DM policies to be used in day-to-day decision making on planning applications have particular relevance for GI, addressing issues including the safeguarding the countryside, biodiversity, pollution and flooding, open space and SuDS. It is also the role of the SADM DPD to review the boundary of the designated 'Green Wedges' within the Borough, which guide the development form of urban areas.

Green Wedge Review (2011)

3.29 The Review was drawn up to assist the Council in determining the boundaries of the two Green Wedges (the Rothley Brook Meadow Green Wedge and the Hinckley/Barwell/Earl Shilton/Burbage Green Wedge), following comments during made during Examination of the Core Strategy.

3.30 Green Wedge policies were first introduced in the late 1980s to guide the urban form of Leicestershire, and were later updated to incorporate the purpose of *"preserving strategic landscape and wildlife links".* As such, they are recognised as an important element of green space infrastructure (para 2.1.5) as they fulfil a number of different GI functions and provide a 'green lung' into urban areas in addition to maintaining separation between urban areas.

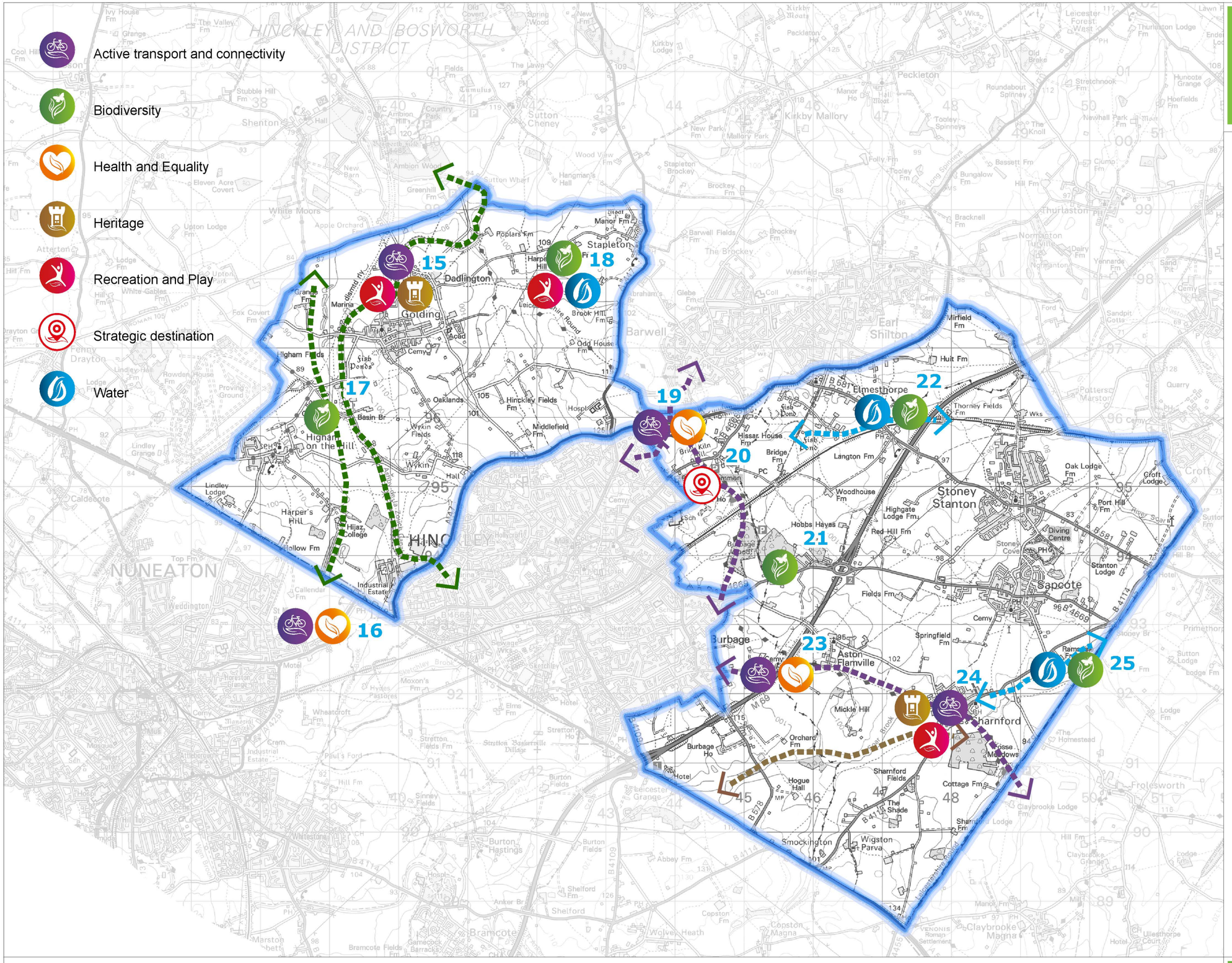
Neighbourhood Plans

3.31 Several Neighbourhood Planning Designated Areas have been formed within the Borough on the legislative basis of the 2011 Localism Act. However, only two Neighbourhood Plans have been 'made'. These are for the market town of Market Bosworth and the parish of Sheepy ('made' in 2015 and 2019 respectively). Several of the plans highlight support for flood resilience, the protection and extension of public rights of way, and the protection of biodiversity sites and ecological corridors.

Hinckley and Bosworth Green Infrastructure Strategy (2008)

3.32 The Green Infrastructure Strategy (2008) is the most important reference document for the present strategy update. It included definition of three GI zones, a 'public benefit analysis' of where interventions relating to particular GI functions might most beneficially be targeted, and identification of a wide variety of such initiatives which were incorporated into the Borough's Core Strategy. This strategy forms an update to this piece of work.

Figure 3.1: GI opportunities identified by the Leicestershire and Leicester Landscape Sensitivity and GI Study for the 'Southern Gateway' Zone around Hinckley



Green Infrastructure Opportunities within Strategic Opportunity Assessment Zone: Southern Gateway

15. Ashby Canal: (Active transport and connectivity/Heritage/Recreation and play): The Ashby Canal is a strategic GI asset connecting Hinckley to the countryside, enhanced in terms of access to the towpath and consistent signposting.

16. Hinckley – Nuneaton Green Way: (Active transport and connectivity/Health and equality): Create an attractive accessible pedestrian/cycle route between communities in Hinckley and Nuneaton.

17. Hinckley Disused Railway Ecological Corridor Enhancement: (Biodiversity): Join up patches of woodland and wetland habitats via the disused railway corridor to create ecological corridors in an area with very few semi-natural habitats.

18. River Tweed Ecological Corridor and Green Way: (Biodiversity/Water/Recreation and play): Maintain and enhance the River Tweed as a biodiversity corridor, for flood attenuation and as a route for informal recreation. Link to the Environment Agency's Natural Flood Management projects in headwater catchments of the River Sence.

19. Hinckley – Barwell Green Way: (Active transport and connectivity/Health and equality): Deliver high quality greenway between Hinckley and Barwell.

20. Burbage Common and Woods: (Strategic destination): Potential to enhance the visitor amenities and GI functions at Burbage Common, and improve pedestrian and cycle access from Hinckley. This could also help to address current lack of accessible natural greenspaces here.

21. Hinckley Woods and Grassland Ecological Corridor: (Biodiversity): Improve networks and corridors of key habitats (including broadleaf woodland, meadows and acid grassland) between the SSSI and the edges of Hinckley.

22. Elmesthorpe Soar River Corridor Restoration: (Water/Biodiversity): Reinstate grazing marsh and fens along the floodplain of the Soar.

23. Pedestrian/cycle bridge for Hinckley : (Active transport and connectivity/Health and equality): Consider new pedestrian access over the M69 in association with any new development east/south of the motorway.

24. Access and heritage trails linking Roman remains: (Recreation and play/Active transport and connectivity/Heritage): New development in this part of the SOAZ should link to the existing rights of way network and contribute to enhancing existing heritage assets, e.g. Fosse Way.

25. Sharnford Soar River Corridor Restoration: (Water/Biodiversity): Reinstate grazing marsh and fens along the floodplain of the Soar. Join up patches of woodland and wetland along the Soar Brook to create ecological corridors in an area with very few semi-natural habitats.

0 1 2 km

Map Scale @A3: 1:55,000

LUC

CB:KS EB:Manson D LUC FIG3_1_7168_SOAZ_GI_opportunities _DDP_v3_A3L 25/08/2020 Source: EA, HE, LUC, NE, OS

Hinckley and Bosworth Open Space and Recreational Facilities Study (2016)

3.33 HBBC's Open Space and Recreation Facilities Study was designed to identify local needs, provide a record of existing sites, develop a consistent database of sites, to set provision standards, to evaluate the quality of existing sites, and to provide a clear framework for practical action to improve them.

3.34 Aside from the detailed key issues and recommendations for each open space typology, overarching issues arising included: the need to create and empower voluntary sector groups for sustainable management of open spaces; the need to maximise the use of resources in rural areas e.g. by exploring using school facilities and through engagement with the County Council; to use a coordinated approach to share best practice; and to address the requirement to travel long distances owing to the rural nature of the Borough.

Hinckley and Bosworth Green Space Delivery Plan (2014-2018)

3.35 The Green Space Delivery Plan identified green space delivery priorities for Council-owned land up until 2018. Given the challenging economic climate, plans to seek new funding mechanisms are referenced including: maximising external funding for green spaces; identifying income sources that do not deter use of green spaces; seeking to generate income to support service delivery; and maximising the use of S106 and other developer contributions as well as the New Homes Bonus.

Hinckley and Bosworth Borough Council Playing Pitch Strategy Assessment Report (2019)

3.36 The Playing Pitch Strategy sets out an analysis of current provision in the Borough, broken down by sport, and sets out priorities for the future delivery of facilities for each of these sports over the period 2018-2036. For most sports, provision was found to be relatively well balanced with demand, however a shortfall in football pitches was highlighted. The need to protect existing pitches if participation is to be retained was also highlighted. Maintenance and quality issues were highlighted for a number of sports.

Hinckley and Bosworth Landscape Character Assessment (2017)

3.37 The 2017 study was designed to define the character of the landscape and what makes one 'character area' distinct from another, with a view to ensuring that the character of the landscape is respected as development comes forward.

3.38 HBBC's landscape was assessed and divided into ten landscape character areas (LCAs) based on their physical, cultural, natural and perceptual characteristics. For each one, the Key Characteristics, Key Sensitivities and Values, and Landscape Strategies for the LCA are outlined. In addition, 14 Urban Character Areas were defined for each of the principle urban areas and key rural centres.

Hinckley & Bosworth Agricultural Land Quality Report (2020)

3.39 This study, based on a desk study combined with semi-detailed land quality surveys, assesses the quality of agricultural land in the Borough, particularly around 14 selected settlements. Overall, it finds agricultural land quality to be just below the average for the Midlands and advises that new settlements are directed to areas of poorer quality land, in line with the NPPF.

Hinckley and Bosworth Biodiversity Assessment (2009)

3.40 This assessment provided a baseline assessment of the biodiversity and nature conservation interest of HBBC. It outlines the performance of designated assets including SSSIs, Local Nature Reserves and Local Wildlife Sites. In particular, the assessment notes that the domination of arable farmland has resulted in the fragmentation of key habitat areas, acting as a barrier to movement and impacting the viability of local populations. It identifies major opportunities for the creation of Green Corridors and 'stepping stone' territory in the Borough as: river and canal corridors; hedgerows; quarry and gravel pit restoration; the National Forest; urban areas/villages; and farmland.

Hinckley and Bosworth Extended Phase 1 Habitat Survey (2014)

3.41 While the 2009 Biodiversity Assessment provides a baseline study for the Borough, this further survey was carried out in 2014 to inform the preparation of the Site Allocations and Development Management Policies (SADM) document, assessing a total of 21 potential development sites.

3.42 The Survey also identifies key wildlife corridors through the Borough, which should be conserved and enhanced where possible. These include canals, rivers, brooks, active and disused railways, hedgerows, ponds and grasslands (para 8.3.1).

3.43 The survey also recommends levels of protection required for habitats and species in the Borough, and mitigation measures required to ensure they are satisfactorily conserved (Chapter 9). These include: incorporating multifunctional greenspace within sites to relieve visitor pressure on designated sites; achieving developer contributions for the maintenance of designated sites; retaining and enhancing hedgerows within site designs (where possible native species); buffering of water courses; favouring

native species over purely ornamental species in landscaping for habitat creation; and controlling invasive species.

Hinckley and Bosworth Extended Phase 1 Habitat Survey (2020)

3.44 An updated Phase 1 Study has been completed for a portfolio of potential development sites across the Borough, and includes a series of recommendations for strategic biodiversity enhancement across the Borough, which have formed the basis for some of the opportunities identified within this GI strategy.

Hinckley and Bosworth Level 1 Strategic Flood Risk Assessment (2019)

3.45 This Level 1 Strategic Flood Risk Assessment (SFRA) for HBBC was published in July 2019 to provide a robust evidence base on flood risk issues to inform the Local Plan. The assessment highlights GI as a key tool in strategic flood management. Among a number of mitigation and adaptation measures, GI is identified as a no- or low-cost response to climate risk that can also deliver other benefits, with a cited example being the option of leaving areas shown to be at risk of flooding as public open space, and the use of SuDS in urban areas.

Emerging Hinckley Public Realm Strategy (2020)

3.46 A Public Realm Strategy for the Hinckley urban area is currently under development. The Strategy sets clear ambitions for improvements to be delivered in Hinckley town centre's public realm. It will form part of the evidence base for the emerging Local Plan, guiding future changes to improve the attractiveness of the town centre. The vision is centred around a public realm that 'knits together the town centre' and includes a number of proposed walking and cycling routes (including the 'Hinckley Loop') which are addressed within this Strategy.

Other Relevant Guidance and Strategies

National Forest Strategy (2014-2024)

3.47 The National Forest is a project established in the 1990s to restore ecosystems (degraded and fragmented by coal mining and other industry) on a landscape scale, with an emphasis on community involvement and social and economic objectives alongside environmental ones. The National Forest Strategy 2014-2024 outlines future plans for the forest area, including increased forest management, a move toward charitable status for the National Forest Company (NFC) and a greater emphasis on habitat with the development of greenspace.

3.48 Key objectives include: increasing forest cover to over 21% within its boundaries (up from 6% in 1991); minimising damage from diseases and pests; growing the number of jobs in the woodland economy; increasing the number and diversity of groups using the forest; and becoming a national exemplar and test bed for research. Three key risks to the site identified were: tree health; sites falling into under-management; and competition for funding.

3.49 The move away from DEFRA sponsorship to independent charitable status means that there will be a greater role for private sponsors in the National Forest, and a more diversified funding strategy that uses sources including earned income, projects and programmes, private sector sponsorship, charitable trusts and foundations, and public support.

Charnwood Forest Landscape Partnership

3.50 Described as England's 'unexpected uplands', the Charnwood Forest (on Hinckley and Bosworth's eastern boundary) is a key asset, and this partnership seeks to 'tell Charnwood's story', to connect people to its history and to secure a sustainable future. In order to bring about major change in how this landscape is protected, managed and celebrated, the partners in the Charnwood Forest Regional Park applied to the Heritage Lottery Fund (HLF) for a Landscape Partnership Scheme in 2017.

Chapter 4
Key Environmental and Socio-Economic Influences

4.1 The following section sets out the key environmental and socio-economic drivers influencing the need for GI within the Borough. This covers the two topics of climate change and providing for the diverse needs of the inhabitants of Hinckley and Bosworth.

Climate Change Adaptation

The Met Office indicates that the 21st century has been warmer than the past three centuries in the UK, with the summer of 2018 being the joint hottest recorded in England. Other impacts to expect are extreme weather events such as floods and droughts, all of which will have far reaching effects on health, resources and biodiversity. GI provides a means to both mitigate these impacts and to develop an environment which is more resilient to them.

4.2 The July 2019 Climate Emergency declaration by Hinckley and Bosworth Council requires that the Council, within the extent of their policy powers and the framework provided by national policy, take whatever actions possible to move rapidly toward a zero carbon future. Over the coming years, Hinckley and Bosworth's GI assets will experience stress from the effects of climate change. However, at the same time, GI provides some important opportunities to both mitigate and adapt to climate change.

4.3 Various specific aspects of climate change and their interaction with the Borough and its GI are explored further below.

Warming Urban Areas

4.4 Higher temperatures as a result of climate change may have a range of impacts. Heat waves, even when short in duration, can impact on human health, while prolonged periods of high temperatures increase demands on water resources and are likely to affect the availability of certain foods.

4.5 Within urban areas, increases in temperature are exacerbated by the 'urban heat island effect', whereby the concentration of built development in urban areas alters the exchanges of natural energy at ground level and more heat is absorbed and stored by hard surfaces, leading to higher temperatures. Both the Hinckley & Bosworth Core Strategy

and the Hinckley Town Centre Area Action Plan (2011) note that Hinckley town centre is vulnerable to the 'heat island' effect.[6]

4.6 The incorporation of vegetation into the built environment can reduce temperatures and provide shade in public open spaces. In addition, trees can indirectly reduce energy demands for heating and cooling in buildings by providing shade to block incoming solar radiation and shelter from wind, depending on their orientation.

Flooding

4.7 Climate change can contribute to increases in local flood risk in a number of ways, including rising sea and river levels and surface water run-off, with additional risk of sewer overflow and potential for damage to property and people.

4.8 Flood risk assessments have not identified high levels of flood risk in Hinckley and Bosworth compared to other parts of the country, and the higher risks relate chiefly to surface water and culverted watercourses. Climate change is, however, likely to alter the Borough's flood risk profile, with increases in peak river flow and peak rainfall intensity.

4.9 An integrated approach to surface water management is required to reduce the risk of localised flooding events, especially in urbanising built up areas as hard surfacing increases. It is recognised that GI can help mitigate the effects of possible flooding events and resilience to the effects of such events. This may comprise strategic water storage and also smaller-scale interventions such as incorporating swales and SuDS within built development. Further benefits may be achieved through the incorporation of woodland and street trees in more urban areas.

Water Quality

4.10 The likelihood of more intense periods of rainfall during the summer months in the UK, and a wetter winter season, may have effects on water quality in the Borough. Increased surface water run off can cause sewer overflow, carry various pollutants into watercourses and result in increased sedimentation.

4.11 GI can allow for precipitation to be intercepted by vegetation (trees and shrubs) or held in green attenuation areas such as swales. Plant root systems promote infiltration and water storage in the soil as well as reducing sedimentation.

Food and Timber Production

4.12 Agriculture and climate change are strongly interrelated: not only do certain agricultural methods contribute to global warming, but a changing climate can have significant effects on the viability of agriculture and food production. It is possible that this relationship may challenge food security locally in future.

4.13 The UK government has recognised that major effects on the agricultural sector at the UK level will include: greater pressure on water availability and competing demands for water; gradual effects over time on agricultural productivity in regions important for food production; and sudden reductions in productivity as a result of extreme weather events, such as heat waves and floods. New and emerging pests and diseases also have the potential to cause severe impacts on animals and plants.[7] These effects are likely to be complex as systems adapt in different ways and impacts at the local level are not easy to predict: while initially the benefits of warmer temperatures and longer growing seasons may be felt, in the longer term these will become outweighed by reductions in water availability.[8]

4.14 Some reports highlight that the effects of climate change on the UK's forestry industry may be even more severe than effects on agriculture, due to the sector's long production cycle.[9] Woodland may be affected by drought stress and mortality, tree seed production and natural regeneration could be adversely affected by rising temperatures, and newly planted trees may take longer to establish. Drier conditions will also increase the risk of wildfire damage, and forest pests and pathogens are likely to increase.[10] The recent rapid spread of 'ash dieback' (*fraxinus excelsior)* disease across UK forests has highlighted the risk of such diseases to the country's tree cover and timber industry,[11] a threat which the National Forest management is currently grappling with in the northeast of the Borough.

4.15 GI interventions in agricultural and woodland landscapes can combat these challenges. For example, planting diverse woodlands can make them less vulnerable to changes in temperature and pests, and introducing greater diversity into agricultural systems (for example, incorporating trees into

[6] See Policy 20: Green Infrastructure.
[7] HM Government (2017) UK Climate Change Risk Assessment 2017 [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf
[8] Living With Environmental Change (LWEC) Network (2016) Agriculture and Forestry: Climate Change Impacts [Online] Available at: https://nerc.ukri.org/research/partnerships/ride/lwec/report-cards/agriculture/
[9] Living With Environmental Change (LWEC) Network (2016) Agriculture and Forestry: Climate Change Impacts [Online] Available at: https://nerc.ukri.org/research/partnerships/ride/lwec/report-cards/agriculture/
[10] Living With Environmental Change (LWEC) Network (2016) Agriculture and Forestry: Climate Change Impacts [Online] Available at: https://nerc.ukri.org/research/partnerships/ride/lwec/report-cards/agriculture/
[11] Woodland Trust (n.d) Ash dieback [Online] Available at: https://www.woodlandtrust.org.uk/visiting-woods/tree-diseases-and-pests/key-threats/ash-dieback/

arable land) can make farmland more resilient to the effects of climate change.

Ecological Resilience

4.16 Biological diversity is declining worldwide, threatening a 'mass extinction' of species. Between 2002 and 2013 the populations of 53% of UK species declined[12], and the National Ecosystem Assessment has previously indicated that over 40% of priority habitats and 30% of priority species are declining, driven partly by the changing climate[13]. In order to maintain and enhance biodiversity in Hinckley and Bosworth in the coming years, it will be necessary to ensure where possible that existing habitats are resilient to the effects of climate change and form a 'coherent ecological network'. Provision of GI in the Borough should be informed by the need for habitats to become 'bigger, better and more joined up', with more habitats also being provided.[14] This can be achieved by ensuring appropriate management of existing nature conservation sites; working towards the incorporation of habitat features within all areas of existing open space and new GI provision; and seeking opportunities to create ecological links where there are gaps in the network. The multifunctional nature of GI means that other aims such as providing strategic flood storage and areas for recreation can be achieved alongside biodiversity net gains and Hinckley and Bosworth's statutory duty under the NERC Act (2006) to *'have regard… to the purpose of conserving biodiversity.'* [15]

4.17 Where new development is coming forward, the potential for ecological enhancement can be considered at multiple scales and incorporated into the master planning process in order to ensure all opportunities are identified. Where development is most dense, requirements for green or brown roofs and multifunctional surface water storage with marginal planting provides a viable solution to develop better ecological resilience where space is at a premium.

4.18 The Borough's network of trees also provides important habitat for wildlife and the dominant habitat type in some parts of the Borough, particularly within the National Forest. As noted above, however, areas of woodland are at increasing threat from existing and new pests and diseases. A strategic approach to tree planting will be required across the Borough to mitigate any potential tree losses driven by climate change and tree pathogens; extending to species diversity and selection.

Climate Change Mitigation

Alongside other policy measures, GI can actively play a part in mitigating against the impacts of climate change. Two prominent routes for achieve this are: 1) using 'green corridors' to encourage active travel and contribute to a reduction in transport emissions, particularly over short distances; and 2) by expanding tree cover and other types of vegetation to build a 'carbon sink' and draw down carbon from the atmosphere.

GI and Active Travel

4.19 The transport sector is a significant source of greenhouse gases, and as emissions from other sectors have reduced, transport has grown as a share of overall emissions. The Committee on Climate Change (CCC) has urged that demand reduction, in part by encouraging sustainable travel choices - including walking and cycling – must be exploited if the UK government is to reach its 'net zero carbon' goals.[16]

4.20 While national and local-level transport strategies remain the key vehicle for delivering this step-change in transport habits, GI interventions can have a strong supporting role. By delivering 'greenways' and contributing to the attractiveness and amenity value of active travel as a modal choice, GI networks can support the modal shift away from combustion vehicles, particularly over local journeys.

Carbon Sequestration

4.21 The carbon sequestration potential of woodland – the ability of trees to remove carbon dioxide from the atmosphere through photosynthesis – has risen up the agenda as the climate crisis has risen up the political agenda across the UK. Woodland is not the only habitat type known to sequester carbon, as grassland, bogs and fens are also known to play a role. However, consolidating the UK's 'forest sink' is seen as an increasingly important way of mitigating against the climate crisis.

4.22 Currently only 13% of the UK is wooded, and UK forest (including soils) was estimated in 2012 to store 790 megatonnes of carbon. However, forest creation has declined dramatically since the 1980s, and remaining forests are under threat from excessive grazing and inappropriate management.[17] A 2020 report by the Committee for Climate Change recommended that 30,000 hectares (90 – 120 million

[12] RSPB (2016) State of Nature
[13] UK National Ecosystem Assessment, http://uknea.unep-wcmc.org (2011)
[14] As set out in Lawton, J. (2010) 'Making Space for Nature: A review of England's Wildlife Sites and Ecological Network.' Submitted to Defra
[15] Natural Environment and Rural Communities Act (2006)
[16] Committee on Climate Change (2018), *Progress Report to Parliament* [Online] Available at: https://www.theccc.org.uk/wp-content/uploads/2018/06/CCC-2018-Progress-Report-to-Parliament.pdf
[17] Alonso, Weston, Gregg and Morecroft (2012), 'Carbon Storage by habitat: review of the evidence of the impacts of management decisions and condition of carbon stores and sources'. *Natural England.*

trees) of woodland should be planted annually, and forest cover increased to 17%, in order to allow the UK to reach its goal of reaching 'net zero' carbon by 2050. Meeting these targets would entail one-fifth of agricultural land to be released by 2050 for action that reduce emissions and sequester carbon, pointing to a prominent role for agro-forestry.[18]

4.23 Within Hinckley and Bosworth, the National Forest project is the source of most woodland creation, led by non-profit institution the National Forest Company (NFC) which, over 25 years, has planted almost 9 million trees. The National Forest Company Strategy (2014-2024) acknowledges that forest creation rate will be lower than in earlier years, but there will be a long-term approach to management, including building the market for sustainable forest products, aiding long term carbon sequestration goals.

Providing for Diverse Needs in Hinckley and Bosworth

Green infrastructure is increasingly recognised as a cornerstone of sustainable development, essential to the quality of life of residents and businesses and helping to create places where people want to live, work and play. GI assets can define their surrounding environment and contribute to the 'sense of place' of both urban and rural areas – giving it a pivotal role in 'placemaking'. It also has an increasingly recognised role in creating economically resilient places, which can thrive alongside the assets.

Providing for a Growing Population

4.24 While Hinckley and Bosworth is a predominantly rural Borough, it has been identified as having significant growth potential and occupies a strategic position in relation to existing and planned transport infrastructure (both road and rail). With a total population (2015) of 108,800 people, the most populated wards of Hinckley & Bosworth lie in the south of the Borough within Earl Shilton, Barwell, Burbage and Hinckley. The least densely populated areas are located in the more rural western areas [19] Population projections show that this population is likely to increase by roughly 9% between 2017 and 2036, to reach over 122,000.[20] This translates into a requirement for 454 new dwellings per annum between 2011 and 2036, as set out in the Leicester and Leicestershire 2050 Strategic Growth Plan.[21] This level of growth is likely to put further pressure on the open space, recreation and GI network.

4.25 Hinckley & Bosworth's existing Core Strategy highlighted that 9,000 new homes will be required in the Borough between 2006-2026. The majority of future development in Hinckley is likely to take place at and around existing urban areas. Two mixed use Sustainable Urban Extensions (SUEs), one to the west of Barwell (2,500 homes) and another to the south of Earl Shilton (2,000 homes) are at different stages of development. Further development within and around the already urbanised parts of the Borough will increase pressure on local recreational spaces, including Burbage Common. It also has the potential to increase pressures on surface water management, air and noise pollution. GI has an important role to play in mitigating these impacts.

4.26 The Borough Council is likely to need to make provision for approximately 10,000 dwellings over the plan period 2016-2036. The emerging spatial strategy has yet to be agreed, however the overarching spatial strategy is to focus the majority of new development in and around the urban area of Hinckley, Burbage, Barwell and Earl Shilton, with limited development to that required to maintain the vitality and viability of the settlements.

4.27 Infrastructure projects also influence the local growth context. In particular, to the south of the county on the Blaby District border, the Hinckley National Rail Freight Interchange has been proposed. While the project does not fall within Hinckley and Bosworth Borough boundary, it is close to the border to the east of Burbage Common.

Providing for an Ageing Population

4.28 The major upcoming change in the demographic profile of the Borough relates to its ageing population, particularly in the more rural villages.[22] As of 2015, roughly 21% of residents were aged over 65 and roughly 18% were aged under 15 years. Spatially, older residents are concentrated in Burbage St Catherine's, Cadeby, Markfield and Twycross, while the 'youngest' areas in the Borough are generally found within Hinckley and the south of the Borough in general.[23]

4.29 The increasing proportion of older age groups is likely to have a knock-on effect on the demand for sport and recreational facilities in particular, and will have implications for the design of public spaces. Several relevant inclusive design principles have come to the fore in recent years and

[18] Committee on Climate Change (2020), *Land use: Policies for a Net Zero UK*. [Online] https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/
[19] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council
[20] ONS (2020), '2018-based subnational principal population projection for local authorities and higher administrative areas in England'.
[21] Various (2018), 'Leicester & Leicestershire 2050: Our Vision for Growth' [Online] Available at: https://www.llstrategicgrowthplan.org.uk/wp-content/uploads/2019/01/Final-LL-SGP-December-2018-1.pdf
[22] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council
[23] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council

have been incorporated into standards and best practice guidance. These include advice from the RTPI on dementia-friendly design and communities.[24] Taking into account such design principles, GI should help to:

- ensure public spaces are welcoming and accessible for all;
- are accessible and easy to use;
- reflect the diversity of modern society and the history of the local area; and,
- encourage social interaction and harmonious relations between different social groups.

Addressing Deprivation in Hinckley and Bosworth

4.30 The 2019 Index of Multiple Deprivation (IMD) assesses areas of the country on a range of indicators of relative deprivation, including employment, education and skills, health and disability, crime, housing and services, and living environment. A review of the IMD shows that deprivation levels are comparatively low in Hinckley and Bosworth compared to the regional and national context; particularly compared to parts of neighbouring more built-up areas such as Leicester and Coventry. None of the Borough's 66 Lower Super Output Area (LSOAs) are within the 10% most deprived in the country and the authority ranks 232nd nationally in terms of deprivation, lying with the 30% least deprived authorities nationally.

4.31 However, there is variation across the Borough, and localised deprivation is concentrated mostly within the built-up areas of Hinckley, Burbage, Barwell and Earl Shilton. **Figure 4.1** highlights the existing 'hotspots' of deprivation across the Borough. In particular, the most deprived areas are found on the fringes of Hinckley to the west of Clarendon Park, as well as other areas to the north and east of Hinckley centre.

Health and Wellbeing

4.32 There is a growing body of evidence that GI is key to maintaining and improving the health and wellbeing of communities. The *Fields in Trust* organisation estimate the wellbeing value of local parks and green space for the adult population of the UK to be £34.2 billion per year, saving the National Health Service around £111 million per year.[25] As such, GI has enormous potential to support the 'preventative' health agenda.

4.33 The 'Thriving Places Index'[26] provides a broad overview of wellbeing at a local authority level, seeking to identify places that support our individual and societal wellbeing and the factors that feed into wellbeing locally. The 'scorecard' for Hinckley and Bosworth shows that the local authority performs at around the national average in relation on the headline 'Local Conditions' domain. However, while the area performs particularly well in terms of safety, mortality and life expectancy, local business, unemployment, and community cohesion, the scorecard highlights a number of sub-domains where Hinckley and Bosworth performs more poorly. These include:

- the local environment (green land cover, air pollution, and transport-related noise);
- transport (use of public transport, dominance of cars, and traffic incidents);
- participation (voting turnout and participation in voluntary organisations and clubs); and,
- culture (participation in local heritage assets).

Physical Health

4.34 Studies have shown insufficient physical activity to be responsible for 1 in 6 deaths (equal to smoking) and as much as 40% of long term health conditions in the UK, providing a considerable additional cost to health service providers.[27] There is some evidence that accessible, better quality natural environments are associated with a higher likelihood and rate of physical activity.[28]The use of green spaces for physical activity by individuals may be influenced by the distance required to travel, and perceptions of safety and accessibility also affect levels of physical activity.[29]

4.35 In terms of health deprivation and disability, Hinckley & Bosworth as a whole is among the less deprived nationally. Life expectancy for both men and women is higher than the national average[30] and the Hinckley and Bosworth Health & Wellbeing Partnership Strategy highlights that only 4.6% of the local population classify their general health as bad or very bad (England as a whole: 5.5%). However particular areas where the Borough performs worse than the England average are identified as:

[24] https://www.rtpi.org.uk/media/2213533/dementia_and_town_planning_final.compressed.pdf
[25] Fields in Trust (2018) Revaluing Parks and Green Spaces. Measuring their economic and wellbeing value to individuals
[26] The Thriving Places Index (2019), created by 'Happy City', is designed to provide a robust reporting framework that shows the conditions for wellbeing at a local level. Available at: https://www.thrivingplacesindex.org/
[27] Natural England (2016) Links between natural environments and physical activity: evidence briefing
[28] Natural England (2016) Links between natural environments and physical activity: evidence briefing
[29] Natural England (2016) Links between natural environments and physical activity: evidence briefing
[30] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council

- obesity in adults;
- excess weight in adults; and,
- recorded diabetes.[31]

4.36 The spatial pattern of health deprivation mirrors that of overall deprivation (see **Figure 4.1**) with increased health deprivation being seen in the urbanised areas in the south of the Borough, and particularly to the west of Hinckley.

4.37 The Active People Survey (2015-16) classified 22% of the adult population of Hinckley and Bosworth as 'inactive', 13% as 'fairly active', and 65% as 'active'. A previous iteration of the survey (2011-12) found that activity levels were overall slightly lower than the national average, but that 47% of those who were inactive wanted to take part in more sport or physical activity, indicating a latent demand for physical activity that could potentially be met by provision of suitable facilities and other conditions (e.g. accessibility). Three major barriers to physical activity in the Borough have been identified as:

- the difficulty of provision in rural locations;
- transport from rural locations; and,
- income deprivation and other priorities.[32]

4.38 With respect to childhood obesity, a 2011 profile carried out by the Council noted that obesity levels rise between reception and Year 6 across all 16 electoral wards,[33] indicating a health concern, with the southern built up area as a particular area of concern.

Mental Health

4.39 There is increasing evidence of the link between access to green infrastructure and mental health. While more research is required to understand the causal pathways, findings suggest that well-designed green environments have benefits for mental health and in particular depression, helping to enhance the 'mental capital' of urban areas[34]. This is thought to be due to the role of GI assets as restorative stress-relieving spaces, spaces for social interaction, spaces facilitating physical activity, and natural filters ameliorating air, noise and thermal pollution.[35] Evidence is also building that free and unstructured play opportunities for children can be an effective way of addressing rising anxiety problems among children, which are seen to have declined in tandem with opportunities for playing freely outdoors.[36]

4.40 A study carried out in 2014-15 by the Borough Council highlighted that the estimated prevalence of mental health issues among adults in Hinckley and Bosworth (11.6% of the population)[37] is below the national average (15.6%). However, a rise in the number of prescribed anti-depressants indicates a potential upward trend in depression incidents.

4.41 Spatially, a review of the 'mood and anxiety' indicator of the Index of Multiple Deprivation (IMD) from 2019 highlights localised areas where mental health may be a greater concern**.** These areas are concentrated largely around Hinckley, with more minor areas of concern in Barwell and Shilton and other smaller pockets around Newbold Verdon and north of Groby in the east.

Community Cohesion

4.42 Well connected, accessible open spaces provide valuable opportunities for social interaction and community cohesion, playing a role in fostering the development of strong and resilient communities. In particular, evidence suggests that certain socio-demographic groups are less likely to use the natural environment for physical activity, including people of black or ethnic minority origin, the elderly and those with long term illness or disability.[38] Research has found that parks and green spaces 'can provide a vital locality where everyday experiences are shared and negotiated with a variety of people'[39]. The population of Hinckley and Bosworth is predominantly white British and has a much lower than average ethnic minority population than the East Midlands as a whole, as well as neighbouring urban areas such as Leicester and Coventry - as of the 2011 census, 95.6% of the Borough's population identified their ethnicity as white. However there is a growing population of Polish, Indian, Pakistani and Chinese communities in the Borough. The wards with the highest ethnic minority populations are Groby and Hinckley, with much lower ethnic minority populations in the north and east.

Air Quality

4.43 Poor air quality is a significant and increasingly urgent public health issue throughout large areas of the UK. A recent

[31] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council
[32] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council
[33] Hinckley & Bosworth Locality Profile 2017-18, Hinckley and Bosworth Borough Council
[34] POST Report 448 (2013) *Urban Green Infrastructure*. Available from: http://researchbriefings.files.parliament.uk/documents/POST-PN-448/POST-PN-448.pdf [Accessed 23rd October 2019].
[35] Sarkar, C., Webster, C and Gallacher, J. (2018), Residential greenness and prevalence of major depressive disorders: a cross-sectional, observational, associational study of 94,879 adult UK Biobank participants, *Lancet Planet Health.*
[36] Play England (2008), Policy Briefing 3 – *Play and health: making the links.* Available online: http://playengland.org.uk/media/120486/play-and-health-policy-brief-03.pdf
[37] Hinckley and Bosworth falls under the West Leicestershire CCG group
[38] Natural England (2016) Links between natural environments and physical activity: evidence briefing
[39] https://www.sciencedirect.com/science/article/pii/S1618866709000855

study in London has shown links between higher air pollution exposure and reduced lung volume in children[40] and associations have been found between levels of air pollution and the diagnosis of dementia.[41] Residents that are particularly at risk include the young, elderly and those with existing illnesses such as respiratory problems. As a requirement of the UK's National Air Quality Strategy, all local authorities must assess the present and future air quality of their area and identify the main sources of pollution. Paragraph 181 of the revised NPPF[42] links the requirement for the identification of GI provision and enhancement at the plan making stage to the improvement of air quality or mitigation of impacts relating to this issue.

4.44 While air pollution is predominantly associated with highly urbanised areas of large cities, it can also be a cause for concern in rural areas, particularly due to increasingly congested rural roads. The 2019 Hinckley and Bosworth Air Quality Management Report did not identify any particular 'exceedances' in relation to air quality objectives and there are no designated Air Quality Management Areas (AQMAs) within the Borough, highlighting that air pollution challenges are less severe than in other parts of the country. However, due to a number of major road arteries running through the Borough, the principal pollutant of concern is nitrogen dioxide (NO_2). The principal location of potential concern was the A511 (Shaw Lane) in Markfield, due to a history of minor exceedances over the years.

4.45 Figure 4.2 echoes this heightened pollution concern in the northeast of the Borough, highlighting a band of higher pollution along the M1 corridor as it skirts the settlements of Groby, Ratby Markfield and Stanton Under Bardon. It also highlights, as would be expected, areas of poorer air quality in Hinckley and Burbage.

4.46 Green spaces and urban greening features, such as green walls, trees and other vegetation, have the capacity to reduce concentrations and exposure to particulates and gaseous pollutants. The most effective vegetation type for the removal of particulates is areas of woodland, while agricultural land is largely responsible for the removal of gaseous pollutants[43]. UK wide studies have estimated that UK vegetation removes 1,354 ktonnes of air pollutants per year.[44] More strategically, the promotion of sustainable modes of transport and the provision of high quality sustainable transport routes has the capacity to improve air quality at a local level by reducing reliance on car travel.

Noise Pollution

4.47 Noise from transport, construction and other activities can have effects on health and wellbeing, both physiological and psychological. The World Health Organisation (WHO) estimates that the range of disease burden in Europe from noise is 1.0 – 1.6 million Disability Adjusted Life Years [45][46]. A qualitative study by the Noise Association[47] has drawn attention to the impact of traffic noise on rural areas in particular, leading to a major loss of tranquillity and disturbance to open countryside. The report found that increased traffic volume and speed in the UK have led to more noise nuisance in country areas, particularly in the case of HGVs, other large vehicles and motorcycles, which is changing the experience of countryside for those living there or seeking recreation.

4.48 It is roads and railways which cause spikes of noise pollution within Hinckley and Bosworth, and areas of high noise pollution are concentrated:

- along the M1 corridor in the east of the Borough (Ratby, Thornton, Markfield etc);
- along the M69 to the south of Hinckley and Earl Shilton;
- along the A447 between Hinckley and Cadeby (more limited impact); and,
- along the A5 on the Borough's western boundary (more limited impact).

4.49 Research has shown that vegetation can help to attenuate noise through absorption of, and dispersal and destructive interference with, sound waves. Furthermore soils can act to indirectly reduce noise through absorption. In this light, the vegetation within the National Forest may help to 'buffer' noise along the M1 corridor (see **Figure 5.10** later in report). However, some studies suggest people overrate the ability of vegetation to attenuate noise, suggesting there is also a psychological role[48] which GI assets may be able to play in terms of mitigating the effects of noise.

[40] Mudway et al. (2018) Impact of London's low emission zone on air quality and children's respiratory health: a sequential annual cross-sectional study. DOI: 10.1016/S2468-2667(18)30202-0, 10.1016/S2468-2667(18)30202-0
[41] Carey et al. (2018) Are noise and air pollution related to the incidence of dementia? A cohort study in London, England. DOI: 10.1136/bmjopen-2018-022404
[42] REF TO NEW NPPF
[43] Defra (2018) Effects of Vegetation on Urban Air Pollution. Available from: https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1807251306_180509_Effects_of_vegetation_on_urban_air_pollution_v12_final.pdf [Accessed 24th October 2019].
[44] Jones et al. (2017) Developing Estimates for the Valuation of Air Removal in Ecosystem Accounts.
[45] This is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death)
[46] WHO Regional Office for Europe (2011) Burden of disease from environmental noise. Quantification of healthy life years lost in Europe
[47] https://www.transportforqualityoflife.com/u/files/Traffic%20Noise%20in%20Rural%20Areas%20Sep2008.pdf
[48] Parliamentary Office of Science and Technology (2017) Urban Green Infrastructure and Ecosystem Services

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Figure 4.1: Deprivation in Hinckley and Bosworth

Hinckley and Bosworth
Neighbouring authority
Key settlement

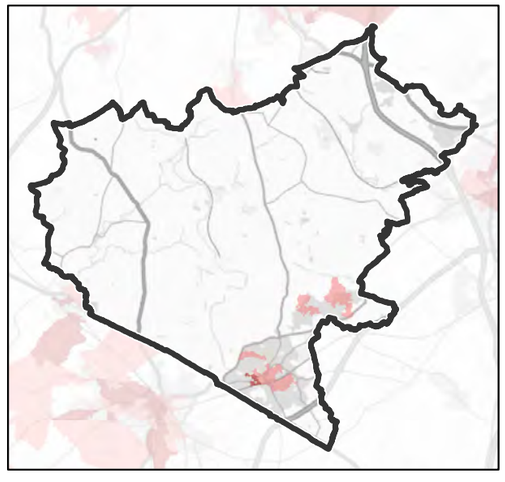
Index of Multiple Deprivation: overall deprivation

0 - 20% most deprived
20 - 40% most deprived

Stapleton
Dadlington
Stoke Golding
Earl Shilton and Barwell
Higham on the Hill
Hinckley
Burbage
Blaby
Rugby
Nuneaton and Bedworth
Harborough

0 2.5 5 km

Map scale 1:40,000 @ A3



CB:KC EB:Manson D LUC FIG4_1_10655_r0_Deprivation_A3L 13/05/2020
Source: OS, NE, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Hinckley and Bosworth Green Infrastructure Strategy
Hinckley and Bosworth Borough Council

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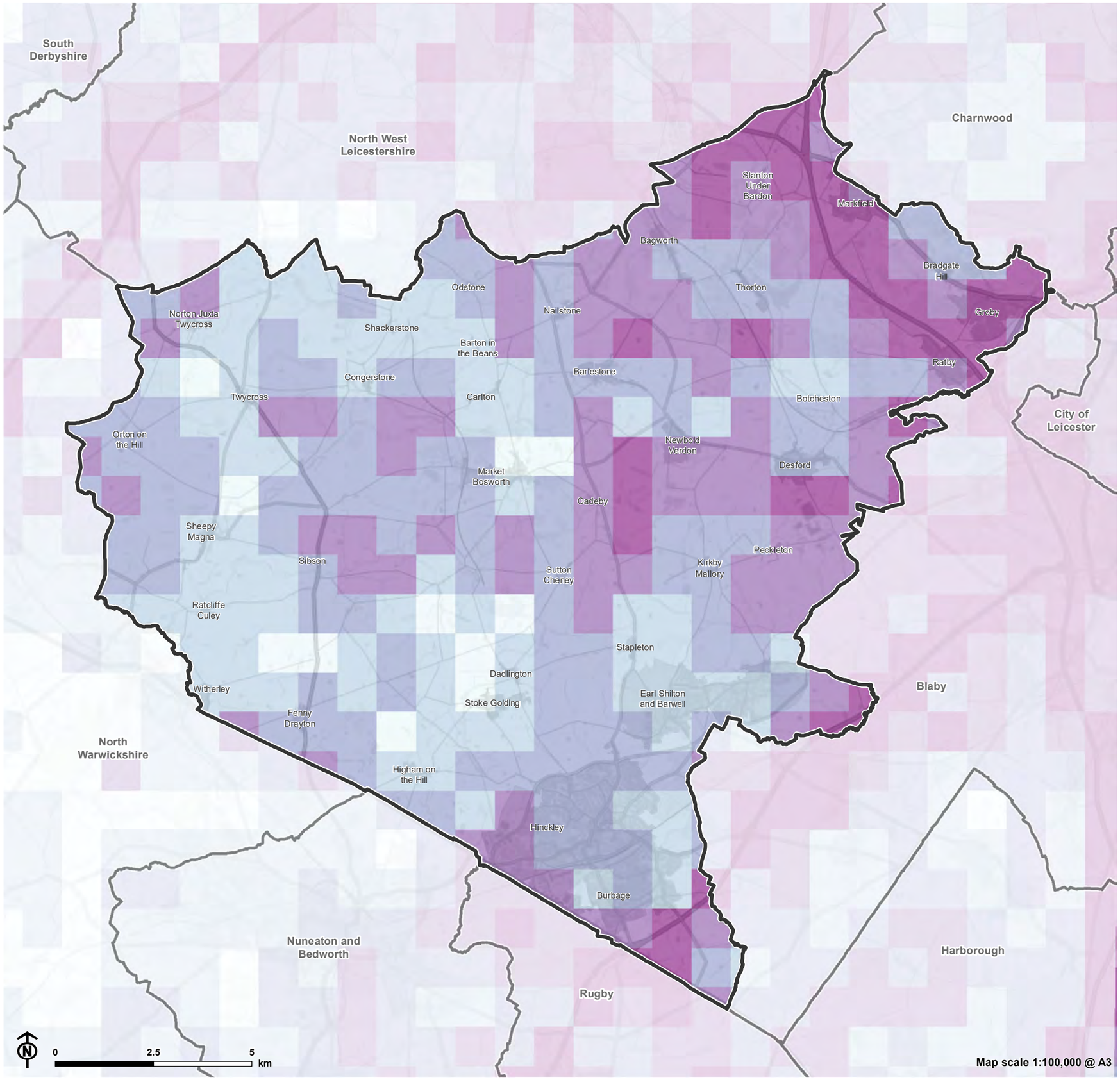
Figure 4.2: Air pollution in Hinckley and Bosworth



Hinckley and Bosworth
Neighbouring authority
Key settlement

Air Quality PM10 (ug/m³ gravimetric) displayed by quantile

- 10.99 - 13.65
- 13.65 - 14.20
- 14.20 - 14.76
- 14.76 - 15.48
- 15.48 - 19.53

CB:MB EB:Manson D LUC FIG4_2_10655_r0_AirPollution_A3L 13/05/2020
Source: OS, Defra, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Chapter 5
Identifying GI Issues and Opportunities

5.1 In this section of the strategy, we explore the Borough's assets under six themes – relating them back to the needs identified in **Chapter 4**:

- Landscape, townscape and historic environment.
- Biodiversity.
- Active travel.
- Open space, play and recreation.
- Carbon sequestration.
- Water resources.

5.2 However it should be noted that, while these themes provide a means to organise the assessment, the nature of GI networks and their multi-functionality mean that in several cases assets, needs and functions are included under a number of themes. This is indicated, where appropriate, in the text.

5.3 For each theme, three questions are considered in turn:

- **Introduction**: How does the theme relate to GI? why is it important to GI? and what benefits can it deliver?
- **Overview of existing Assets**: What are the existing GI assets within the Borough?
- **Key Issues and Opportunities**: What are the key issues and GI opportunities for the identified theme?

5.4 A table is provided at the end of each theme summarising the key issues and opportunities and how the opportunities were identified – i.e. through consultation, review of mapping, GIS data, or from existing policy proposals. These opportunities form the basis for the identification of a focused list of Priority Opportunities for strengthening the Borough's GI network which are set out in more detail in **Chapter 6**.

Hinckley and Bosworth's 'GI Zones'

5.5 The illustrative map in **Figure 5.1** shows the three 'GI Zones' which were identified in the 2008 GI study, along with the distribution of the Borough's GI assets of various typologies.[49] These were identified on the basis of shared characteristics including:

[49] 'GI assets' mapped include the following: National Forest inventory (Assumed Woodland, Broadleaved, Conifer, Coppice, Low density, Mixed mainly broadleaved, Mixed mainly conifer, Shrub and Young Trees); Country Parks; Natural and semi-natural open space; open space; sports and recreation facilities; SSSIs; Local Wildlife Sites; Historic/potential Local Wildlife Sites; SACs; and Local Nature Reserves

- **Southern GI Zone:** high population density in the south, with some concentrations of poor health and of young and old demographics, resulting in higher GI needs and vulnerability to pressures such as climate change;
- **Western GI Zone:** a green and open landscape character with scattered settlements to the west, with a wealth of cultural and tourist assets but generally quite low biodiversity value (with important exceptions including two SSSIs and extended blue infrastructure corridors); and,
- **Northeastern GI Zone:** the distinctive combination of the National Forest/Charnwood fringe and strategic infrastructure in the northeast, resulting in both high biodiversity value and high pollution pressures.

5.6 Given the different opportunities and challenges these three zones reflect, these zones remain relevant to understanding the GI network as it stands. The zones are being carried over to this Strategy, and are referred to in the following section to provide spatial context where relevant.

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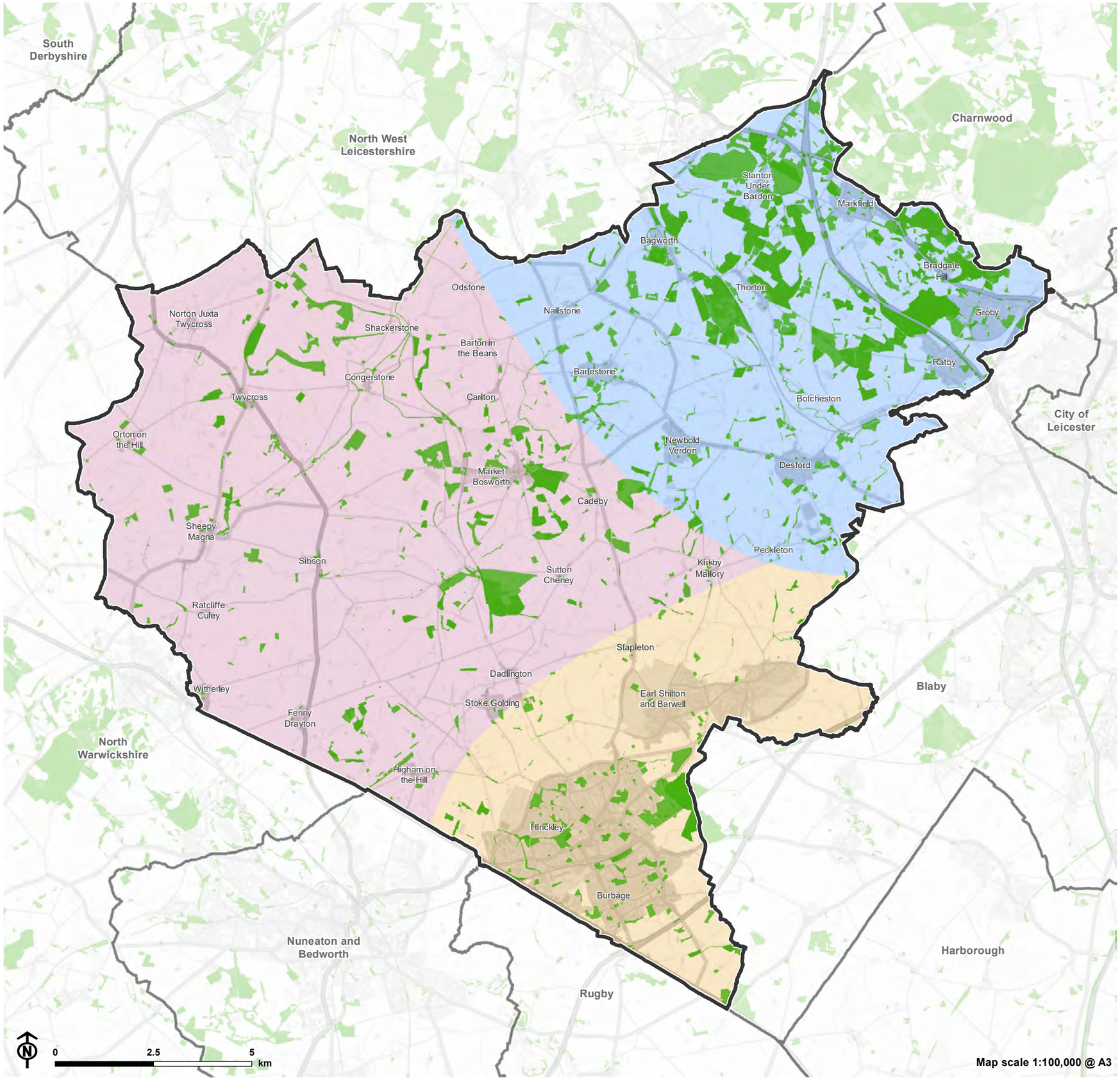
Figure 5.1: Green Infrastructure zones in Hinckley and Bosworth



- Hinckley and Bosworth
- Neighbouring authority
- Key settlement
- GI asset

GI zones

- North eastern GI zone
- Southern GI zone
- Western GI zone

'GI assets' mapped include the following: National Forest inventory (Assumed Woodland, Broadleaved, Conifer, Coppice, Low density, Mixed mainly broadleaved, Mixed mainly conifer, Shrub and Young Trees); Country Parks; Natural and semi-natural open space; open space; sports and recreation facilities; SSSIs; Local Wildlife Sites; Historic/potential Local Wildlife Sites; SACs; and Local Nature Reserves

CB:MB EB:Manson D LUC FIG5_1_10655_r0_GI_Zones_A3L 12/03/2020
Source: OS, NE, NC, LERC, LUC, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Theme 1: Landscape, Townscape and Historic Environment

Introduction

5.7 Landscape character, and historic and cultural landscape features, should influence the design and implementation of enhancements to the wider GI network. GI can also form an important part of the 'setting' of historic features (even where these features are built structures), contributing to their historical meaning and value. Landscape features may also provide a similar focus or destination, and can provide 'direct' GI functions via their scenic interest, supporting nature-based tourism.

5.8 Identifying deficits and needs in relation to the aesthetic and cultural functions of landscape and heritage assets is not straightforward. However in general, the greater the number of people who can experience these functions the better, and assets known to be in a deteriorated condition require conservation. Key GI issues under this theme will therefore generally focus on the condition of particularly valuable assets and the accessibility of these assets from key population centres.

Overview of the Borough's Assets

Landscape Character

5.9 Consultees highlighted the value local communities place on the 'unspoilt' and agricultural landscape that dominates Hinckley and Bosworth. Landscape sensitivity and character area assessments provide the other key reference point in relation to the value and sensitivity of the Boroughs' various landscapes. The 2017 Landscape Sensitivity and Green Infrastructure Study for Leicester and Leicestershire identified the overall sensitivity of the Borough's landscape to new development as 'moderate' when compared to more sensitive areas to the east and south of the county and in neighbouring Charnwood.

5.10 Although predominantly rural, the landscape and townscape varies quite significantly across the Borough, which falls within four of Natural England's National Character Areas (NCA), as shown in **Figure 5.2**. These have been broken down into local Landscape Character Areas (LCAs) by further studies however, in general terms, the western parts of the Borough are lower-lying and primarily agricultural, and the north eastern parts of the district are made up of more elevated settled forest hills, with areas of agricultural parkland and historic sites in the centre of the Borough.

5.11 The vast majority of the Borough (96%) is in agricultural use. Of this, the majority (over 75%) is classed as Grade 3 agricultural land (good to moderate quality), with smaller areas of higher quality land concentrated in the central and western parts of the Borough, as is illustrated in **Figure 5.4**. The 2020 Agricultural Land Study maps areas of higher land quality based on survey data.

Agricultural landscape in Western GI Zone

"Although fundamentally an ancient landscape there has been considerable change over the past twenty years with the arrival of the National Forest and quarry expansion"

(GI Strategy consultee)

Country Parks

5.12 There are no national landscape designations (such as Areas of Outstanding Natural Beauty or National Parks) within the Borough. There are four Country Parks within the Borough, which as well as indicating distinctive scenic interest, have a particular emphasis on recreational access and use. There are Country Parks in each of the three GI zones, which generally reflect the characteristics of the zones themselves - Market Bosworth Park and Bosworth Battlefield in the Western GI zone have particularly pronounced heritage interests, whereas Bagworth Heath (in the Northeastern GI Zone) is a regenerated former colliery site. As a strategic GI resource serving the main population centres of the Borough, Burbage Common and Woods has been identified in previous studies/strategies and by local stakeholders as one of the Borough's most important GI assets. Due to its multifunctional nature it will be discussed in more detail in relation to a number of themes below.

Market Bosworth Country Park

Hinckley High Street

Townscape in Hinckley, Barwell and Earl Shilton

5.13 The Urban Character Area (UCA) assessment of Hinckley[50] describes it as having a market town character in a rural farmland setting with strong heritage features.

5.14 The Hinckley Town Centre Area Action Plan (2011) noted that areas of high quality open spaces are currently interspersed with other areas of poor environmental quality. The character assessments of Barwell and Earl Shilton from the 2017 Landscape Character Study also note deficits in green features that could improve the quality of the street scene.

5.15 The Public Realm Masterplan for Hinckley (2020) gives a more detailed assessment of the public realm in the town centre – it highlights the importance of Argents Mead as an open space in the town centre and proposes schemes to better integrate it into its surroundings. However in general it describes how the town centre has become "*fragmented and frayed*" and highlights that "*there is a lack of soft landscaping and a reliance on seasonal hanging baskets which are maintenance-intensive and contribute to the out-dated character of the public realm*." In particular, greening opportunities (including green walls and other soft landscaping) are proposed at key 'gateways' to the town, such as the railway station environs...

5.16 Although the Leicestershire Landscape Sensitivity and GI study found the townscape of settlements in the 'southern gateway zone' to be of low-moderate sensitivity in general, areas/assets of particular sensitivity were identified including locally valued woodlands, the Ashby Canal and former pits/quarries.

Green Wedges

5.17 Whilst not landscape designations as such, the Borough's Green Wedges play an important role in protecting undeveloped landscapes in areas that might otherwise be subject to heavy development pressure. Among other roles, they provide a 'landscape resource' for those living in the most built up parts of the Borough. The 2017 Landscape Character Assessment highlighted the importance of the Hinckley/Burbage/Barwell/Earl Shilton Green Wedge (the 'Southern Green Wedge') in providing a setting and distinct identity for the settlements of Barwell and Earl Shilton.

Historic Assets

5.18 The Borough is relatively rich in cultural heritage assets, including industrial heritage in parts of the Borough such as Hinckley and Earl Shilton, historic rural settlements such as Market Bosworth, and the nationally important medieval site of Bosworth Battlefield.[51] Among the network of assets, Ashby Canal and Bosworth Battlefield stand out for their combination of historic importance, scale, spatial relationship and the combined opportunities that they offer for recreational and cultural experience via active travel from the main population centres. These assets are also central to the Borough's visitor economy. They are discussed in relation to various further issues and opportunities highlighted within this report. An

[50] Hinckley and Bosworth Landscape Character Assessment (2017).

[51] Hinckley & Bosworth Landscape Character Assessment (2017).

overview of the Borough's Historic Assets is shown on **Figure 5.3**.

Bosworth Battlefield

5.19 A key recent heritage-led initiative in the Borough is the Battle of Bosworth Sculpture Trail, a network of sculptures linked by a 21km trail taking in a number of the Borough's settlements. The route of the trail, and how it inter-connects with surrounding areas, is also shown on **Figure 5.3**.

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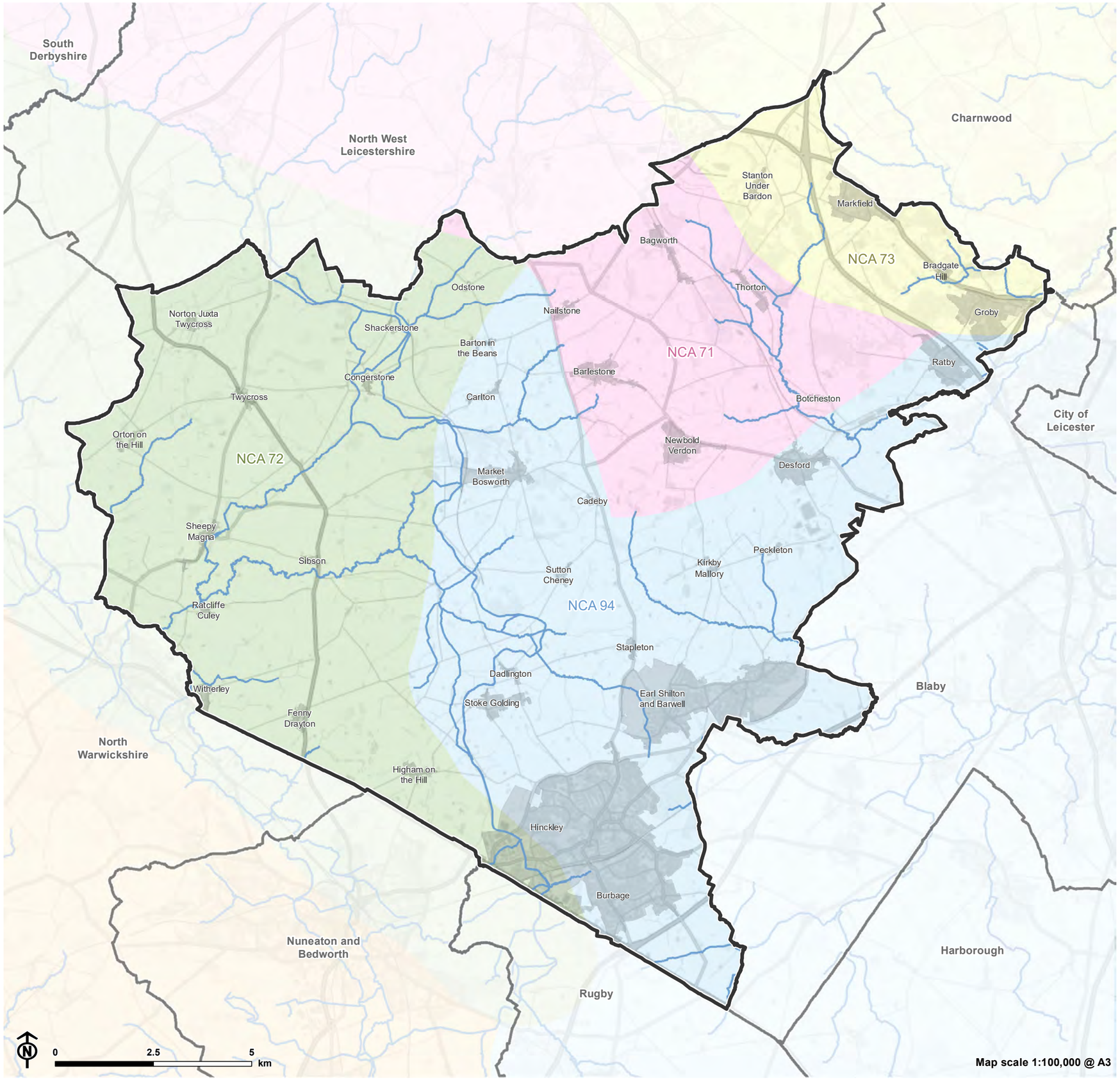
Figure 5.2: National Character Areas in Hinckley and Bosworth

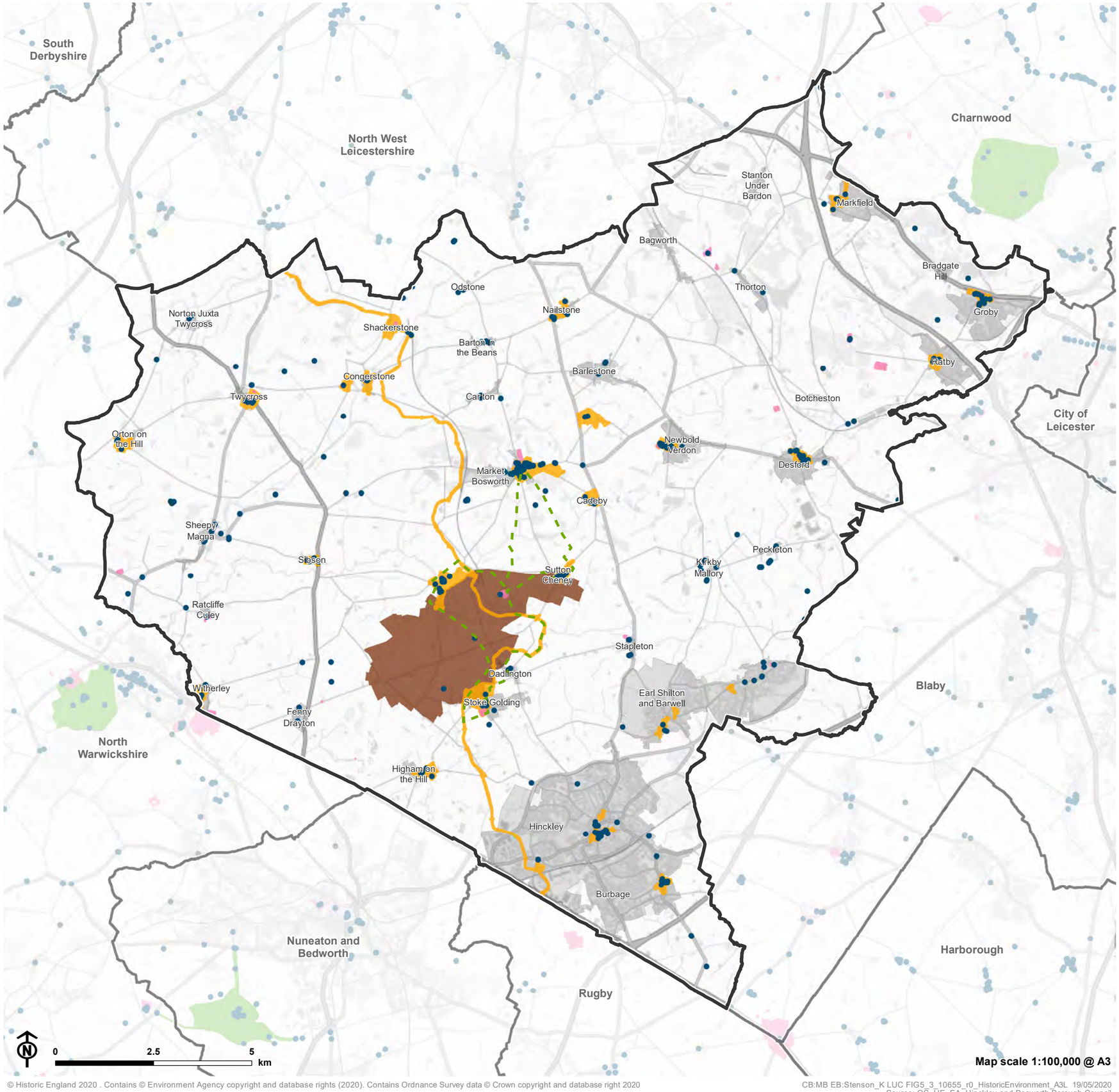


CB:MB EB:Manson D LUC FIG5_2_10655_r0_LandscapeCharacterAreas_A3L 12/03/2020
Source: OS, NE, EA, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

LUC

Figure 5.3: Historic environment assets in Hinckley and Bosworth



CB:MB EB:Stenson_K LUC FIG5_3_10655_r0_HistoricEnvironment_A3L 19/05/2020
Source: OS, HE, EA, Hinckley and Bosworth Borough Council

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Hinckley and Bosworth Green Infrastructure Strategy
Hinckley and Bosworth Borough Council

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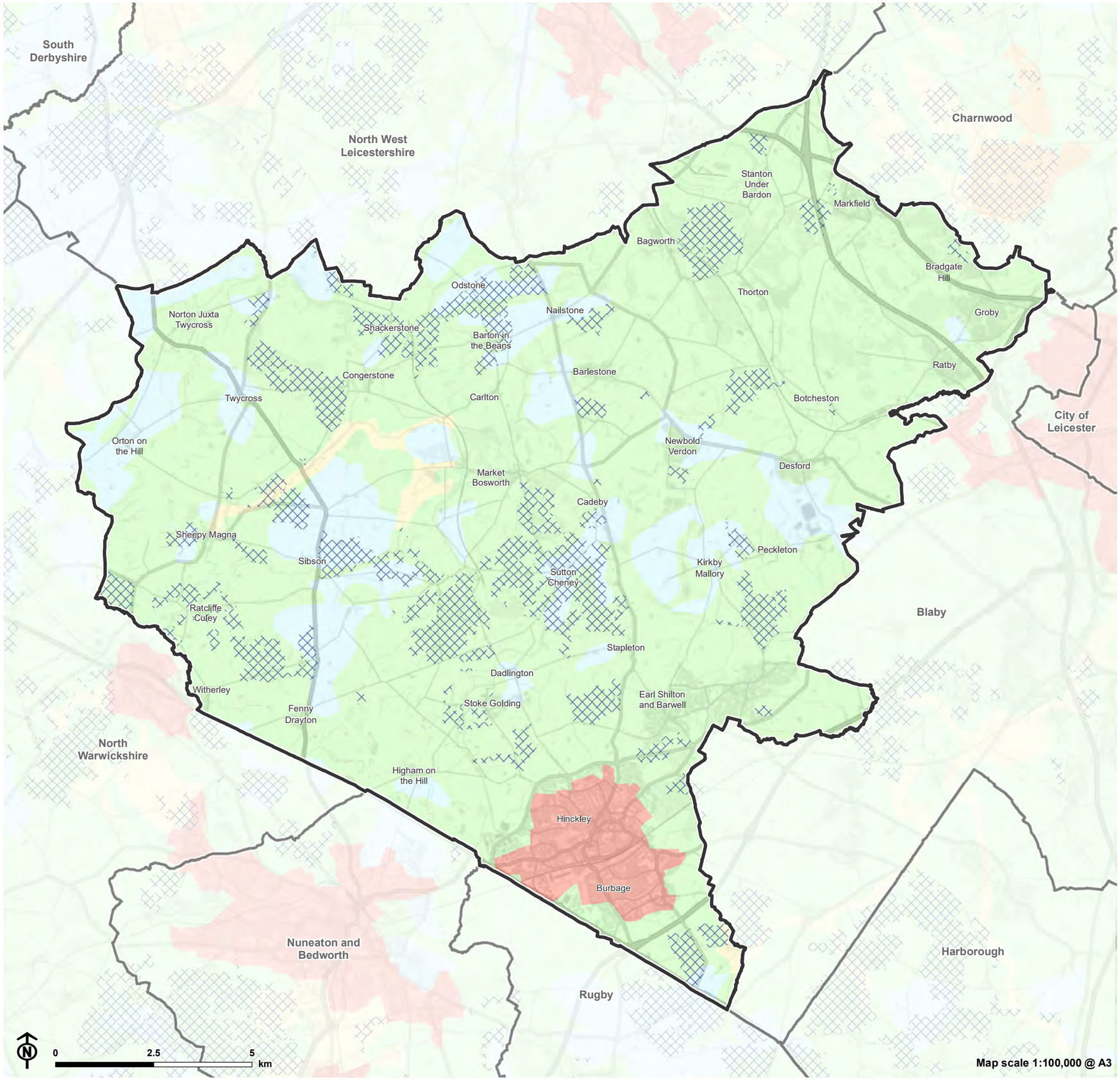
Figure 5.4: Hinckley and Bosworth's agricultural landscape



CB:MB EB:Chamberlain_K LUC FIG5_4_10655_r0_AgriculturalLandscape_A3L 12/03/2020
Source: OS, NE, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Key Issues and Opportunities

LH1: The Agricultural Landscape and Impacts of Agricultural Management

5.20 Previous studies and stakeholders consulted in preparation of this strategy identified landscape deterioration associated with the intensity of agriculture as a primary concern. In particular there are concerns over the lack of, or loss of, landscape features such as hedgerows and field trees, particularly in the Western GI zone. The more heavily managed agricultural landscapes of the Borough are also generally quite low in tree cover. These characteristics of the Borough's agricultural landscapes represent both challenges and opportunities for restoration and enhancement. The impacts of intensive management on the Borough's agricultural land is discussed further in relation to biodiversity below.

5.21 It is important to note that existing landscape assessments for the Borough have identified openness as an important landscape characteristic, and appreciation of this openness was also mentioned by consultees. Consultees expressed a desire to protect and preserve the Borough's distinctive landscape quality, particularly in parishes like Witherley. This needs to be balanced against the potential benefits of increased tree cover, and sites for planting should be in-keeping with local landscape character.

LH2: The Regenerating Industrial Landscape

5.22 The Borough's more northern former industrial landscapes are actively regenerating, via increased forest cover in particular (see 'Carbon Sequestration' theme for further detail). With respect to landscape character and sensitivity, there is no reason why increased tree cover should not continue to be promoted in this part of the Borough.

5.23 Specific GI opportunities have previously been identified (including in the 2008 GI Strategy and 6 Cs Strategy) with respect to the restoration of former minerals sites, which could potentially bring benefits in relation to landscape, biodiversity and recreational GI functions. This was also highlighted as an aspiration by consultees for this strategy. However no concrete projects have been delivered which provide significant new biodiversity and recreational assets.

5.24 In this part of the Borough, the Rothley Brook Green Wedge will continue to perform an important function in relation to future growth pressures as part of the expansion of Leicester, although its extent and boundary may require review as these growth pressures are defined in more detail.

LH3: Underperforming Urban Centres

5.25 The policy review for this strategy has indicated that GI continues to underperform as a potential contributor to the townscape value of the more built-up parts of the Borough in the Southern GI Zone. The 2017 Urban Character Assessments for Barwell and Earl Shilton noted that improvements to the streetscape would reinforce and provide focus to the town centres, with a need to soften the streetscape with trees in Earl Shilton in particular. The assessments also highlighted a need to improve the 'gateways' to the settlements, including from the west along Hinckley Road. The Hinckley Town Centre Area Action Plan (2011) noted the need to 'enhance the overall appearance and image of the town centre', including improving links between edge-of-town parks such as Clarendon Park, Hollycroft Park, Queens Park and the town centre. The Hinckley Public Realm Masterplan (2020) echoes these identified needs, focussing on enhancing the role of Argents Mead as a key green space, incorporating a more divers 'mosaic' of multi-functional greening features, including rain gardens integrated into the 'green buffer' between the footway and carriageway, and pocket parks on under-utilised land. Key opportunities in this respect relate to various 'urban greening' measures.

LH4: The Urban Fringe

5.26 The Green Wedges within the Borough will continue to be an important means of separation of the Borough's most developed areas. In both cases, there is an opportunity for the land within the Green Wedges to fulfil more functions as a landscape feature – including recreational and community uses as well as richer habitats to take account of the pressures associated with new growth.

5.27 The Borough's 2020 Phase 1 Extended Habitat Survey has echoed previous studies in highlighting the increasing recreational pressures on Burbage Common and Wood SSSI. It is expected that these pressures will further increase as the population of the Borough's main urban centres increases. This issue can potentially be addressed in a variety of ways. It could include the restriction of access to certain parts of the Common and Wood (and/or restriction of access at certain times). However, if undertaken in isolation, such measures would potentially reduce the beneficial function of this particular asset as a key recreational resource. As has previously been noted, expansion of the Country Park and/or provision of alternative resources near the main urban centre could provide an important GI opportunity for the Borough.

LH5: The Historic Landscape

5.28 This study has identified that the function of the Ashby Canal in providing access to key heritage and recreational assets - including Bosworth Battlefield and Bosworth Water

Park - could be beneficially enhanced. However, there are possible tensions between this opportunity and the heritage importance of the canal. This is considered further in relation to the theme of ‘Active Travel’ below. The Nuneaton-Shenton disused railway line has also previously been identified as a key opportunity, offering the potential to provide a link between significant heritage assets in the area, as well as serving as a valuable heritage asset in its own right, provided there are appropriate historic interpretation resources put in place.

LH6: The Borough's Blue Network

5.29 The Ashby Canal forms an important linear GI asset and, as discussed above, constitutes a central GI 'spine' for the Borough, linking key assets and opportunities. However desktop reviews highlight concerns over the quality of the water environment and the habitats the canal provides, and comments from consultees suggested that surfacing and access obstacles along the towpath currently limit recreational opportunities.

Summary of Key issues and Emerging Opportunities

5.30 Table 5.1 below summarises the issues discussed above and highlights opportunities which might address the challenges identified. These opportunities form the basis for the identification of priority interventions for strengthening the Borough's GI network in **Chapter 6**.

Table 5.1: Landscape, Townscape and Historic Environment: Summary of key issues and opportunities

Ref	Issues	Opportunities	Source
LH1: The Agricultural Landscape and Impacts of Agricultural Management			
LH1	Weakening networks of hedgerows eroding the character of the agricultural landscape.	Working with farmers/land managers to promote stewardship approaches to help restore the degraded landscape, particularly in the Western GI Zone. Wherever possible, opportunities to weave existing hedgerows into new development sites should be sought.	Consultation Policy
LH2: The Regenerating Industrial Landscape			
LH2-a	Outside the National Forest territory, woodland cover is sparse across the District, particularly in the Western GI zone.	Opportunities to support the National Forest in expanding woodland cover.	Consultation Policy GIS
LH2-b		School-based woodland creation opportunities (whilst respecting landscape character).	
LH2-c		Tree planting on land owned by utility companies (whilst respecting landscape character).	
LH2-d		Opportunities to restore former pits as wetlands/recreation destinations.	
LH3: Underperforming Urban Centres			
LH3	Weak coverage of GI assets within the Hinckley, Burbage and Barwell/Earl Shilton built-up area, weakening the townscape value.	Multi-actor 'urban greening' project/s in the Southern GI Zone could visually enhance the townscape, boost both resilience and amenity, provide stronger connectivity and more walkable urban environments. The emerging Hinckley Public Realm Masterplan provides a delivery vehicle for this within Hinckley itself.	Policy
LH4: The Urban Fringe			
LH4-a	The Hinckley/Barwell/Earl Shilton/Burbage Green Wedge' could fulfil more GI functions, in order to support the needs of population growth in the urban area.	Enhancement of the 'Southern Green Wedge', allowing it to fulfil more functions – recreational, community, biodiversity.	Mapping
LH4-b	Increasing recreational pressure on Burbage Common and Wood.	Expansion of the Common and Wood/provision of alternative recreational assets elsewhere.	Policy
LH4-c	Weak 'gateway' and access to the countryside and Barwell/Earl Shilton settlements.	Enhancement of the River Tweed corridor, in support of features proposed in the masterplan for the Barwell SUE.	Policy Consultation
LH4-d	Continued weak western 'gateway' to Hinckley and integration with the Ashby Canal as a key multifunctional GI asset.	Opportunity to deliver enhancements alongside the allocated 850-dwelling 'West of Hinckley' mixed use development on the edge of Hinckley, as well as other development sites coming forward to the west of Hinckley.[52] These can build on the presence of Hinckley Marina, to enhance the	Policy Mapping

[52] Mixed use allocation HIN02 – Land west of Hinckley, Normandy Way (adopted Core Strategy).

Ref	Issues	Opportunities	Source
		'gateway to the countryside' where the Ashby Canal meets the urban area. This would boost the canal's role as a heritage link to the wider countryside and heritage assets to the north.	
LH5: The Historic Landscape			
LH5-a	Few opportunities for access to heritage assets by active travel.	Improved access for walking/cycling along the Ashby Canal.	Consultation Mapping
LH5-b		Regeneration of Nuneaton-Shenton disused railway line as active travel corridor.	
LH6: The Borough's Blue Network			
LH6	Ashby Canal is a key landscape asset and feature, but currently underperforming.	Community-enabled enhancements to the Ashby Canal as green corridor, both by improving accessibility for recreational users and boosting its habitat value.	Consultation

Theme 2: Biodiversity

Introduction

5.31 The 2019 'State of Nature' report indicates that biodiversity across the UK is continuing its decline, with no let-up in the net loss of nature in the UK and a 13% average decline in species abundance since 1970.[53] This ongoing biodiversity crisis calls for dramatic changes in how we manage land use across the country.

5.32 Designated nature conservation sites and identified 'priority habitats' provide a network of assets noted for the value of their contribution to biodiversity, and must be protected and enhanced as 'nodes' in the GI network'. However the biodiversity picture in Hinckley and Bosworth suggests that protecting and creating further non-designated sites will also be crucial in repairing habitat connectivity across the Borough.

Overview of the Borough's Assets

State of the Habitat Network

5.33 The Borough's 2020 Extended Phase 1 Habitat Survey notes that habitats of conservation value are generally more abundant in the east and north, within deciduous and ancient woodlands, while intensively farmed land across much of the centre and west offers relatively limited area and diversity of such habitats.

5.34 Key habitats across the Borough range from individual trees and hedgerows, to woodlands, grasslands, and the habitats within water bodies – including scattered field ponds and canals. Each plays a different function in supporting wildlife, however the network of habitats in its current state is characterised by its fragmentation. The following eight habitat types were identified with Hinckley & Bosworth as 'priority habitats' by the Leicester, Leicestershire and Rutland Biodiversity Action Plan (BAP) in 2016:

- coastal and floodplain grazing marsh;
- deciduous woodland;
- good quality semi-improved grassland;
- lowland dry acid grassland;
- lowland fens;
- lowland heathland;
- lowland meadows; and,
- traditional orchard.

5.35 Consultation with local stakeholders suggested that species-rich grasslands are some of the most threatened areas. While woodland cover is recovering in localised parts of the Borough thanks to initiatives such as the National Forest, grassland was believed to be in decline across wide parts of the Borough. The regional BAP also notes a declining trend in the quality of roadside verges and their biodiversity value.

5.36 Charnwood Forest and the adjoining National Forest were identified by the Leicester, Leicestershire and Rutland Biodiversity Action Plan (BAP) 2016-2026 as one of the more successful and stable biodiversity assets in the wider region. However the study also notes that habitat at Charnwood Forest had diminished significantly over the last 60 years, and that the Wildlife Trust was struggling to buy land in the area recently due to high prices, highlighting a need to continue to forge relationships with landowners.

Priority Species

5.37 These habitats within the Borough support a range of protected species of regional and national importance, with several designated as BAP priority species.[54] They are further detailed in the 2009 Biodiversity Assessment, and include great crested newts (which rely on field ponds, a threatened habitat type), various species of bats (which are vulnerable to changes in woodland), water voles (recorded on the Ashby Canal and at Burbage Common), reptiles (common in railway siding and allotments), and a number of bird species. Significant bird areas within the Borough include Groby Pool, Burbage Common & Woods, Bosworth Water Park, and Thornton Reservoir. The 2014 and 2020 Extended Phase 1 Habitat Surveys provide further details on where these species are concentrated, and recommendations for protecting them at specific sites. Local stakeholders noted the local decline of the swift population, in line with national trends, which were perceived to be at risk from development within the Borough.

Internationally and Nationally Designated Sites

5.38 There are ten Sites of Special Scientific Interest (SSSIs) in HBBC, as shown in **Figure 5.5.** These are generally small-medium sized sites concentrated on the eastern boundaries (around the Charnwood Forest), in Burbage and around the Ashby Canal, which itself constitutes a linear SSSI.

5.39 Despite the relatively sparse coverage of designated sites, there are several SSSIs clustered just beyond the boundaries of the Borough. These include:

[53] State of Nature Partnership (2019), *State of Nature 2019* [Online] Available at: https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf

[54] HBBC (2009) Biodiversity Assessment

- Bradgate Park and Cropston Reservoir SSSI (relatively large and less than 1km from the eastern boundary);
- Sheet Hedges Wood SSSI (directly on the eastern boundary); and,
- Newton Burgoland SSSI (on the northern boundary outside Shackerstone).

5.40 The River Mease, part of which flows through the northern part of the Borough, is also a designated SSSI and SAC given its internationally important populations of white-clawed crayfish, spined loach and bullhead fish, and is a priority location for interventions under the Catchment Sensitive Farming Project.

Local Nature Reserves and Local Wildlife Sites

5.41 There are two relatively small-scale Local Nature Reserves (LNR) within the Borough, as designated by the local authority (see **Figure 5.5**).

- Burbage Common and Woods - on the south eastern boundary, which is an area of unimproved acid grassland and heath, scrub and woodland, and;
- Billa Barra Hill - near the northern boundary, which is an area of acidic grassland, woodland, mosses, lichens and former quarry areas.

5.42 In addition there are more than 45 existing Local Wildlife Sites (LWS) in the Borough, also shown on **Figure 5.5**. They are relatively abundant in the north east of the Borough in particular, and notably include various woodland areas, quarries and Thornton Reservoir. However LWSs are sparsely distributed elsewhere, with consultees also noting an absence in Witherley Parish on the Borough's western boundary. With the exception of Burbage Common and Woods, there is also a notable absence also in the built up areas around Hinckley in the South.

5.43 This strategy recognises that looking only at statutory designated sites does not give a comprehensive picture of the overall biodiversity value of the area. This was echoed by the 2020 Extended Phase 1 Habitats survey of development sites, which notes the importance of these sites in supporting the network of higher level, designated sites in the local region.

5.44 A notable characteristic of the Borough is that, in addition to the established LWSs, there is a much wider assemblage of 'historic or potential' LWSs which, if 'live', would constitute a much more substantial and interconnected wildlife site network. The emerging Ecological Network and Permeability Mapping being carried out for Leicestershire will be valuable in further indicating where to prioritise connectivity between these areas of habitat.

Regionally Important Geological Sites

5.45 Given the historic legacy of mining within the Borough, there are a number of Regionally Important Geological Sites (RIGS) within the Borough, which are distributed in two clusters – one central site at Cadeby Gravel Pit and a cluster of sites in the north east of the Borough, the largest of which are the Cliffe Hill Quarry and the New Cliffe Hill Quarry. The Cliffe Hill Quarry, on the edge of Charnwood Forest, has played a key role in the surrounding community since it began operations in the 1870s, however it is now private land and not accessible to the public.

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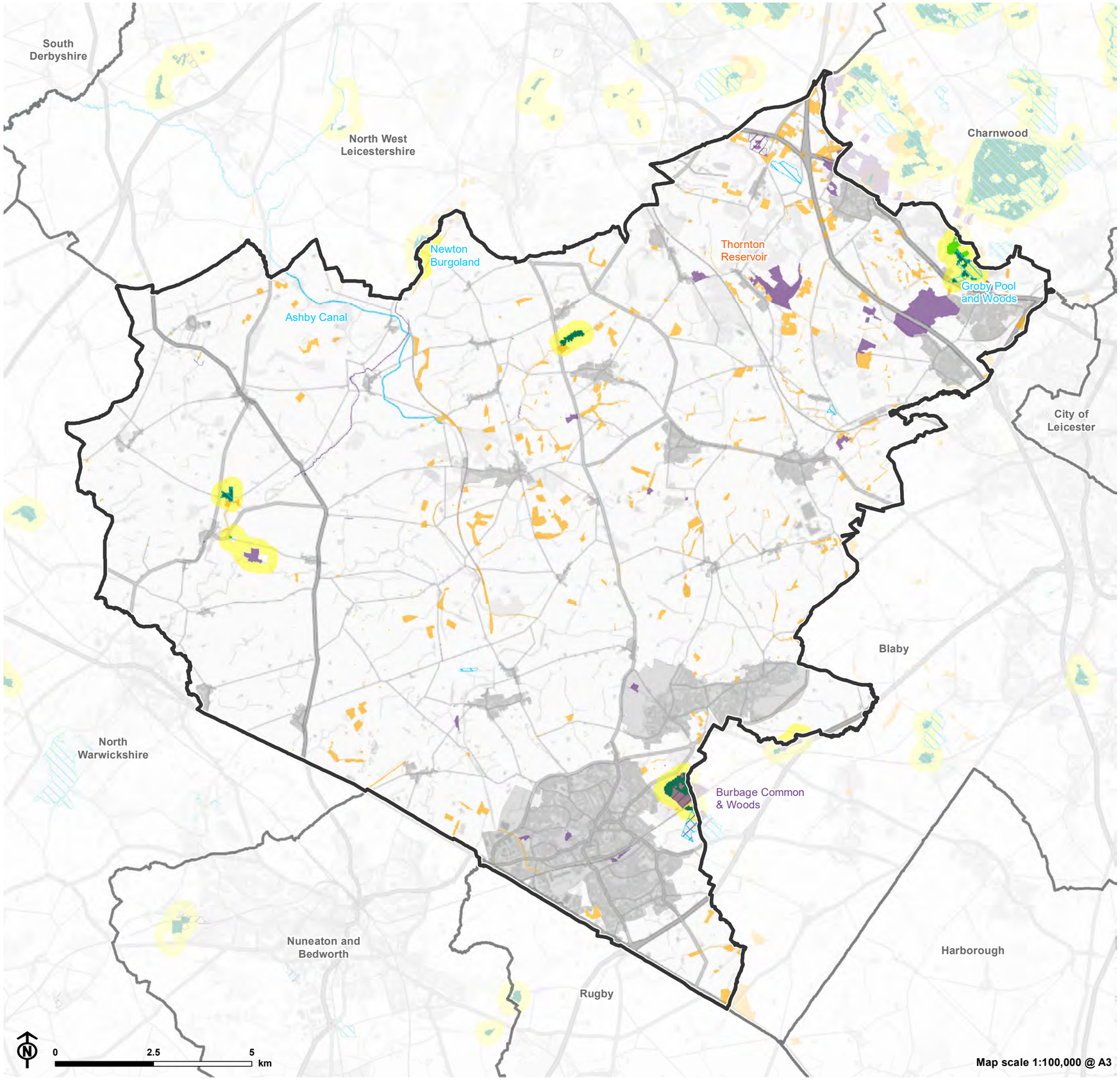
Figure 5.5: Biodiversity assets in Hinckley and Bosworth



- Hinckley and Bosworth
- Neighbouring authority
- Key settlement
- Sites of Special Scientific Interest
- Local Wildlife Site
- Historic or potential Local Wildlife Site
- Local Nature Reserve

Habitat networks

- Primary Habitat
- Associated Habitats
- Network enhacement zones

Map scale 1:100,000 @ A3

CB:CB EB:Manson D LUC FIG5_5_10655_r0_BiodiversityAssets_A3L 12/03/2020
Source: OS, NE, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Key Issues and Opportunities

BD1: Condition of nationally and locally important assets

5.46 The condition of the Borough's designated SSSIs is mixed, with particular concerns over the Ashby Canal SSSI and Burbage Wood and Aston Firs SSSI. As of 2019, of the seven sites within the Borough, three were assessed as being in 'favourable' condition and a further two (Botcheston Bog SSSI and Groby Pool and Woods SSSI) as partly 'favourable'. The Ashby Canal SSSI, designated for its importance for aquatic plants and insects – including dragonflies and crayfish - was found to be in 'unfavourable no change' condition and Burbage Wood and Aston Firs SSSI was found to be 'unfavourable recovering'.[55]

5.47 It has been identified that a combination of agriculture, public access and disturbance have had an impact on the condition of the Ashby Canal. No causal influences were identified in relation to Burbage Wood and Aston Firs SSSI. However the 2020 Extended Phase 1 habitat survey indicates that recreational intensity has a key impact on both the woodland SSSI and Burbage Common, with these pressures likely to intensify over the Local Plan period.

5.48 Local stakeholders highlighted that the condition of many or all of the historic/potential Local Wildlife Sites (LWSs), and indeed many of the 'established' LWSs, is currently unknown. This has led to concerns over the ability to protect biodiversity assets, in the absence of adequate baseline data.

5.49 Local wildlife organisations consulted advocated an approach of 'network mapping', as advocated by the emerging Environment Bill, in order to provide a more robust evidence base for existing connections and gaps in the network. The resultant 'network maps' could be used to influence planning decisions, alongside transport and other mapping. Emerging Ecological Network and Permeability Mapping being carried out at the County level - by a range of partners including the County Council, the Wildlife Trust and the National Forest – provides a valuable opportunity for strengthening this evidence base on connectivity opportunities. It is likely to form the basis for Nature Recovery Network mapping and will have an important role in guiding land use, resources and BNG off setting as part of future development in the Borough.

> *"How can you protect something if you don't know what you have got?"*
>
> Consultee on GI Strategy

5.50 Comments also drew attention to the fact that the Borough's non-designated sites, including parks, recreation grounds and cemeteries, are not comprehensively managed for biodiversity in a consistent manner, which is likely to have negative impacts.

BD2: Intensive agricultural management and the role of agri-environment schemes

5.51 Despite being a predominantly rural Borough, both the policy literature and comments from stakeholders have highlighted the relatively limited habitat value and biodiversity of large areas of land within the Borough. The Leicester, Leicestershire and Rutland Biodiversity Action Plan (BAP), 2016-2026 notes that the Leicestershire region as a whole has the lowest density of designated nature conservation sites in the UK. Furthermore, designated sites are not evenly distributed through the region and indeed the Borough, but are instead clustered in certain areas, notably around Charnwood Forest.

5.52 The more intensively farmed parts of the landscape are particularly notable for their limited and possibly declining biodiversity value. This is leading to an ongoing decline in populations of a number of species within the Borough, in line with national trends. In particular, as highlighted in the 2020 Phase 1 Habitat Survey, Section 41 priority grasslands[56] collectively account for only 90.58 ha across the Borough, which is attributed in part to the intensive nature of agriculture in the Borough. Intervention is required to protect, connect and regenerate habitats to reverse this decline. This is a particular issue in the Borough's Western GI zone, where agriculture dominates.

5.53 The degradation and removal of hedgerows associated with agricultural management practices - with removal, frequent trimming in more commercially farmed areas, and the loss of hedgerow trees - was highlighted as an area of concern for biodiversity both by consultees and within existing landscape character assessments.[57] The Borough's Biodiversity Assessment highlighted a need for the creation of Green Corridors and 'stepping stone' habitats in the Borough through hedgerow reinstatement. Similarly, threats to field ponds have also been highlighted as limiting the connectivity of habitats. Intensive management also threatens 'pathway' effects - for example, the relatively narrow 'buffer' to parts of the Ashby Canal corridor can impact on water quality via run-off from intensively managed agricultural land. This echoes calls within the 2014 Extended Phase 1 Habitat Survey to

[55] Natural England (n.d.), *Designated Site Details* [Online] Available at: https://designatedsites.naturalengland.org.uk/
[56] S41 Priority Habitats are considered of principle importance for conserving biodiversity, under the NERC Act 2006.
[57] Natural England National Character Area Profile:72 Mease/Sence Lowlands (2015) / Leicester and Leicestershire Landscape Character Assessment (2017)

create buffers of 8-10m, or wider, alongside the Borough's watercourses.

5.54 Agricultural management therefore presents a key challenge in relation to biodiversity within the Borough. However, there is evidence that more sustainable farming practices can support a 'win win' scenario, whereby biodiversity and other GI functions increase whilst supporting greater productivity (e.g. via increased pollination and improved soil quality).

5.55 Local stakeholders noted the opportunity to diversify the rural economy away from modern intensive farming to organic/sustainable local food provision and tourism. Stakeholders highlighted the need for more sensitive land management practices with the cooperation of the local farming community, aiming to create a "mosaic of habitats". Representatives of local wildlife organisations described how:

> *"There is a traditional feeling that farmers are there to produce food, but I see them as custodians of the countryside"*
>
> Consultee on GI Strategy

5.56 Re-framing agriculture in this way could focus on providing for pollinators and catchment-sensitive farming (CSF)[58], for example. However, stakeholders also highlighted that the paperwork-intensive nature of available schemes was an obstacle for local farmers to participate in these efforts, where there is a need for greater support. The planning system itself has relatively limited control over agricultural land and its management. Other mechanisms are therefore required to support management of agricultural land for biodiversity, of which stewardship schemes are an important example.

5.57 The current system for incentivising more sustainable agricultural practices consists of the Environmental Stewardship (ES) scheme and the Countryside Stewardship (CSS) scheme, which provides funding that acts as a supplement to the income of British farmers to look after and improve the environment. **Figure 5.4** highlights those parts of the Borough where these schemes have been taken up, and **Appendix B** provides further detail and data on the current uptake of these schemes. However, following a recognition that current arrangements are insufficient to fulfil the ambitions of the government's 25 Year Environment Plan, agricultural policy is currently in flux. The Agriculture Bill, currently before parliament, sets out the legislative context for agriculture following the UK's exit from the European Union in January 2020, based on a principle of 'public money for public goods'. It requires a step-change in land management that is likely to dramatically change the incentives available to farmers. All agreements entered into prior to the UK's departure from the European Union will be honoured for the term of that agreement (even if they expire after January 2020).

BD3: Habitat connectivity

5.58 The Lawton Review, published in 2010,[59] called for 'bigger, better, and more joined up habitats'. Habitat connectivity was also highlighted by a number of consultees as a key challenge for biodiversity in Hinckley and Bosworth. Particularly faced with the challenge of the climate crisis, it is important that habitats do not become isolated as species find themselves less able to respond to natural fluctuations and can face heightened risk of decline and extinction.

5.59 Waterways such as the Ashby Canal and River Sence provide a degree of connectivity between the Borough's locally designated sites, however reports show that their condition is sub-optimal. The 2014 Extended Phase 1 Habitat Survey identified stretches of land adjacent to Ashby Canal as having the potential for further protection via local designation, and the 2020 Extended Phase 1 Habitat Survey highlighted the importance of watercourse corridors as part of a strategic, Borough-wide prioritisation of the watercourse network.

5.60 However in general, existing assessments have highlighted notable fragmentation of both designated and non-designated biodiversity assets, largely due to the sizeable agricultural areas of the Borough which have limited value for wildlife, with the LWSs generally forming 'scattered blocks'. Important linear features which could create strong connectivity include: networks of hedgerows and ditches; enhanced habitats along the River Sence and Ashby canal; roadside verges; and (cumulatively) private gardens.

5.61 In addition, the number of major roads bisecting the GI and habitat network may reduce connectivity between sites. In particular, the M1 in the east cuts through the National Forest and the LWS Martinshaw Woods. The A447 in the centre of the Borough, and the A444 in the west are the other major roads likely to contribute to habitat fragmentation.

5.62 It was noted during consultation that the disappearance of field ponds constituted another threat to habitat connectivity. Ponds (traditionally much more widespread within agricultural landscapes than they are presently) provide habitat 'stepping stones', biodiversity hotspots and habitats for rare species. In addition, they provide various ecosystem services including water management. The introduction of

[58] Catchment Sensitive Farming (CSF) is a partnership between Defra, the Environment Agency and Natural England, that works with farmers and a range of other partners to improve water and air quality in high priority areas.

[59] Lawton (2010), *Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network.*

catchment-sensitive farming can help to protect ponds from pollution by agricultural chemicals.

5.63 In more urban areas lacking access to sites designated for nature conservation, private gardens can act as important features of the green network in order to provide 'stepping stone' habitats for wildlife. However the increased paving over of residential gardens, in line with national trends, was highlighted by consultees. Consultees also noted the use of fertilisers and reduced grass varieties as compromising the wildlife potential of gardens, particularly their role in the movement of species. Stakeholders suggested that this could be addressed through the design of new development, with more ambitious requirements for garden sizes, and delivery of more diverse planting schemes.

5.64 Figure 5.5 highlights those areas identified by Natural England as priorities for habitat network enhancement[60], which focus on buffers around sites including:

- Sheepy Fields and Manor Farm Meadows (in the Western GI Zone);
- Burbage Common (in the South Eastern GI Zone);
- Groby Pool and land between Barleston and Nailston (in the North Eastern GI Zone); and,
- Newton Burgoland Marshes, on the Borough's northern border.

5.65 Emerging work on an Ecological Network and Permeability Mapping across Leicestershire will provide a better understanding of which opportunities to prioritise to strengthen network connections. It will identify the 'permeability' of various habitats ie. how easily species can move across them, and will give an indication of both the extent and distribution of the current habitat resource, as well as the extent of habitats which might be important to conserve and enhance.

BD4: Recreational pressure on vulnerable habitats

5.66 The Biodiversity Action Plan and the Borough's 2020 Extended Phase 1 Habitat Survey have both raised concerns about recreational pressure at a number of key green space sites with sensitive habitats, given the high number of people visiting a limited number of sites. Burbage Common and Wood SSSI has been highlighted in particular, with a view to upcoming development allocated for the surrounding neighbourhoods. It was recommended that alternative multi-functional green spaces should be provided in order to relieve this pressure.

5.67 Provision of alternative or extended assets, potentially combined with selective restriction of access, are likely to be the most effective route in addressing this issue.

BD5: Management of open spaces and highway verges for biodiversity

5.68 The biodiversity value of green spaces such as parks can be enhanced via biodiversity-led management practices. This may take the form of:

- planting native species and vegetation with a more complex structure, in preference to an 'ornamental' approach which limits ecological functionality;
- introducing wildflower meadows;
- managing the presence of invasive species;
- promoting links to other open spaces; and,
- separating sensitive wildlife areas from those with the greatest activity.[61]

5.69 Consultation with the Council's Green Spaces team found that there are Site Management Plans in place for all of the Borough's major sites, and that most major recreational grounds have uncut park margins on the boundaries and along the watercourse, with several containing meadow areas. However, the consultation also highlighted the challenge of the scarcity of resources, and aspirations to manage Council sites in more sustainable ways, including reducing the usage of herbicides.

5.70 Representatives from the County Council and the local Wildlife Trust expressed concerns that car growth is causing degradation of highway verges, which are not as environmentally sympathetic as they could be. These verges, when managed sensitively, can serve as important wildlife corridors. While there are health and safety considerations to take into account (relating to sight lines and visibility on the road network), consultees endorsed a balanced response to this issue. Options to improve management include limited and carefully timed cutting and the removal of cuttings in order to reduce nutrient loading and allow for wildflower growth.[62]

[60] Natural England's 'network enhancement zones' use Priority Habitat data consistently across the country to identify areas where these habitats could be enhanced and expanded to improve resilience.
[61] CABE (2010). Making contracts work for wildlife: how to encourage biodiversity in urban parks. [Online]. Available at: http://www.fingalbiodiversity.ie/resources/biodiversity_guidelines/Encourage%20Park%20Biodiversity.pdf
[62] CABE (2010). Making contracts work for wildlife: how to encourage biodiversity in urban parks. [Online]. Available at: http://www.fingalbiodiversity.ie/resources/biodiversity_guidelines/Encourage%20Park%20Biodiversity.pdf

BD6: Restoration of former mineral sites

5.71 The Hinckley & Bosworth Biodiversity Assessment (2009) highlighted quarry and gravel pit restoration as a major opportunity for supporting biodiversity in the Borough. This is backed up by the Leicestershire Minerals and Waste Local Plan, which includes within its Strategic Objectives the need to ensure that mineral sites are restored, managed and maintained to provide a net gain in biodiversity and opportunities for recreational, economic and community enhancement (Policy DM12).[63] Local stakeholders also referred to the opportunity to convert these sites into important wetland habitats, which could together strengthen the Borough's habitat network as well as fulfilling recreational functions. In particular, the 'Big Pit' on the edge of Hinckley was highlighted, with some local opposition to the site being filled in rather than used to restore habitat connectivity.

5.72 Redevelopment of extraction sites to multifunctional GI assets (in particular three in the Borough's North Eastern GI zone) was set out as an objective of both the 6Cs GI Strategy and the Borough's 2008 GI Strategy. This is echoed in the 2020 Extended Phase 1 Habitat Survey, which sees the presence of former quarries as an opportunity to boost the coverage of wetland habitat within the Borough, which is currently the least represented habitat type (26.99 ha).

[63] Leicestershire County Council (2019), Leicestershire Minerals and Waste Local Plan (Up to 2031).

Summary of Key Issues and Emerging Opportunities

5.73 Table 5.2 below summarises the issues discussed above and highlights opportunities which might address the challenges identified. These opportunities form the basis for the identification of priority interventions for strengthening the Borough's GI network in **Chapter 6**.

Table 5.2: Biodiversity: Summary of key issues and opportunities

Ref	Issues	Opportunities	Source
BD1: Condition of nationally and locally important assets			
BD1	Poor condition of SSSIs and LWSs and insufficient data on their current status.	Improved surveying and data management on biodiversity assets and support for Ecological Network and Permeability Mapping.	Mapping Consultation Policy
BD2: Intensive agricultural management and the role of agri-environment schemes			
BD2	Uncertainty over future of agri-environment schemes and obstacles in uptake among farmers.	Program to support engagement of farmers with less intensive agricultural practices - helping them act as 'stewards of the countryside' and balance environmental ambitions with food production, with a particular focus on the loss of species-rich grassland and boosting tree cover.	Policy Mapping Consultation
BD3: Habitat Connectivity			
BD3-a	'Scattered' habitats that have been fragmented by agricultural development, including the loss/deterioration of hedgerows and ponds – leading to a picture of 'islands of biodiversity'. Highway verges underperforming as potential habitats. Paving over of private gardens creating fragmentation of habitats and threatening species resilience.	Hedgerow reinstatement (using native species) to 'fill gaps' in fragmented habitat network.	Data mapping Consultation Policy Consultation Consultation
BD3-b		Planting of more diverse species of trees in woodland areas.	
BD3-c		Multi-actor project to enhance the Ashby Canal corridor, engaging local communities in its stewardship.	
BD3-d		'Buffering' of key biodiversity sites, as identified by network connectivity mapping.	
BD3-e		Enhancing the River Sence Corridor to promote a richer habitat mosaic in the Western GI Zone.	
BD3-f		Managing highway verges more sympathetically for biodiversity, engaging with the County Council and Highways England.	
BD3-g		Campaign to promote more 'wildlife-friendly' gardens.	
BD3-h		Using emerging Ecological Network and Permeability Mapping as the reference point for the development of new sites, for biodiversity enhancement within those sites and for BNG off-setting, to ensure that connections between valuable habitats are protected and linked to cross-boundary habitats on a County level.	
BD4: Recreational pressure on vulnerable habitats			
BD4	Recreational pressure threatening key vulnerable habitats, notably Burbage Common and Wood.	Creation of alternative multi-functional green spaces to relieve recreational pressure.	Policy Consultation

Ref	Issues	Opportunities	Source
BD5: Management of open spaces and highway verges for biodiversity			
BD5	Borough-wide decline in biodiversity and fragmentation of habitats.	Implementation of more sympathetic program of management for biodiversity at public green spaces.	Policy Consultation
BD6: Restoration of former mineral sites			
BD6	Scarcity of biodiversity-rich assets across the Borough.	Restoration of former pits as wetland/other habitats and recreational sites.	Policy Consultation

Theme 3: Active Travel

Introduction

5.74 Active travel opportunities play a key role in both improving health and wellbeing and reducing the emissions associated with car use. However the physical environment can often be challenging for this form of travelling. Active travel may be used both practical 'A to B' journeys (to and from employment or educational or health facilities, for example) or for recreational functions. Although often making use of 'grey' infrastructure (such as cycle lanes) rather than green infrastructure, GI is an important contributor to the attractiveness, healthiness and amenity value of active travel as a modal choice. The need for active travel opportunities is arguably at greatest in areas where health levels are poor.

Key Assets

Recreational Walking Routes

5.75 As a Borough, Hinckley and Bosworth is relatively well provided for by public rights of way (PROW), as shown on **Figure 5.6**. At a county level, the PROW network is made up of footpaths (80%), public bridleways (17%), byways open to all traffic (2%) and restricted byways (1%).[64] The Council's 'Active Together' team makes available a number of resources to support local residents in accessing and making the most of local walking opportunities, including maps to download and volunteer-led walking groups.[65]

5.76 The Ivanhoe Way and Leicestershire Round are established long distance walking routes. In addition, the 75-mile National Forest Way is a long-distance walking trail divided into 12 stages. Stages 2 and 3 run through the north east of the Borough, which links recreational sites including Thornton Reservoir. It is promoted through leaflets, online information, signage and way markers. Together these routes play an important role in encouraging people to be active for leisure and facilitating access to open spaces discussed above.

5.77 As has been consistently noted in past policy and strategy, the Ashby Canal is a particularly important recreational route, linking key settlements and various recreational, cultural and heritage assets.

Stile and PROW in Hinckley & Bosworth

Cycle Network and Infrastructure

5.78 Two branches of the National Cycle Network (Route 52 and Route 63) bisect the Borough north-south, connecting a number of settlements, as shown in **Figure 5.6**. However, it was highlighted by local stakeholders that the growth in rural traffic in the Borough has caused challenges for those cycling and using other methods of active transport locally. It was also noted that there are limited off-road cycle routes in the Borough, most of which consist of small loops around existing green assets (Bagworth Heath Country Park or Thornton Reservoir) or neighbouring villages (Ratby-Thornton, Ratby-Glenfield, or Ibstock-Battram), rather than longer distance routes connecting destinations.

5.79 In addition to these national routes**, Figure 5.6** shows the local cycle networks within the Borough. These are concentrated around the built up area of Hinckley and also provide links to Barwell. However, the linkages within and between the built up areas of Barwell and Earl Shilton are sparse and fragmented and cycling routes are more sparse in the rural west of the Borough. Importantly, while these are mapped as potential routes, these generally do not provide protected cycle lanes, which can discourage a modal shift for short everyday trips.

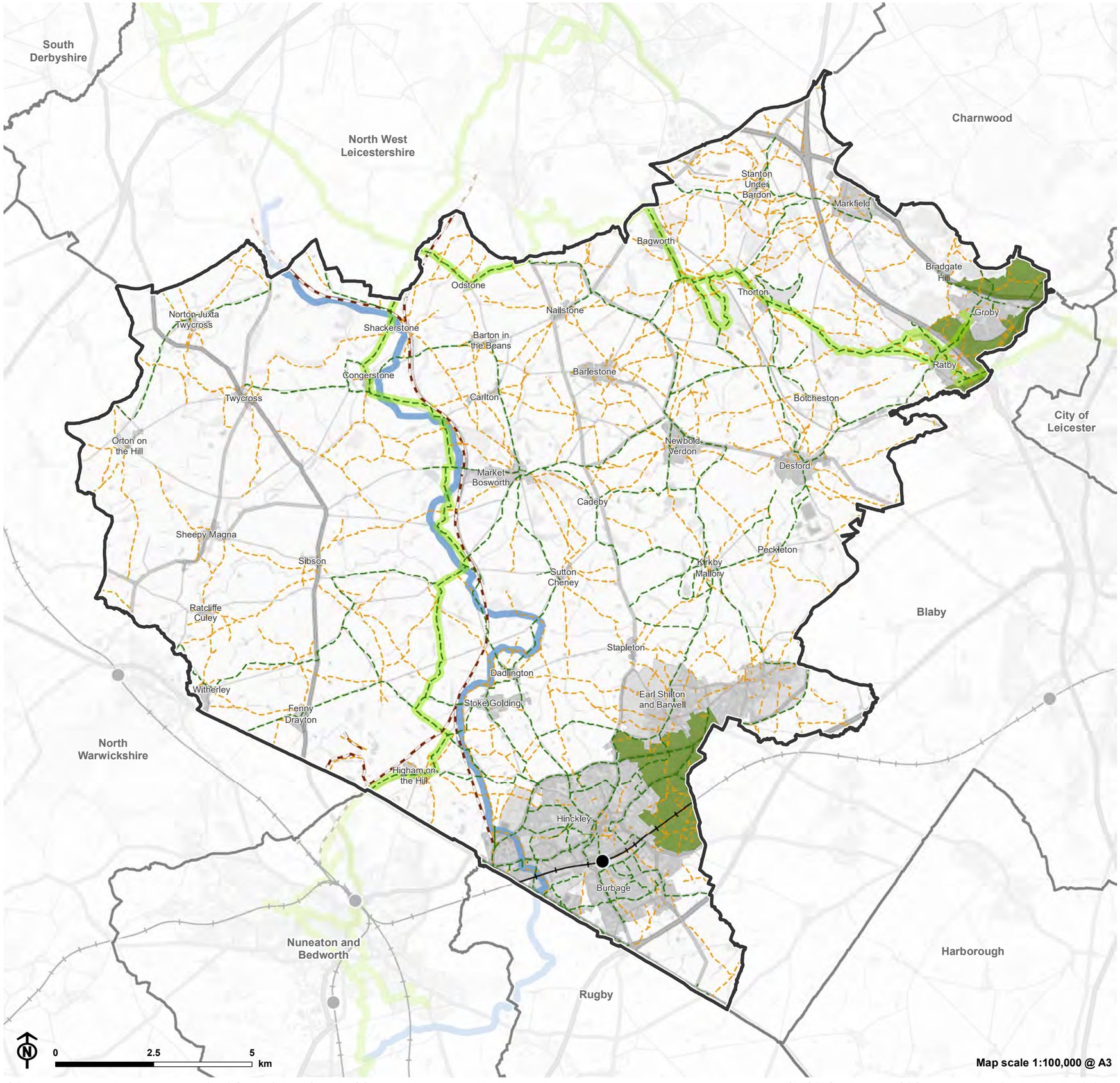
5.80 The 2016 Open Space and Recreation Study for the Borough highlighted the need to address current gaps in the network of 'green corridors' - including through the Green Wedges - given that they form an important means of access between settlements and should be appropriately promoted.

[64] Leicestershire Rights of Way Improvement Strategy 2011-2016

[65] https://www.hinckley-bosworth.gov.uk/info/200102/walking/287/more_about_walking

LUC

Figure 5.6: Active travel network in Hinckley and Bosworth



Hinckley and Bosworth
Neighbouring authority
Key settlement
Railway station
Railway
Disused railway line
Ashby Canal
Green Wedge
Public Right of Way
Local cycle route
National cycle network

CB:KC EB:Chamberlain_K LUC FIG5_6_10655_r0_ActiveTravelNetwork_A3L 10/03/2020
Source: OS, EA, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Key Issues and Opportunities

AT1: Coherence of the walking/cycling network in and around Hinckley

5.81 As noted in the existing Core Strategy, the rural nature of the Borough and associated population dispersion reduces opportunities to carry out key journeys on foot. As a result, the Borough is significantly car dependent, as described in **Chapter 4**. However, the Borough's 2019 Air Quality Report found that in the wider Hinckley area (including Burbage and Barwell), 54% of journeys to work were less than 3 miles, suggesting the potential for a shift to more sustainable transport modes for short trips, including walking, if attractive and accessible routes and greenways were provided and linked strategically together.[66]

5.82 It is considered likely that the relatively low levels of cycling within the Borough are influenced at least in part by the lack of a coherent cycle network which provides direct and prioritised cycle links between key destinations. Enhancing the 'grey' network in these respects would fall beyond the scope of the present strategy. However, the 'greening' of key routes and boosting their GI value is likely to make these options more attractive to local residents. Central to this will be a focus on 'greenways' – linear open spaces such as canals, disused railway lines and routes through parks, which are of great value for active travel and recreational use. Notably, an analysis of key routes indicates that existing stretches of greenway within Hinckley are fragmented and are not strategically linked to form a coherent whole.

5.83 This Strategy suggests that key opportunities exist for enabling short journeys by active travel in the following key areas:

- routes to and from Hinckley railway station, as proposed in the Hinkley Public Realm Masterplan (2020);
- routes between residential areas and local schools; and,
- routes through the Hinckley/Barwell/Earl Shilton/Burbage Green Wedge.

5.84 The Borough's rail network does not provide significant opportunities for facilitating journeys around the Borough involving a mixture of rail and active travel. However, the rail line does offer such opportunities with respect to longer distance trips, such as commuting to and from work in nearby major cities. The station is relatively well-linked to other parts of the built up area by 'recommended local cycle routes', small parts of which are off-road (largely shared routes with pedestrians along more major arteries, or occasional routes through parks such as Clarendon Park). Prioritising the 'greening' of these routes may render them more attractive as train-cycle options, as well as allowing them to perform other GI functions such as facilitating wildlife connections.

AT2: Opportunities for recreational walking and cycling

5.85 Local stakeholders expressed a desire for more or enhanced provision of recreational routes along disused railway lines. The development of disused rail lines as multifunctional GI asset– the major opportunity being the former Nuneaton-Shenton line - was a key objective of the 2008 GI Strategy and was referenced in the Core Strategy. The 2014 Hinckley & Bosworth Extended Phase 1 Habitat Survey also suggests that such adaptive reuse of railway lines can serve as effective multi-functional green corridors with an important role as biodiversity corridors. However consultees noted that the GI potential of these assets has not yet been fully realised in practice.

Shenton Station

5.86 More broadly, consultees raised concerns over the accessibility of walking routes in the Borough for older people and those with compromised mobility. It was noted that Carlton Parish Council's replacement of stiles with 'kissing gates' on PROW (the 'Miles Without Stiles' programme) led to a significant increase in use.

> "In some places there is no right of access between the Ashby Canal towpath and public footpaths which cross bridges: creating these linkages would improve accessibility generally"
>
> GI Strategy Consultee

5.87 Representatives of local walking groups noted that although opportunities for walking are available and that

[66] Hinckley and Bosworth 2019 Air Quality Annual Status Report (ASR)

groups often exist to promote participation, recreational walking opportunities are often taken up by a relatively small segment of the community. These tend to be dominated by those who are already interested in the activity, rather than attracting those who may not otherwise walk. It was suggested that improved promotion of available routes, enhanced wayfinding and regular distance markers to key destinations would help to attract a broader range of the Borough's population, perhaps through stronger partnerships with GP surgeries as part of a 'walking for health' agenda. This was a concern also raised by the Leicestershire Rights of Way Improvement Strategy 2011-2016, which proposed that measures were taken to promote and encourage use among a wider section of society, through interventions including improved signposting, using more targeted marketing, promotional and awareness-raising campaigns such as the 'Choose How You Move' programme.

AT3: Permeability across the urban/rural transition

5.88 Local stakeholders identified some weaknesses in the transition between built up areas and the countryside. They noted in particular the need to strengthen linkages between the Barwell Sustainable Urban Extension (SUE) and the countryside to the west, and between the Hinckley built up area and open countryside to the north and west. This function has been referenced in both the Core Strategy and The Earl.

5.89 Shilton and Barwell Area Action Plan (2014) and has been drawn through into the proposals outlined in the illustrative masterplan for the Barwell SUE.

AT4: Access to key recreational GI assets

5.90 Previous GI policy has included objectives to improve access by active travel modes to the key assets of Burbage Common and Woods and the Ashby Canal from the more developed parts of the Borough. The review undertaken here of existing provision indicates that there is still potential for beneficial enhancements in this respect.

5.91 The consultation exercise highlighted that the surface quality of routes along Ashby Canal varies considerably, particularly for those less mobile. More linkages between public footpaths and the towpath in particular were suggested, however it was recognised that access must be balanced with heritage concerns in some parts of the path, particularly concerning access from the canal's older bridges.

Summary of Key Issues and Emerging Opportunities

5.92 Table 5.3 below summarises the issues discussed above and highlights opportunities which might address the weaknesses identified. These opportunities will form the basis for the identification of priority interventions for strengthening the Borough's GI network in **Chapter 6**.

Table 5.3: Active Travel: Summary of key issues and opportunities

Ref	Issues	Opportunities	Source
AT1: Coherence of the walking/cycling network in and around Hinckley			
AT1	Significant car-dependence, including for short journeys (<3 miles).	Enabling active travel over short journeys by better 'linking' and upgrading of urban greenways in the South Eastern GI Zone.	Policy
AT2: Opportunities for Recreational Walking and Cycling			
AT2-a	Local disused railway lines highlighted as under-used assets.	Development of disused rail lines as multifunctional GI assets.	Policy Consultation
AT2-b	Lack of diversity among those taking part in recreational walking.	Collaborative 'walking for health' agenda alongside GP surgeries, and promotion of 'entry level' circular routes.	Consultation
AT2-c		Coherent physical and digital wayfinding scheme, which would also contribute to local character and the local tourist economy.	
AT2-d	Obstacles to accessibility on walking routes for those with mobility constraints.	Expansion of 'Miles Without Stiles' routes, to provide greater accessibility for older residents.	Consultation
AT2-e		Improvement of access points and crossing points along the Ashby Canal.	
AT3: Permeability across the urban/rural transition			
AT3-a	Weak 'gateways' on the urban edge between residential areas and open countryside.	Enhancement of River Tweed corridor, including stronger integration on the urban edge of the emerging Barwell SUE and other future peripheral development around Barwell, to be delivered through site masterplans.	Consultation Mapping
AT3-b		'Gateway' project to improve connections to the open countryside north of Hinckley and to the Ashby Canal corridor.	
AT4: Access to key recreational GI assets			
AT4	Difficulties accessing key recreational assets by active travel, such as Burbage Common and the Ashby Canal.	Improving active travel routes to and within the Hinckley/Barwell/Earl Shilton/Burbage Green Wedge', as part of an integrated enhancement project.	Policy Mapping

Theme 4: Open Space, Play and Recreation

Introduction

5.93 Forthcoming development and population growth, particularly in the Southern GI zone, is likely to increase demand for parks, open spaces and recreational opportunities, and will be vital for ensuring the wellbeing of local residents and workers. Parks and open spaces also act as important spaces for social encounter, making a key contribution to community cohesion against a backdrop of a diversifying demographic.

Overview of the Borough's Assets

Key Destinations

5.94 The Bosworth Battlefield site is the Borough's major 'honeypot' site, although Twycross Zoo also attracts a high 500,000 visitors a year. Hinckley and Bosworth's 'scorecard' on the Thriving Places Index suggests that the local area performs more poorly on 'participation in local heritage assets' than in other areas, suggesting there is room from improvement in ensuring that everyone has access to the Borough's rich heritage.

5.95 The 2016 Open Space and Recreation Study also highlighted that 'access to formal parks should be improved through the development of the GI network'.

Parks and Open Spaces

5.96 The Borough's open spaces have been subject to systematic audit via the 2016 Open Space and Recreation study. High level findings are summarised in **Table 5.4**.

5.97 Figure 5.7 highlights those settlements in the Borough which are currently deficient in open space provision. The mapping also overlays this with socio-economic data in order to highlight where these deficiencies overlap with areas of health deprivation.[67] The mapping highlights the following regarding quantitative provision:

- All settlements other than Market Bosworth, Hinckley, Barwell, Stanton Under Bardon, Higham on the Hill and Groby show an overall deficit in open space.
- Earl Shilton and Desford are both areas where areas of relatively higher health deprivation overlaps with a deficit of open space.

5.98 The mapping highlights the following regarding ease of access to open space assets:

- Access to the Borough's three country parks is relatively good. All parts of the Borough fall within an 18 minutes' drive time of the Borough's three Country Parks, which falls within local standards.
- In the east of Hinckley there are areas where relatively high health deprivation coincides with limited access to open space.

5.99 The 2016 study highlighted that a number of improvements have been made to open spaces in the Borough, highlighting progress at Argent's Mead in Hinckley, and noted the challenge of finding ways to maintain existing standards and continuing a culture of ongoing improvements.

5.100 The more rural Western GI Zone is particularly poorly served by publicly accessible open space, which limits opportunities for physical activity and contact with nature other than by access to the open countryside via the PROW network.

5.101 Figure 5.8 provides a more detailed view of the parks and open spaces within the major population centre of Hinckley and the surrounding areas. Hollycroft Park in particular, on the fringes of Hinckley town centre, is a Green Flag award winner, as is the Argents Mead Park in the town centre.

Outdoor Sports Facilities

5.102 Areas of formal sports provision in the Borough make an important contribution to the GI network in the Borough. Direct benefits of this type of open space relate to health and wellbeing as well as alleviating flood risk by supporting the safe infiltration of surface water.

5.103 The Hinckley and Bosworth Playing Pitch Strategy (2019) sets out an assessment of current provision in this respect. The analysis of current provision was broken down by sport as laid out in **Table 5.5**.

[67] Areas of health deficiency are based on the 'health' sub-domain of the Index of Multiple Deprivation (IMD) 2019.

Table 5.4: Open space provision in Hinckley and Bosworth (2016 Open Space Strategy)

Open space typology	Key issues and gaps in the network
Formal parks and gardens	Good distribution, but increased provision may be required in longer term in areas of high growth. Access to formal parks should be improved through the GI network, and areas of natural open space included where deficient.
Country Parks	To be protected and quality maintained. Access is particularly important, particularly through public transport.
Natural and semi-natural open space	To be protected and opportunities taken to enhance quality, considering their role for both recreation and biodiversity conservation. Areas of deficiency identified in Earl Shilton, Barwell, Desford, Newbold Verdon, Barlestone, and Stoke Golding. The Southern Green Wedge offers opportunities for improved provision. Better access routes also required to maximise usage.
Provision for children	Facilities should be enhanced to be exciting and challenging. Deficiencies identified in Ratby, Markfield, Earl Shilton, Groby, Peckleton and Newbold Verdon, and active travel routes should be promoted for sustainable travel to facilities.
Provision for young people	Perceived lack of facilities is key issue, in particular in Burbage, Earl Shilton, Markfield and Groby. Facilities should be exciting and challenging, and improved access routes by active travel and public transport.
Allotments	High levels of demand, so existing allotments should be protected and alternative management arrangements implemented to cope with demand. Sites currently predominantly in the east of the Borough, with those in the south having to travel long distances.

Table 5.5: Summary of playing pitch provision in Hinckley & Bosworth (2019 Playing Pitch Assessment)

Sport	Current provision	Comments on quantity/quality
Cricket	17 pitches (with majority open for community use)	Primarily located in northern parishes, with majority fit for purpose but with some quality and maintenance concerns. Demand is declining and capacity available other than at peak times. Langdale Park is an opportunity to increase participation.
Rugby Union	22 pitches (less than half secured for community use)	Facilities within school sites at most large settlements. Some problems with drainage and maintenance, changing facilities and floodlighting. Participation is static/increasing.
Hockey	4 pitches	Almost exclusively on artificial grass pitches. Quality is standard to good. Due to low demand, there is significant unused capacity.
Bowls	11 greens	Adequate provision for existing demand, which mainly comes from older age groups, with demand likely to rise with ageing population. Participation particularly low in urban areas. Quality of provision is generally good.
Tennis	54 active courts (public access to 15 sites)	Quality varies across sites. Participation rates higher than average in the Borough, but with limited public facilities (largely limited to Hollycroft Park).
Football	123 pitches	Some dissatisfaction with provision due to lack of pitches, poor quality and overuse. Quality was found to be standard but variable, with improvements required at some sites.
Golf courses	13 standard courses within 20-minute driving catchment of Hinckley.	Provision is below regional and national averages, but demand and supply across the Borough is relatively in balance. This could be affected by a threat of alternative use at Forest Hill.

Play Opportunities

5.104 In the UK, as in other developed countries, it has been widely noted the physical contact and intimacy with nature and nature-based play opportunities is in decline. The most successful play opportunities allow children and young people to follow their instinct, ideas and interests in their own way. As these opportunities have reduced, we have witnessed a growth in childhood obesity, mental health problems, and

excessive use of screens and social media[68] (see **Chapter 4** for an overview of how this is reflected locally in Hinckley and Bosworth).

5.105 As opportunities to easily access nature for unstructured play have become scarcer for new generations, interventions to inject play space into urban areas 'on the doorstep' of residential development have become more important than ever.

5.106 The 2016 Open Space and Recreation Study noted the lack of children's play areas in the Borough, with a current shortfall of play areas across all settlement hierarchies. These are likely to increase as population grows, particularly in the Southern GI Zone. As shown in **Figure 5.9**. areas of deficiency are apparent in the northeast of Hinckley and on the north western edge of Hinckley (allocated for mixed use development) as well as other pockets of deficiency within the conurbation. There are also other apparent 'play deficits' in parts of other settlements, including Groby, Market Bosworth and Desford. in the centre of Market Bosworth.

5.107 The 2016 Open Space and Recreation study found that the quality of play areas was "*generally good"* however it also highlighted that "*it is important to ensure that play facilities are enhanced to provide exciting and challenging facilities for children".* While Hinckley and Bosworth benefits from some high quality play assets, it appears that provision does not always reach this benchmark. The motte and bailey-themed play area at Argents Mead (Hinckley town centre) was installed in 2016, with the installations knitted into the local heritage asset of the former castle and making use of natural materials. Since then it has become a valued local asset and achieved Green Flag status. Unfortunately damage by arsonists in 2018 caused significant damage to the play equipment. However a review of provision outside Argents Mead shows a much lower design quality, and more standardised equipment with less scope for both imaginative play and biodiversity.

Argents Mead, Hinckley

Green Wedges

5.108 The Borough's two Green Wedges serve as recreational resources, in line with Green Wedge policy which encourages use of the designated land for access and recreation around the Borough's key population centres.

Allotments and Small-scale Food Production

5.109 Allotments form an important part of a GI network, providing a variety of GI functions including recreation. Allotments are also increasingly recognised as being beneficial to mental health and wellbeing, providing a stress-relieving refuge, a healthier lifestyle both with respect to exercise and diet, social opportunities, contact with nature and opportunities for self-development.[69]

5.110 The Southern GI Zone in particular is deficient in allotment provision. The 2016 Open Space and Recreation Study found that within Hinckley and Bosworth allotments are poorly distributed, with "*sites predominantly located in the east of the Borough. Residents located in the west of Hinckley and Bosworth have to travel significant distances to access allotments*".

[68] Play England (2019), *A Manifesto for Play*. Available online: http://www.playengland.org.uk/wp-content/uploads/2019/09/Manifesto-for-Play.pdf

[69] https://journals.sagepub.com/doi/pdf/10.1177/0308022615599408

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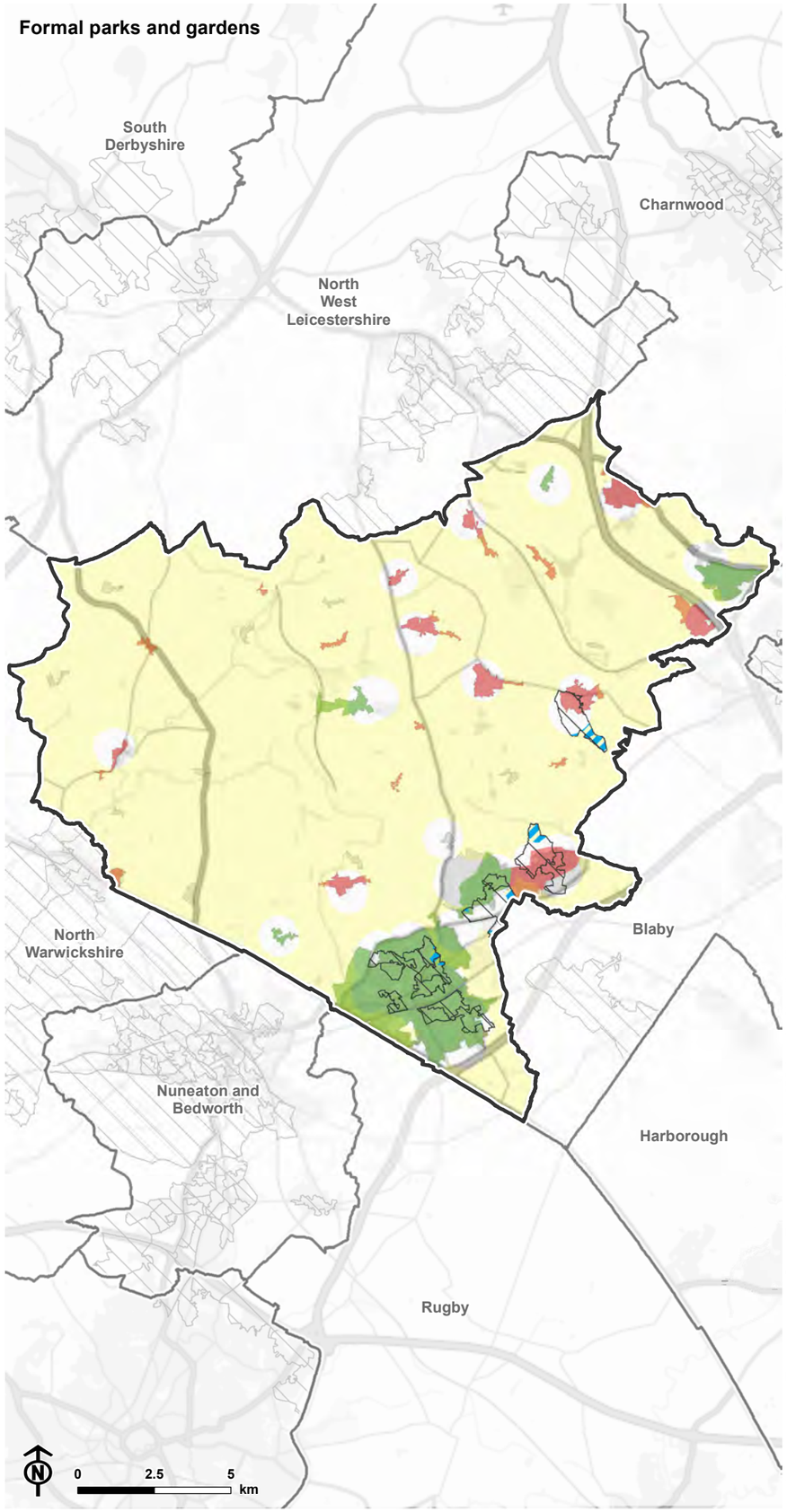
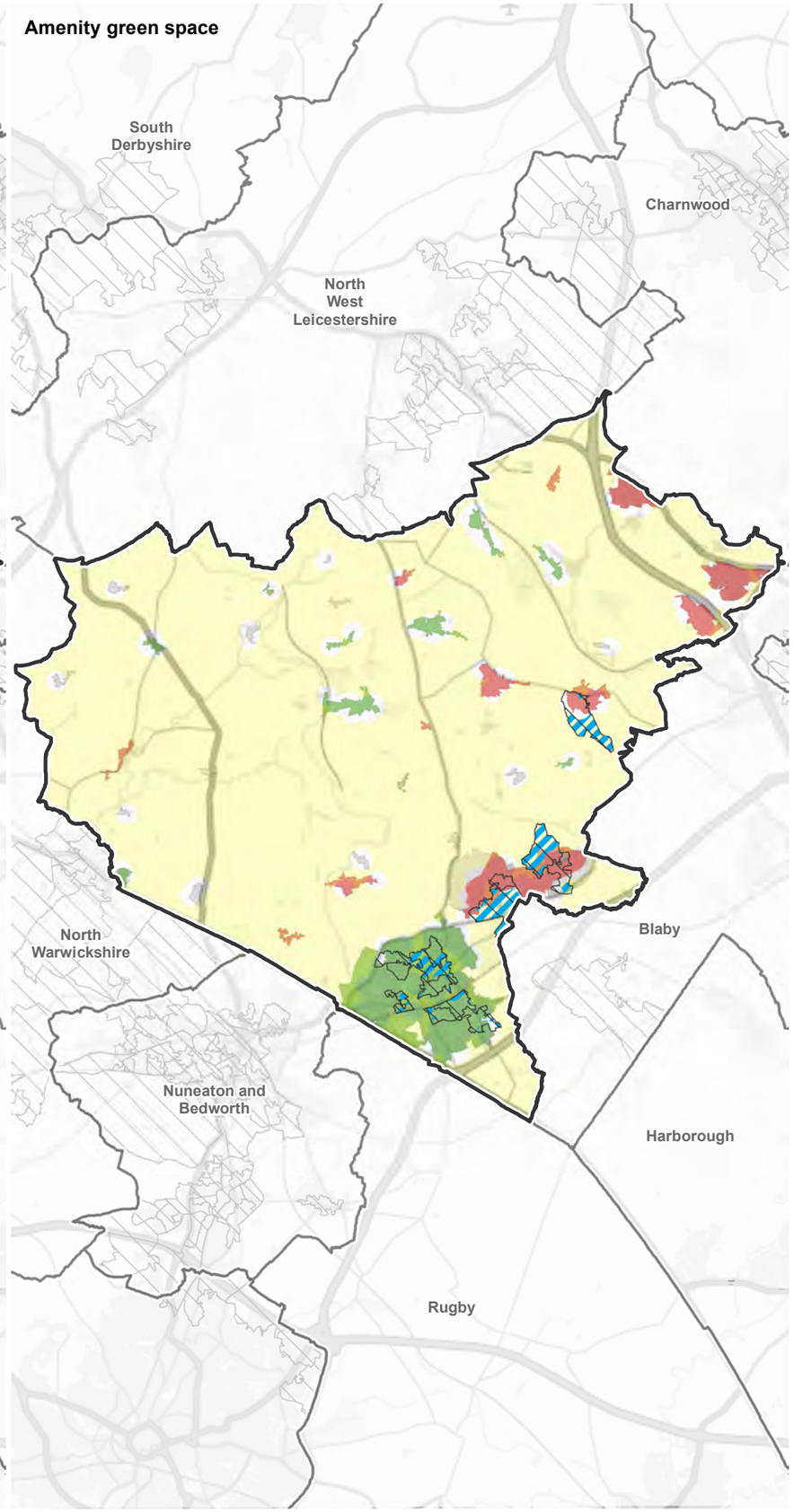
Figure 5.7: Health deprivation and access to green space





Hinckley and Bosworth
Neighbouring authority
Key settlement

Open space quantity

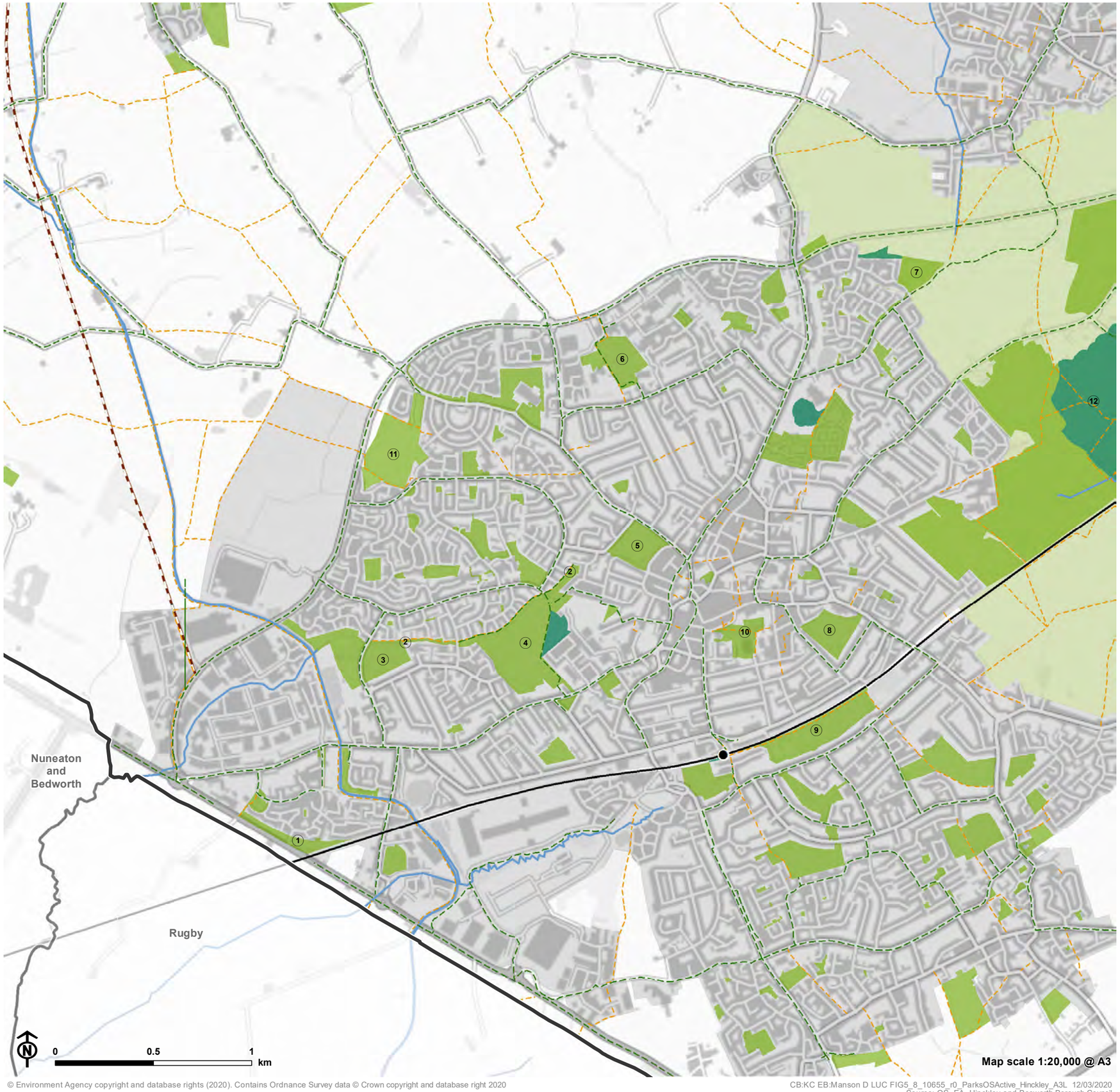
Surplus
Deficit
Areas in 50% most health-deprived in UK (IMD 2019)
Areas with high health deprivation and limited access to green space
Areas with insufficient access to open space

CB:KC EB:Chamberlain_K LUC FIG5_7_10655_r0_HealthDeprivation_A3L 12/03/2020
Source: OS, NE, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

LUC

Figure 5.8: Parks, open spaces and active travel links around Hinckley and Burbage



- Hinckley and Bosworth
- Neighbouring authority
- Key settlement
- Green Wedge
- Railway station
- Railway
- Disused railway line
- Watercourses
- Public Right of Way
- Local cycle route
- Open space, sports and recreation facility
- Natural or semi-natural open space

Key open space assets

1:Waterside Green Corridor
2:Battling Brook Green Corridor
3:Langdale Park Recreation Ground
4:Clarendon Park
5:Hollycroft Park
6:Richmond Park
7:Swallows Green Recreation Ground
8:Queens Park
9:Sketchley Brook Recreational Corridor
10:Argents Mead and Memorial Garden
11:Wykin Park and Allotments
12:Burbage Common and Wood

CB:KC EB:Manson D LUC FIG5_8_10655_r0_ParksOSActive_Hinckley_A3L 12/03/2020
Source: OS, EA, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

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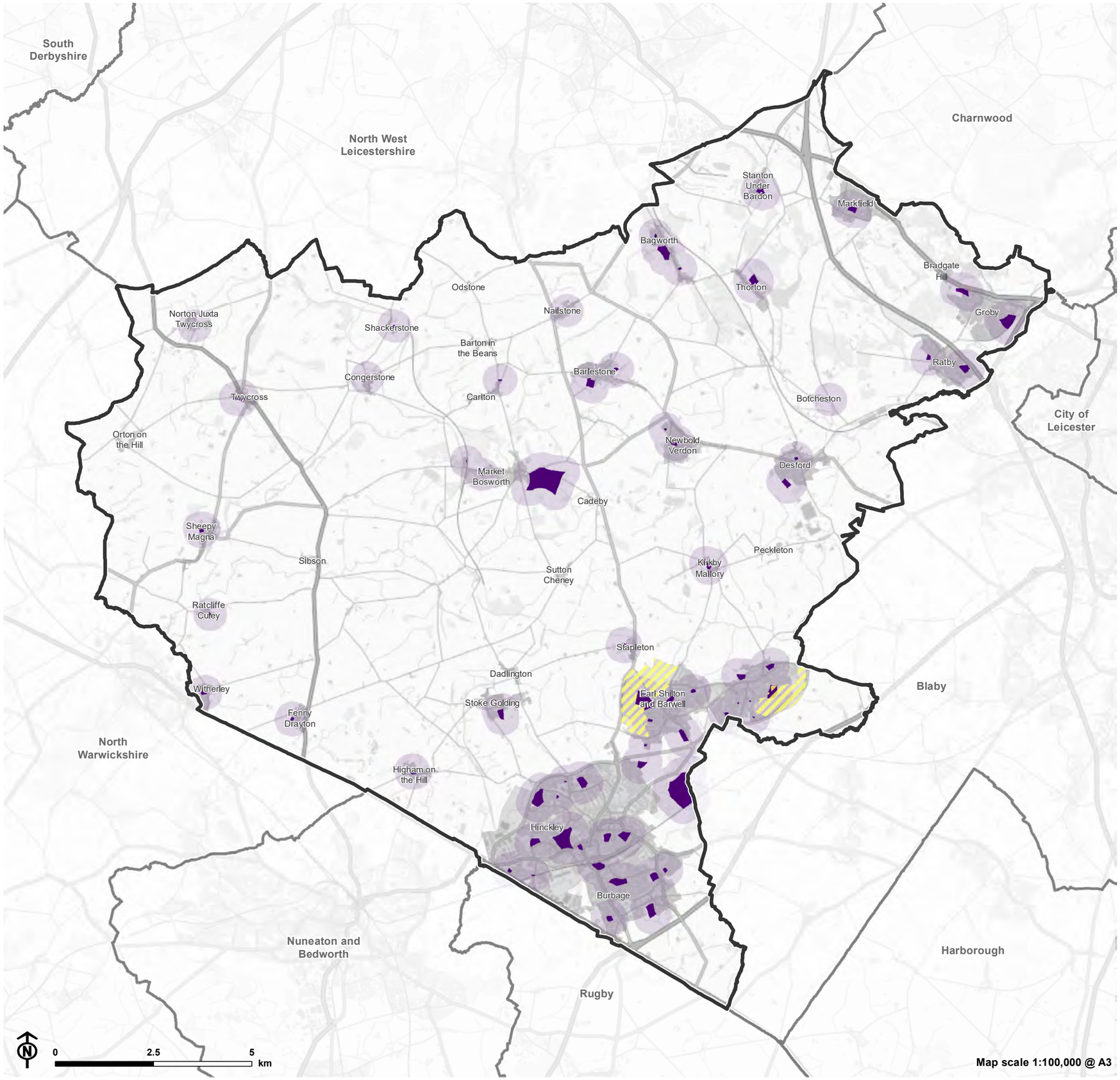
Figure 5.9: Access to play in Hinckley and Bosworth



Hinckley and Bosworth
Neighbouring authority
Key settlement
Sustainable Urban Extension
Childrens play space
Childrens play space 400m catchment

CB:MB EB:Manson D LUC FIG5_9_10655_r0_AccessToPlay_A3L 12/03/2020
Source: OS, NE, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Key Issues and Opportunities

OS1: Access to open space and use of the Green Wedges

5.111 Spatial analysis of open space provision highlighted deficiencies in access to open space, combined with 'hotspots' of health deprivation, in the Southern GI Zone within the built up areas around Hinckley, which are set to absorb the majority of future development. This indicates the need for improved provision of 'on the doorstep' space as part of the health and wellbeing agenda.

5.112 Local stakeholders highlighted concerns that access to open space and nature areas is a key way of supporting programs to address mental health issues in the Borough, especially when community members are able to take ownership of that local landscape.

5.113 The Borough's two designated Green Wedges provide an opportunity to boost access to open space and recreational opportunities within areas set to host significant levels of development in future. The Hinckley/Barwell/Earl Shilton/Burbage Green Wedge (the 'Southern Green Wedge') was the target for a number of interventions identified in the 2008 GI Strategy, including expansion of, and improved access to, Burbage Common and Woods, and enhancement of the allotment site between Burbage and Hinckley. The Landscape Sensitivity and Green Infrastructure Study for Leicester and Leicestershire (2017) also highlighted the Green Wedges as an opportunity for GI provision and enhanced benefits. This was echoed by parish consultees, who suggested that areas such as these could be used more creatively for recreational and other uses.

OS2: 'Urban greening'

5.114 'Urban greening' can be beneficial where provision of traditional open/green space is not possible (for example due to lack of available land). In this context, urban greening can allow other elements of the public realm such as streets and public squares to deliver some of the beneficial functions of GI (aesthetic, ecological etc.). This might take the form of 'pocket parks', which can be used as a tool to create small-scale oases of calm and meeting places on under-used and irregular pieces of land in urban areas. When delivered as a community-led project, they can also play a strong role in community cohesion.

5.115 This type of 'greening' can also help to mitigate against poor air quality. While there are no designated Air Quality Management Areas (AQMAs) within Hinckley and Bosworth, particular 'hot spots' of poor air quality have been identified in the centre of the Hinckley built up area, largely due to transport emissions, as described in **Chapter 4**. Green spaces and urban greening features can help to absorb pollutants, in addition to providing amenity value and mental health benefits both directly and by encouraging active travel. However, the Landscape Sensitivity and Green Infrastructure Study for Leicester and Leicestershire (2017) indicated that the town centres of Hinckley and Bosworth are currently lacking in 'green features'.

OS3: Addressing the deficit in allotment provision

5.116 Allotments and community gardens can provide important community gathering opportunities, and as such deliver significant recreational benefits for local neighbourhoods. The 2016 Open Space Study highlighted high demand for allotments within the Borough but a shortfall in provision, leading to long waiting lists. In the Southern GI Zone, this overlaps with a relative concentration of health deprivation, according to the Index of Multiple Deprivation (IMD).

5.117 Consultees also highlighted support for more community-supported agriculture opportunities, which can help to support healthy lifestyles and in addition create biodiversity value in growing spaces.

OS4: Addressing the 'play deficit'

5.118 A 'play deficit' has been identified, concentrated in the Southern GI Zone, which will need to be addressed as part of upcoming developments in the built-up area. This relates to both ensuring that sufficient quantity of play space is provided, as well as sufficient *quality,* with a focus on nature-based play opportunities which can serve as multi-functional GI assets. While there are no major concerns raised over the quality standards of play provision in the Borough, existing policy documents highlight the need to ensure that facilities are "exciting and challenging" and this strategy suggests that there is an opportunity to view play spaces as multi-functional GI assets, which play a greater role in allowing children to interact with nature and in providing richer linking habitats for wildlife in the Borough's green spaces.

Summary of Key Issues and Emerging Opportunities

5.119 Table 5.6 below summarises the issues discussed above and highlights opportunities which might address the weaknesses identified. These opportunities will form the basis for the identification of priority interventions for strengthening the Borough's GI network in **Chapter 6**.

Table 5.6: Open Space, Play and Recreation: Summary of key issues and opportunities

Ref	Issues	Opportunities	Source
OS1: Access to open space and use of the Green Wedges			
OS1-a	Identified 'unmet needs' across Borough in open space, particularly in the Southern GI Zone, where deficits overlapping with areas of health deprivation.	Delivery of new open space and play opportunities alongside development in areas of deficiency.	Mapping Policy
OS1-b	Green Wedges may be underperforming in providing recreational functions and there may be obstacles to access.	Enhancement of recreational provision within and access to the Southern Green Wedge – food growing, educational opportunities etc.	Policy Consultation
OS2: 'Urban greening'			
OS2	Town centres of Hinckley and Bosworth currently lacking in 'green features' and areas of poor environmental quality impacting on liveability and retail success.	Urban greening initiative across all town centres, including 'pocket park' creation, increased street tree cover,, consideration of green walls and a 'mosaic' of greening features, as proposed in the 2020 Hinckley Public Realm masterplan.	Policy
OS3: Addressing the deficit in allotment provision			
OS3	Shortfall in allotment provision and long waiting lists, combined with concentrated problems with childhood obesity in the Southern GI Zone.	Encouragement of land use in the Southern Green Wedge for community growing/allotments.	Policy Consultation
OS4: Addressing the 'play deficit'			
OS4	Deficit in quantity and quality of play provision, concentrated in the Southern GI Zone.	Strengthening requirements of play provision, with a focus on nature-based play opportunities that encourage children to engage with nature.	Mapping Desk Review

Theme 5: Carbon Sequestration

Introduction

5.120 Woodland has an additional benefit for climate mitigation in that wood fuel and forest products can substitute fossil fuels and reduce the need for materials such as concrete; the production of which produces substantial greenhouse gas emissions. A 2010 report by the Committee on Climate Change[70] advises that sustainable timber used in construction and its use for biomass energy can play an important role in achieving Net Zero emissions by 2050.

Overview of the Borough's Assets

Existing Tree Cover and the National Forest

5.121 Figure 5.10 indicates the distribution of woodland cover within the Borough of Hinckley and Bosworth. Tree cover across the Borough is estimated at under 6%, which is low compared to the broader national picture. The woodland which does exist is concentrated in the north east, within the area occupied by the National Forest project and on the borders with Charnwood. While the majority of cover is broadleaf woodland, there are clusters of young woodland in the north east, and scattered coniferous areas, particularly around Thornton and Ratby.

5.122 The flagship woodland asset within Hinckley and Bosworth is its portion of the 200-square mile National Forest, which lies on the north eastern boundary. The forest, built within a post-industrial landscape suffering from areas of high socio-economic deprivation, increased tree cover from around 6% in 1991 to 19.5% in 2014, planting 8 million trees by 2016.[71] It also serves as a valuable recreational asset to surrounding communities.

5.123 Within the National Forest, a significant amount of the planting program takes place on privately owned land. As such, the forest is designed not only as a recreational and biodiversity asset, but one which can provide viable and sustainable returns to participating landowners.

> The National Forest has also boosted the local forestry economy, which is among the key objectives of the National Forest initiative: "*Hundreds of woodland and forestry jobs have been created as new businesses have set up to help manage and utilise the National Forest. We partner with and support groups and businesses to reap the benefits of the woodlands, promoting farm diversification into forestry, woodfuel, crafting, woodland skills, green energy and more. Through grant support, advice, branding, training and innovation, we see real opportunities for growth of this sector."* This includes sustainable charcoal production, including the work of the *Heartwood* Community Woodfuel Group, which received seed funding from the National Forest Company.[72]

Tree planting within National Forest (courtesy of National Forest Company)

5.124 When looking at areas for increasing woodland cover across the Borough as a whole, **Figure 5.11** outlines areas indicated by the Forestry Commission as priorities for woodland planting. These include 'Priority Places' - located around residential areas where there are concentrations of deprivation - as well as opportunities for woodland creation along waterways and on floodplains, which can provide a range of benefits (described in more detail under **Theme 6: Water Resources**).

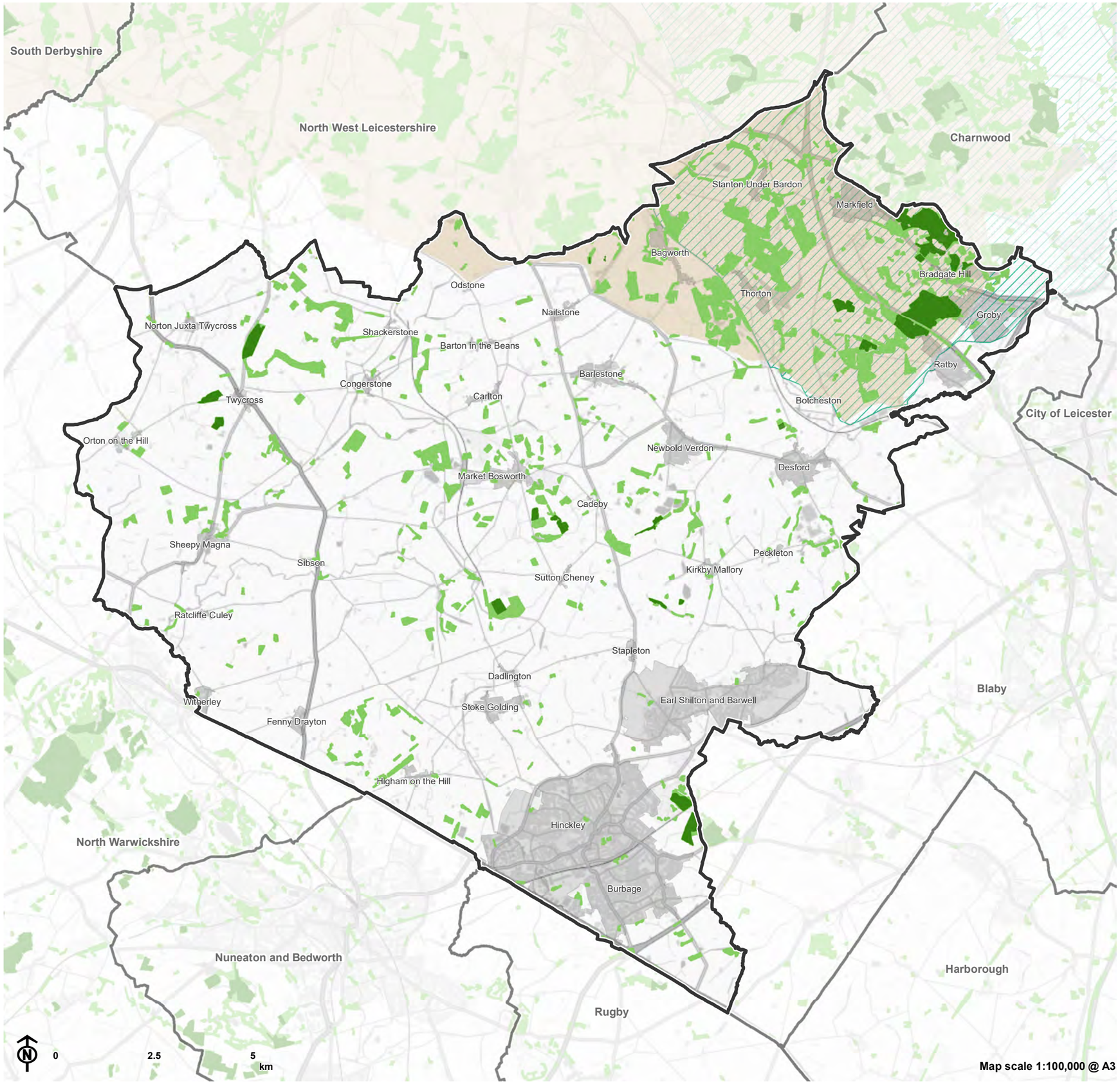
[70] https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf

[71] National Forest Company (2014) *National Forest Company Strategy 2014-2024* [Online] Available at: https://issuu.com/nationalforest/docs/nfc_strategy__spreads_

[72] https://www.heartwoodhof.org.uk/heart-of-the-forest-co-operative

LUC

Figure 5.10: Existing forest cover in Hinckley and Bosworth



CB:MB EB:Stenson_K LUC FIG5_10_10655_r0_ExistingForestCover_A3L 27/08/2020
Source: OS, EA, Defra, FC, NE, Hinckley and Bosworth Borough Council, Charnwood Council

Hinckley & Bosworth Borough Council

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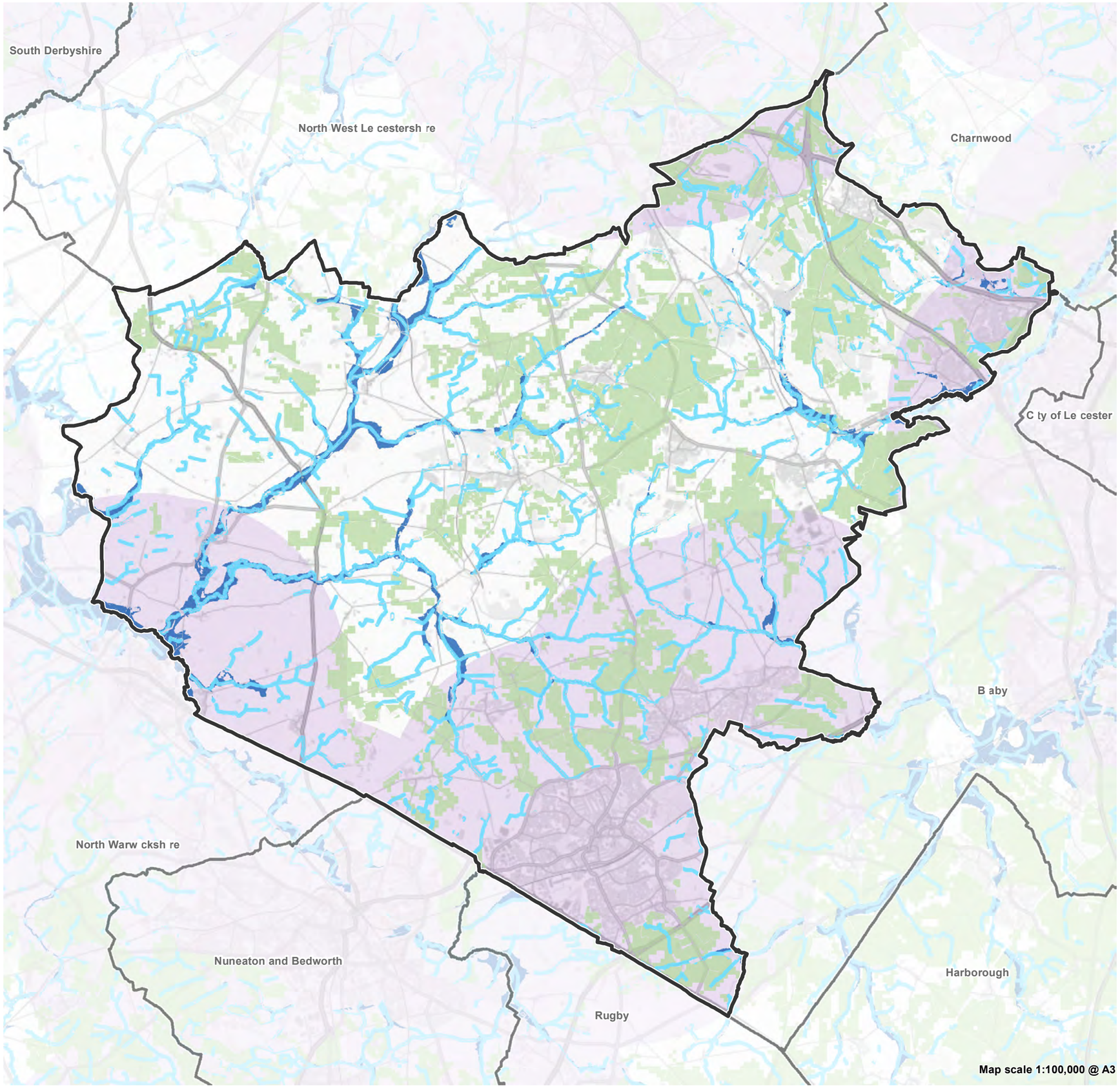
Figure 5.11: Forest cover in Hinckley and Bosworth - potential for woodland expansion



CB:CB EB:Manson D LUC FIG5_11_10655_r0_PotentialWoodlandExpansion_A3L 12/03/2020
Source: OS, EA, Defra, FC, NE, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Key Issues and Opportunities

CS1: Woodland expansion

5.126 After a period of growth, the National Forest is now looking to consolidate growth, boost resilience and improve connectivity with surrounding areas. However in the longer term, this strategy supports the further expansion and strengthening of the National Forest project as a key 'carbon sink', in addition to the other multiple GI functions it delivers in the North Eastern GI Zone.

5.127 Given the sparse tree cover within Hinckley and Bosworth outside of the National Forest territory, there is also a need to identify opportunities for woodland creation in the Western GI Zone and Southern GI Zone.

5.128 While the National Forest owns some land of its own, a large part of the tree planting takes place on private land through partnership with landowners, facilitated by grants to these. However, consultees from the National Forest noted that partnerships of this kind were becoming harder to achieve for a number of reasons, including having to compete with more profitable uses of land, uncertainty over changes to agricultural grants, and high land values.

5.129 New development is a key source of funding for new woodland creation, and a key focus for the future will be on using any resources to improve connectivity to join up blocks of woodland in order to connect habitats and boost resilience.

5.130 While a more detailed feasibility study would be required to identify the most appropriate areas for woodland planting, **Figure 5.11** illustrates areas where Forestry Commission data suggests planting should be prioritised.

CS2: Woodland resilience

5.131 Nationally, woodland and trees face a number of pressures, including climate change, pollution, and competing land uses. The National Forest project is facing additional challenges, most notably the threat from ash dieback that has severely affected some of the new planting carried out by private landowners participating in the program, in addition to the impact of grey squirrels and a number of other disease threats. As a large percentage of the trees planted by landowners participating in the National Forest grant program are ash trees, and are likely to suffer from ash dieback, this has therefore been a setback for woodland creation and the delivery model.

There are always more and more threats, including climate change, pests and diseases. The diseases are nothing that are not present in other areas, but trees are suffering from ash dieback… we need to take that into account in how we manage and in woodland creation"

Consultee from the National Forest

5.132 When considering the expansion of existing woodland, attention should be paid not only to quantitative planting but to species diversity, which aids both resilience to climate change and to reducing risk from pests of pathogens damage. A richer diversity of species, as compared to monoculture plantations, can also enable woodland to provide a variety of GI functions, including the creation and maintenance of habitats to help boost biodiversity in the Borough.

Summary of Key Issues and Emerging Opportunities

5.133 Table 5.7 below summarises the issues discussed above and highlights opportunities which might address the weaknesses identified. These opportunities will form the basis for the identification of priority interventions for strengthening the Borough's GI network in **Chapter 6**.

Table 5.7: Carbon Sequestration: Summary of key issues and opportunities

Ref	Issues	Opportunities	Source
CS1: Woodland Expansion			
CS1-a	Sparse tree cover across the Borough outside the National Forest, with particularly deficiencies in the western GI zone.	Support for National Forest project in expanding and consolidating operations.	Policy Mapping
CS1-b		Woodland planting initiatives on school land, taking advantage of national grant schemes.	
CS1-c		Woodland planting initiatives on land managed by utility companies, drawing on national precedents.	
CS1-d	Increasing challenges in securing land rights for woodland expansion.	Ensure that landowners are aware of their role as stewards and the role they can play in woodland expansion, particularly in areas highlighted as opportunities in Ecological Network and Permeability Mapping.	Consultation
CS1-e		New developments within and surrounding the National Forest zone to contribute to funding of woodland creation through developer contribution mechanisms (including BNG off setting).	
CS2: Woodland Resilience			
CS2	Threat from ash dieback and a broad range of other potential diseases which might compromise objectives to expand tree cover across the Borough.	Encourage planting of more diverse species to improve resilience.	Consultation Policy

Theme 6: Water Resources

Introduction

5.134 The 'blue' elements of the GI network can underpin many of the functions provided by GI across the Borough, given the role of water as an essential component for human health and wellbeing, as well as its role in the maintenance of healthy ecosystems and habitats. GI solutions are also increasingly seen as a robust and long-term approach to mitigating against flood risk. When looking strategically at a region's watercourses, there has been a shift in recent years toward catchment flood risk management planning, looking at an integrated approach to managing water within catchments, from early sources of run-off in the uplands and along rivers, to thoughtful management of stormwater further downstream in urban areas. This helps to maintain or improve the quality of water resources within the landscape.

Overview of the Borough's Assets

Waterways and Waterbodies

5.135 The network of natural and manmade rivers, streams, ponds, canals and other wetland habitats, indicated **Figure 5.12** are recognised as important GI assets within the Borough, in the Western GI Zone in particular.

Waterway in Hinckley & Bosworth

5.136 The Ashby-de-la-Zouch Canal ('Ashby Canal'), which dates back to 1804 as a route to bring coal from the fields around Moira and Measham to the main canal network, is a defining landscape feature and 'spine' of the Borough's GI assets. It forms an important linear asset for nature conservation and recreation, as well as a valued heritage asset. The canal links a number of major urban areas, smaller settlements, heritage assets, and recreational assets.

Ashby-de-la-Zouch canal

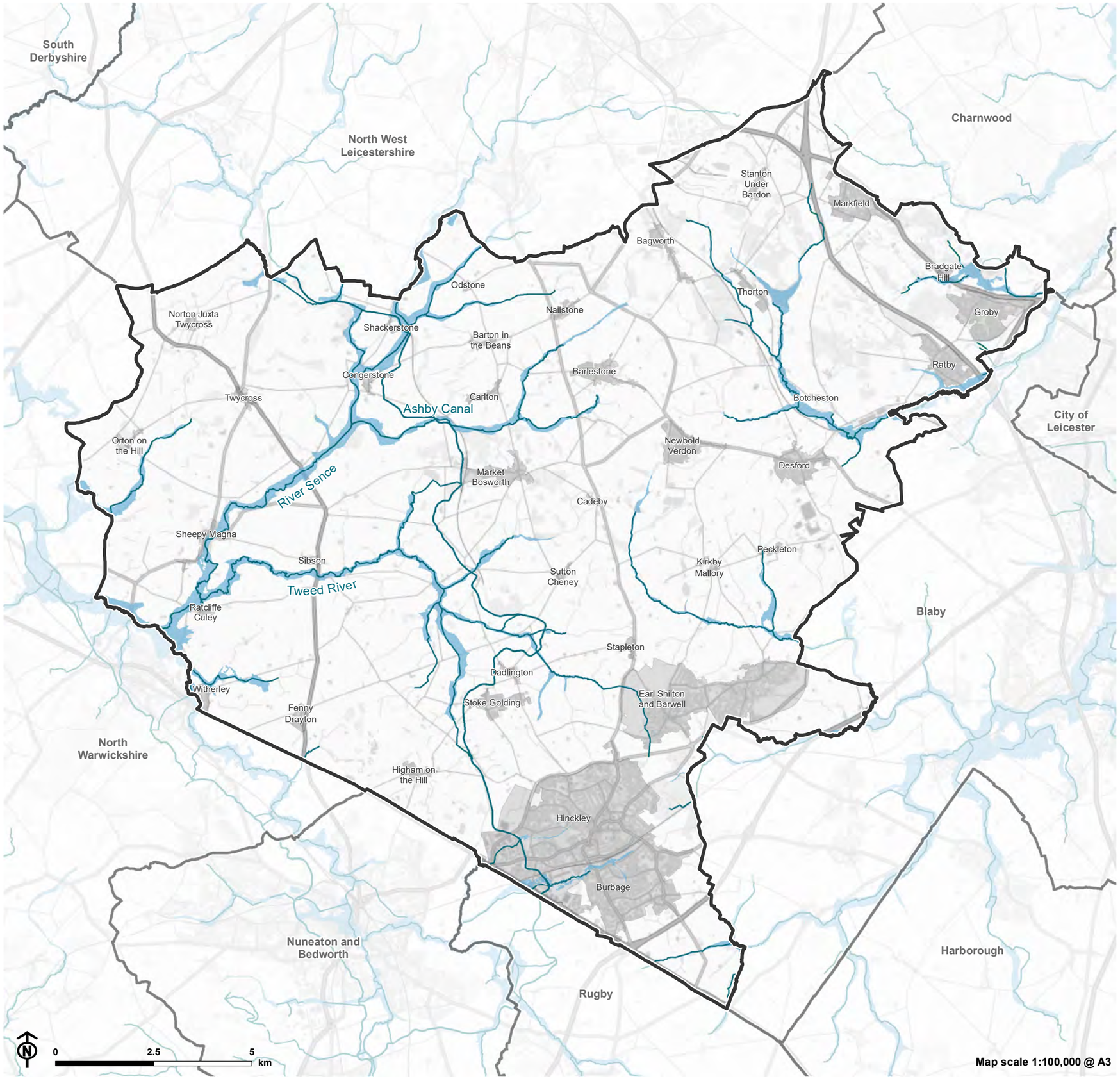
5.137 The River Sence and its tributaries constitute key landscape features, creating a low river valley landscape. The River Mease also influences a small part of the Borough on its northern boundary, on higher ground near Shackerstone. Waterways offer the potential to be scenic GI assets in the more developed southern part of the Borough as well as its more rural areas, with the River Tweed near Barwell having been identified as a key GI asset previously. The Borough is also home to a number of relatively substantial still water bodies that are pronounced landscape features, including those at former minerals sites in the north of the Borough, and at Thornton Reservoir.

Wetlands and Marshes

5.138 The Newton Burgoland designated SSSI lies on the Borough's northern boundary, and consists of wet grassland and species-rich marsh. Natural England assesses the condition of the marshes as 58% 'unfavourable – recovering' and 42% 'favourable', highlighting some room for improved management and protection.

LUC

Figure 5.12: Waterways and flood risk in Hinckley and Bosworth



CB:CB EB:Chamberlain_K LUC FIG5_12_10655_r0_Waterways_FloodRisk_A3L 10/03/2020
Source: OS, EA, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

Key Issues and Opportunities

WR1: Mitigating impact of intensive agriculture on water quality

5.139 As has been noted above, the intensive management of agricultural land threatens impacts on water quality through nutrient loading and sedimentation, including on vulnerable and highly valued water courses/bodies such as the Ashby Canal SSSI.

5.140 Rivers are seen as part of the 'lifeblood' of forest ecosystems, providing rich and valuable habitats. Similarly, the presence of trees can be beneficial to water quality by naturally altering the chemical balance of water, improving its biological health. Riparian woodlands (or 'wet woodlands') – which thrive in poorly drained soils, such as lakesides and river banks - are one resource which have the ability to act as a filter to prevent agricultural chemicals entering and degrading waterways, as well as being a natural flood management tool. These woodlands should be both protected and expanded along the Borough's blue corridors.

5.141 Natural England's landscape character area assessment for the land lying broadly in Hinckley and Bosworth's Western GI Zone calls for the creation of riparian vegetation along the banks of the Mease and Sence river corridors, and along the Ashby Canal. **Figure 5.11** in this report highlights areas identified by the Forestry Commission for increasing riparian woodland, which highlights target areas along a number of the Borough's watercourses, and particularly on the floodplains of the River Sence and its tributaries.

5.142 The Ashby Canal sits within a largely farmed landscape, heightening the risk to water quality of pollution from agricultural sources. Protection from contamination can be enhanced by providing a more robust 'buffer strip' of vegetation along the banks of the canal, in order to slow, filter and trap pollutants before they enter ditches or watercourses, as advocated by Natural England.[73] This is likely to require collaboration with local agricultural landowners.

WR2: River Sence corridor

5.143 The rural habitat mosaic around the River Sence LWS, Manor Farm Meadows LWS and Sheepy Fields SSSI, in the west of the Borough, encompasses tributaries to the Sence, ditches and woodland copses. Restoration of this area, which has been significantly impacted by agricultural intensification in the vicinity, is important in order to promote the habitat mosaic within the Borough's 'rural heartlands' in the Western GI Zone (as highlighted by the 2020 Phase 1 Habitats Survey). The National Character Area (NCA) Profile for the River Sence highlights its ecological status as Moderate.

WR3: River Tweed corridor

5.144 The River Tweed Corridor was highlighted by the 2017 Leicester and Leicestershire GI Study as having potential as a biodiversity corridor, for flood attenuation and as a route for informal recreation.

5.145 The River Tweed and its flood area run through the site allocated for the Barwell Sustainable Urban Extension (SUE), which has received outline planning permission. The Earl Shilton and Barwell Area Action Plan (2006-2026) requires the SUE site plan to incorporate a linear 'corridor' following the alignment of the River Tweed, along with accessible and natural and semi-natural green space, containing a mix of wet and dry attenuation basins/ponds as part of a sustainable urban drainage strategy (described as 'Tweed Vale'). These requirements should be safeguarded and prioritised as the site comes forward as part of the strategic GI network in the South Eastern GI Zone, and further contributions sought to ensure that the delivery of the site provides permeability on the urban edge and enabling access to the countryside along the River Tweed Corridor.

WR4: Flood risk and hard surfacing

5.146 As far as flood risk is concerned, the Level 1 Strategic Flood Risk Assessment (SFRA) for Hinckley and Bosworth did not identify particularly high levels of flood risk within the Borough, with the main risk coming from surface water and culverted watercourses. Historically the most affected sites have been in the main urban areas. Fluvial flooding, groundwater flooding and flooding from reservoirs were identified, but at a lower risk level. However, given recent flooding issues along the River Sence and Sence Brook, the Sheepy Neighbourhood Plan (2019) requires new development to take full account of flood risk, using SuDS where feasible. Increased levels of development are likely to result in an increase in hard surfacing, losing permeable surfaces that facilitate drainage.

5.147 It was also noted in the assessment that climate change is likely to alter the flood risk profile for the Borough, with peak river flow and peak rainfall intensity expected to increase.

5.148 Consultees raised concerns over the paving over of private gardens within the Borough, which on a cumulative level reduces the extent of permeable surfaces and increase risk of localised flooding events, contributing to the overall

[73] Natural England (2009), *Farming for cleaner water and healthier soil*, [Online] Available at: http://publications.naturalengland.org.uk/publication/36016?category=45002

flood burden.[74] While there is no quantitative data available on the changes to private gardens with the Borough itself, this observation is in line with national trends, which have been linked to a rise in private car ownership. Consultation with local stakeholders also suggested that existing green spaces offer an opportunity to use planters and 'bioretention' interventions to absorb rainwater, with a series of potential schemes within Burbage, with key areas of open space including Tilton Road Park.

WR5: Newton Burgoland marshes

5.149 In line with recommendations made in the 2020 Extended Phase 1 Habitat Study for Hinckley and Bosworth, based on habitat network mapping, there is an opportunity to enhance the lowland meadow and fens grassland around the Newton Burgoland SSSI, some of which lies beyond the Borough boundary in North West Leicestershire. This is based on its status as a valued feature in the Borough, and its role in strategic planning for future habitat recovery and resilience.

[74] Kelly, D (2016). Impact of paved front gardens on current and future urban flooding. *Journal of Flood Risk Management*. 11(S1).

Summary of Key Issues and Emerging Opportunities

5.150 Table 5.8 summarises the issues discussed above and highlights opportunities which might address the weaknesses identified. These opportunities will form the basis for the identification of priority interventions for strengthening the Borough's GI network in **Chapter 6**.

Table 5.8: Water Resources: Summary of key issues and opportunities

Ref	Issues	Opportunities	Source
WR1: Mitigating impact of intensive agriculture on water quality			
WR1-a	Water quality impacts of intensive agricultural management.	GI-based catchment management focussed particularly on vulnerable water courses/bodies such as the Ashby Canal SSSI.	Policy/literature Consultation
WR1-b		Protection and creation of 'wet woodland' habitat, which can act as a filter to protect waterways from pollutants.	
WR1-c		Provision of a more robust 'buffer strip' of vegetation along the banks of the Ashby Canal to protect water quality from agricultural pollution.	
WR2: River Sence corridor			
WR2	Impact of agricultural intensification on River Sence Corridor.	Enhancement of the rural habitat mosaic around the River Sence LWS, to benefit both water quality and flood attenuation.	Policy Mapping
WR3: River Tweed corridor			
WR3	River Tweed Corridor underperforming as a multi-functional GI corridor.	Enhancement of River Tweed Corridor as a central tenet of the emerging Barwell SUE site masterplan.	Policy Mapping
WR4: Flood risk and hard surfacing			
WR4-a	Increase in impermeable surfaces contributing to overall flood burden, with risk likely to intensify as the impacts of climate change are felt.	Awareness-raising campaigns to increase home-owners understanding of their gardens as an integral part of the GI network and impact on flood risk.	Consultation
WR4-b		Insisting on high standards for GI to support sustainable draining/water attenuation in new development.	
WR5: Newton Burgoland Marshes			
WR5	Sub-optimal conditions of marsh land habitat in north of Borough.	Enhancement of lowland meadow and fens grassland around the Newton Burgoland SSSI marshes, on the Borough's northern boundary.	Policy Mapping

Chapter 6
Strengthening the Green Infrastructure Network

Identifying Opportunities for Action

6.1 **Table 6.1** to **Table 6.3**list the Opportunities identified under each GI theme in **Chapter 5.** Reflecting the multifunctional nature of GI interventions, the table identifies which ‘themes’ these various projects respond to; often spanning multiple themes. This functions as a 'long list' of potential opportunities and serves as the basis for an Action Plan for prioritised delivery and upgrading of the GI network in Hinckley and Bosworth.

6.2 For each opportunity, an initial review of the potential deliverability was undertaken, and the opportunities categorised in the following way:

- **Priority Opportunities:** potential interventions which have been selected for prioritisation given how they respond to needs identified in the report, and deliver multiple GI benefits. Designed to offer a range of deliverability options. These are listed in **Table 6.1** and illustrated in **Figure 6.1**.
- **'Big Picture' Opportunities:** ambitious and strategic interventions which respond to the needs identified in this report, but which do not have a clearly identifiable delivery mechanism currently. Designed as a platform to inspire future action among partners, and illustrated on a key diagram along with a series of case studies outlining how similar projects have been implemented elsewhere. These are listed in **Table 6.2**.
- **Other Opportunities:** potential interventions which respond to the needs identified in the report, but which have not been prioritised as those likely to have the greatest impact on the GI network. These are listed in **Table 6.3**.

6.3 It is the 11 Priority Opportunities which provide the 'backbone' of the GI delivery plan. An overview of these is provided below followed by a more in-depth exploration of each in turn. For each opportunity information is provided on:

- The nature of the opportunity.
- It's contribution to the range of GI functions.
- Examples from elsewhere that may inform delivery options.
- Potential challenges and risks.

- Potential delivery partners, mechanisms and stakeholders.
- Indicative timescale and potential costs.

6.4 All opportunities outlined here are indicative – the ability of each opportunity to deliver the number of functions highlighted is dependent on effective planning, siting and design. This chapter is designed to provide support for the prioritisation of projects for delivery as funding becomes available or opportunities arise, or as an initial reference point for further detailed feasibility and master planning work, which is beyond the scope of this strategy. The lists may also be used in negotiations with developers to help best direct developer contributions coming forward.

Overview of Priority Opportunities

#1 Re-wilding Road Verges

6.5 This opportunity responds to the need to create pollinator corridors and biodiversity corridors through the whole Borough, and proposes small modifications to conventional management and cutting regimes along road verges, allowing them to become vital links that allow wildlife to move freely between fragmented habitats.

#2 Expanding Woodland Cover

6.6 This opportunity responds to the relatively low forest cover outside the National Forest territory, in order to act as both a 'carbon sink' and to provide a range of ecosystem services. This is likely to involve extensive partnership working and taking advantage of emerging grant schemes as this issue rises up the policy agenda.

#3 Managing Spaces for Biodiversity

6.7 This opportunity responds to the potential for existing green space to 'work harder' in providing habitats, through changes to the management processes, particularly seeking to address concerns over poor grassland diversification within the Borough. This opportunity also addresses the need for richer and more diverse habitats within new green spaces provided through the planning process.

#4 Making Space for Play

6.8 This opportunity response to the Borough's identified 'play deficit' and a more broadly identified 'nature deficit' in relation to play opportunities for children. It proposes higher standards for self-led, nature-based play opportunities and ensuring that they function as multi-functional GI assets.

#5 Private Gardens as 'Stepping Stone' Habitats

6.9 The opportunity proposes ways to support private gardens in addressing habitat fragmentation across the Borough, and in building resilience to flood risk, through policy measures, awareness-raising initiatives and working with housing developers.

#6 Enhancing the Southern Green Wedge

6.10 This opportunity encourages additional uses for the Hinckley/Barwell/Earl Shilton/Burbage Green Wedge in the Southern GI Zone, to support surrounding communities and wildlife. Potential uses include food growing, community woodlands and orchards, and environmental education facilities. Such improvements will also be crucial in reducing recreational pressure on vulnerable habitats within the Wedge.

#7 Wayfinding Strategy for Mixed Ability Walkers

6.11 This opportunity responds to health and wellbeing challenges in the south of the Borough, by proposing a wayfinding strategy on 'entry level 'routes around urban areas, using a simple and consistent Design Code. This is designed to encourage a wider range of the community to engage in recreational walking.

#8 A 'Northern Gateway' for Hinckley

6.12 This opportunity seeks to capitalise on emerging developments to the west of Hinckley to improve connections to the 'green-blue spine' of the Ashby Canal and softening the 'harsh' urban environment. The proposal also includes improvements in access and biodiversity along a targeted stretch of the canal north of the urbanised area.

#9 Greenways through Hinckley

6.13 This opportunity responds to the fragmented nature of existing walking and cycling routes through Hinckley and linking up key destinations (including the railway station, green wedge and key new developments) by proposing a better-connected series of 'greenways' building on existing assets, and linking into connectivity proposals made within the 2020 Hinckley Public Realm Masterplan.

#10 A More Resilient Burbage Common and Woods

6.14 The opportunity responds to the threat of recreational pressure identified at the fragile Burbage Common and Woods SSSI, by proposing provision of alternative green space (in combination with **Opportunity #6**), the re-routing of visitors, and the extension of semi-natural habitats outward from the Common.

#11 The 'Battlefield Trail'

6.15 This opportunity seeks to capitalise on the flagship heritage and tourism asset of the Bosworth Battlefield, by enhancing the disused Nuneaton-Shenton railway line as an active travel route. This would link into other identified opportunities (notably **Opportunities #8 and #9**) and provide dividends for biodiversity, health and wellbeing and the visitor economy.

Table 6.1: Identified GI Priority Opportunities

No.	Opportunity	Description	Landscape, townscape and historic environment	Biodiversity	Active Travel	Open space, play and recreation	Carbon Sequestration	Water Resources	Link to identified Opportunities (Chapter 5)
1	'Re-wilding' roadside verges	Tweaking management regimes to provide wildflower habitats for pollinators along Borough's road verge network.							BD3-f
2	Expanding woodland cover	Supporting the expansion of the National Forest and identifying land for new woodland creation in less forested areas of Borough.							LH1; LH2-a; BD3-a; CS1-a; CS1-d; CS1-e; CS2; WR1-b
3	Managing public spaces for biodiversity	Continuing program of introducing sympathetic management techniques for public space, to address fragmentation of habitats.							BD5
4	Making space for play	Tackling the 'play deficit' by requiring high standards of nature-based play sites alongside development, to act as multi-functional GI assets.							OS4; BD5
5	Private gardens as 'stepping stone' habitats	Campaign to encourage more wildlife-friendly and flood resilient private gardens, to contribute to strong biodiversity corridors.							BD3-g; WR4-a
6	Enhancing the Southern Green Wedge	Enabling land uses that help the Hinckley/Barwell/Earl Shilton/Burbage Green Wedge deliver more GI functions, and to relieve recreational pressure on Burbage Common.							LH4-a; LH4-b; BD4; AT4; OS1-b; OS3

No.	Opportunity	Description	Landscape, townscape and historic environment	Biodiversity	Active Travel	Open space, play and recreation	Carbon Sequestration	Water Resources	Link to identified Opportunities (Chapter 5)
7	Wayfinding strategy for mixed-ability walkers	Upgrading peri-urban public rights of way with signposting and interpretation, to encourage entry-level walkers to engage with the countryside on their doorstep.							AT2-b; AT2-c
8	A 'northern gateway' for Hinckley	Addressing the weak and 'hostile' north western edge of Hinckley, strengthening links to the Ashby Canal 'spine' and upgrading a priority stretch of the canal for recreation and biodiversity.							LH3; LH4-d; LH6; AT3-b; WR1-c
9	'Greenways' through Hinckley	Encouraging active travel by creating appealing 'greenways' along prioritise routes through the urban area, with a focus on routes to the train station and local schools, and repairing existing gaps in the route network.							LH3; AT1; AT4
10	A more resilient Burbage Common and Woods	Better safeguarding sensitive habitats by re-routing away from certain areas, extending habitats outwards, and providing alternative green spaces.							LH4-b; BD4
11	Battlefield 'loop line'	Exploiting the asset of the disused Nuneaton-Shenton railway line as both a biodiversity and active travel asset.							LH5-b; AT2-a

Table 6.2: Identified GI 'big picture' opportunities

No.	Opportunity	Description	Landscape, townscape and historic environment	Biodiversity	Active Travel	Open space, play and recreation	Carbon Sequestration	Water Resources	Link to identified Opportunities (Chapter 5)
1	Regenerating the Ashby Canal GI 'spine'	Multi-actor project to enhance the whole length of the Ashby Canal as a multi-user corridor, boosting access by active travel to heritage destinations.							**LH5-a; LH6; BD3-c; AT2-e; WR1-c**
2	Urban greening in the Hinckley conurbation	Collaborative 'urban greening' intiatives in Hinckley, Barwell and Burbage, including creation of 'pocket parks'.							**LH3; OS2**
3	'New lives for old pits'	Creation of wetlands/recreation destinations at former pits in the east of the district.							**LH2-d; BD6;**
4	Support for a new era of countryside stewardship	Looking beyond food production – supporting landowners and farmers in taking up new era of agri-environment schemes and making a positive contribution to a richer and more varied agricultural landscape.							**LH1; BD2; BD3-a; WR1-a**
5	Enhancing the River Sence Corridor	Promoting of a richer habitat mosaic in the western rural heartlands, including lowland meadow creation/restoration around the tributaries of the Sence.							**BD3-e; WR2**
6	Connecting the northern marshlands	Creation of lowland fens and meadows in land surrounding Newton Burgoland SSSI, on the Borough's northern boundary.							BD3-d

Table 6.3: Identified GI 'other opportunities'

No.	Opportunity	Description	Landscape, townscape and historic environment	Biodiversity	Active Travel	Open space, play and recreation	Carbon Sequestration	Water Resources	Link to identified Opportunities (Chapter 5)
1	Better understanding the biodiversity baseline	Improved surveying and data management of biodiversity assets and reviewing existing designation database, particularly concerning non-statutory sites. This will provide an enhanced understanding of priority locations for the Nature Recovery Network.							BD1; BD3-h
2	Protecting core habitats	Protecting the integrity of core sites in the habitat network, including ancient woodland.							
3	River Tweed Corridor enhancements	Enhancement of the corridor, including woodland planting, grassland creation and diversification of wetlands. To be delivered predominantly through the masterplan for the Barwell SUE.							LH4-c; AT3-a; WR3
4	Safeguarding the 'green' in Hinckley's public realm	Supporting and championing the 'green' elements of the emerging Hinckley Public Realm masterplan, including better 'weaving' of GI assets through the urban area and supporting the 'Hinckley Loop' and surrounding walking and cycling routes.							LH3; OS2
5	Expanding 'Miles Without Stiles' routes	Supporting older residents access recreational opportunities by building on the parish-level 'Miles Without Stiles' initiative and expanding to further areas.							AT2-d
6	Woodland planting on school grounds	Taking advantage of Woodland Trust opportunities for 'school tree packs' to increase tree cover and engage young people in the GI agenda.							LH2-b; CS1-b

No.	Opportunity	Description	Landscape, townscape and historic environment	Biodiversity	Active Travel	Open space, play and recreation	Carbon Sequestration	Water Resources	Link to identified Opportunities (Chapter 5)
7	Woodland planting on utility company grounds	Build on recent precedent to explore with local utility companies the opportunities to take forward tree planting on land under their control.							LH2-c; CS1-c

Overview of 'Big Picture' Opportunities

6.16 This Strategy has identified six 'Big Picture' opportunities, which are designed to inspire action around a number of broader-scale and ambitious initiatives, as compared to the more targeted Priority Opportunities. For each, a case study has been provided in order to illustrate how similar projects have been taken forward elsewhere.

1: Regenerating the Ashby Canal GI 'spine'

Case study: Community-led canal regeneration – Glasgow's 'Claypits' project

The Glasgow Canal regeneration project aims to restore a section of the Forth and Clyde Canal to provide a valuable greenspace resource for three disadvantaged communities in North Glasgow. Community consultation informed the development framework and the preparation of a masterplan for the canal corridor. Environmental enhancement projects include improving pedestrian and cycling connectivity, amenity, and installing new furniture items and signage around Applecross Basin. Delivery of wider green infrastructure improvements for the canal corridor, which include the safeguarding and improving access to the Claypits Local Nature Reserve and the new 'Living on Water' facilities at Firhill Basin, is also proposed. In March 2018 the first new all-weather path through the Claypits reserve was opened, thanks to £400,000 funding from the Scottish Government through Sustrans Scotland's Community Links programme. The overall aim of the project is to deliver wider green infrastructure improvements to promote access, health and wellbeing whilst responding to heritage, cultural and ecological sensitivities.

2: Urban greening in the Hinckley conurbation

Case study: Urban Greening - Wildflower meadows in Cheltenham

Cheltenham Borough Council has secured match funding from the European Union's European Regional Development Fund to deliver four urban greening schemes across the town. This has been achieved by partnering with Gloucester City Council's urban greening project and other partners to improve/create around 250 hectares of habitat across a number of sites in Gloucestershire. The four schemes within the Borough of Cheltenham include: creating a wildflower meadow throughout the Benhall open space, conversion of a disused railway line into a shared footpath, maintaining the Pittville Park Green Flag Award and Green Heritage accreditation, and a sustainable bedding project that includes several prominent sites and aims to incorporate a wider variety of plants giving the gardens and public spaces a more diverse visual and sensory impact.

Community members working on Claypits plan

Wildflower meadows

3: 'New lives for old pits'

Case study: CEMEX and RPSB partnership at restored quarries

In 2010, building materials company CEMEX and the UK's largest conservation charity, the RSPB, made a commitment to create 1,000 hectares of priority habitats within a decade. In accordance with a national biodiversity strategy, CEMEX spends £1.2m each year on restoration some of which goes to creating nature reserves from their restored quarries that benefit local communities as well as wildlife. Working in partnership, CEMEX and the RSPB have transformed 1,000 hectares of former quarry sites, in just eight years, into grassland, woodland, heathland and ponds and open water to provide much needed habitat for some of the UK's most threatened species. In addition to providing urgently needed new habitat for threatened species the former quarry sites are also attracting nature lovers and conservationists, with over 750,000 visitors enjoying the sites that are already open to the public.

In a similar project Hanson Wetlands is one example where the RSPB has led on landscape-scale restoration on land formerly used for sand and gravel extraction, working in partnership with construction materials supplier Hanson. When complete, it will form the UK's biggest reedbed and will recreate some of the lost wetland habitat that once dominated the entire Fenland landscape.

4: Supporting countryside stewardship

Case study: The Allerton Project

The Allerton Project began in 1992 in partnership with the Game & Wildlife Conservation Trust and since then has played a key role in influencing policy through its own farm business and research activities. Game management has been shown to have beneficial effects on other wildlife through habitat management, predator control and supplementary feeding in winter. At Allerton, the abundance of many bird species soared. Habitats have been developed and created in the non-cropped area to benefit a range of terrestrial wildlife, while measures to improve water quality and aquatic wildlife have been developed within and outside the cropped area. Wherever possible, the project aims to identify management practices that have multiple benefits.

The Allerton Project also partners with a number of organisations, including Defra, and the Allerton Project is one of five sites nationally to be part of the Defra-funded Sustainable Intensification Platform, a network of research and demonstration farms seeking new ways of combining productive, profitable agriculture with wildlife conservation, resource use efficiency, climate change mitigation, water quality and flow improvement.

Hanson Wetlands – an example of landscape-scale wetland creation following sand and gravel extraction (RSPB).

Wildflower meadow at the Allerton Project

5: Enhancing the River Sence corridor

Case study: River Corridor enhancement – Deptford Creek

The River Thames and Deptford Creek is highlighted as a river character area within the River Corridors Improvement Plan SPD for the London Borough of Lewisham. In partnership with the Creekside Education Trust, London Boroughs of Greenwich and Lewisham and the Environment Agency, restoration improvements have been implemented on the Deptford Creek. These included: creating a variety of intertidal and terrestrial terraces, using timbers and paneling to provide vertical and horizontal habitats, creating a sandbank for nesting kingfishers or sand martins and installing fish refuges for high tide use. As a result of the restoration there are diversified habitats and sand martins now nest on the sandbank. Additionally, the river now has more space, especially at high tide, and the flood defence walls have been renewed. Low Tide Walks are also undertaken by the Creekside Education Trust to educate and raise awareness within the community regarding their local urban environment and associated wildlife.

6: Connecting the northern marshlands

Case study: Wetland and reedbed creation in the north west

White Moss, a green waste composting processing company based in Merseyside, committed to restoring over 120 hectares of their land on the outskirts of Liverpool to a high quality reedbed and wetland habitat. The first phase (50 hectares) began in 2005, and the second phase (25 hectares) began in early 2010. The company was driven to implement the project as part of its environmental responsibilities, in order to restore flora and fauna.

Wetlands and wetland buffers are the focus of many restoration efforts because the health and extent of wetlands in the UK has declined significantly in recent decades, and can make provide critical habitats for both plants and animals, as well as recreation opportunities.

Example of wildlife-friendly river corridor

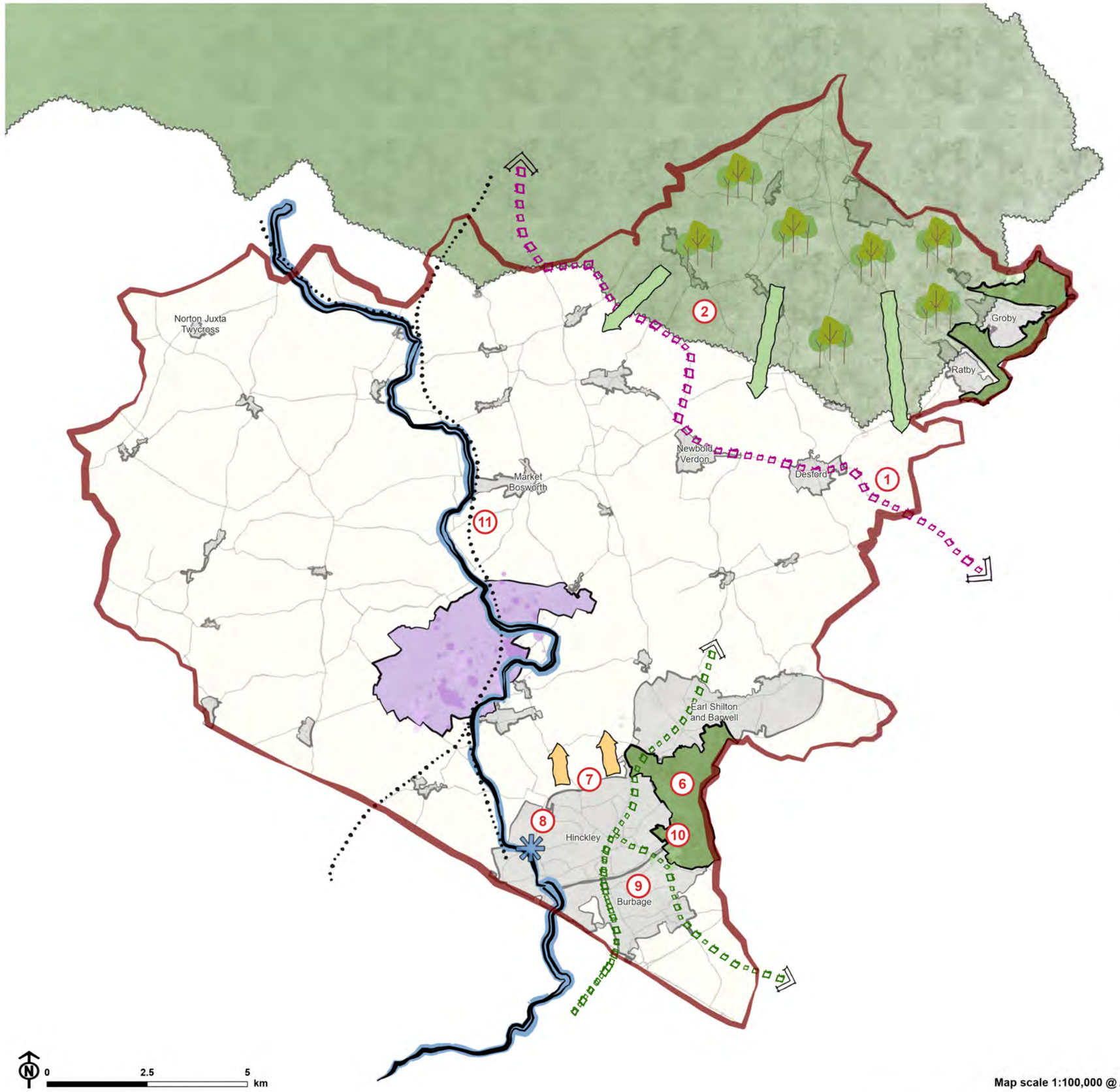
Example of wetland with reed bed

Priority Opportunities: In Detail

6.17 Figure 6.1 illustrates the identified Priority Opportunities – a combination of spatial opportunities and opportunities which apply across the Borough. The following pages provide a profile of each Priority Opportunity with more detail on justification, requirements and potential delivery mechanisms.

LUC

Figure 6.1 Priority Opportunities for Hinckley and Bosworth's GI network



- Hinckley and Bosworth boundary
- Settlements
- National Forest
- Bosworth Battlefield
- Green Wedge
- Ashby Canal

Spatial Priority Opportunities

- 1. 'Re-wilding' roadside verges
- 2. Expanding woodland cover
- 6. Enhancing the Southern Green Wedge
- 7. Wayfinding strategy for mixed-ability walkers
- 8. A 'northern gateway' for Hinckley
- 9. 'Greenways' through Hinckley
- 10. A more resilient Burbage Common and Woods
- 11. Battlefield 'loop line'

Borough-wide Priority Opportunities

3. Managing public spaces for biodiversity
4. Making space for play
5. Private gardens as 'stepping stone' habitats

N 0 2.5 5 km

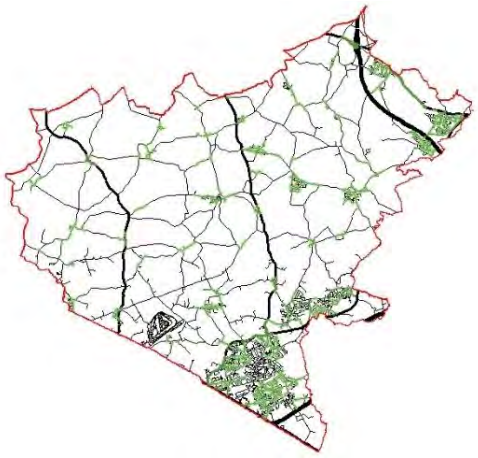
Map scale 1:100,000 @ A3

CB: EB:Manson D LUC FIG6_1_10655_01_Key_diagram_A3L 27/08/2020
Source: OS, Hinckley and Bosworth Borough Council

Hinckley & Bosworth Borough Council

#1 'Re-wilding' Roadside Verges

Image courtesy of Luke Morton (Plantlife)



Indication of network of road verges across Hinckley & Bosworth

The Opportunity

It is estimated that 97%of the UK's meadows have been destroyed since the 1930s, and road verges – which cover around 500,000 km across the UK, once provided an important part of the provision of this habitat type. The habitats within these verges have often lost out to priorities for safety and access, budget constraints and a desire for 'neatness'.

Hinckley and Bosworth's roadside verges have the potential to act as vital 'biodiversity corridors' for movement and dispersal when restored as wildflower meadows. Restoring their wildlife function – encouraging species such as cowslip, oxeye daisies and yellow rattle – responds to the decline in biodiversity and habitat fragmentation identified within this Strategy. The Borough Borough's Biodiversity Assessment (2009) noted the decline in species-rich grassland habitat, and that 'road verges form an important addition to grassland resource… although most are species-poor and heavily managed'.[1] Research undertaken in 2019 highlighted that agricultural field interiors in locations such as the BoroughBorough's Western GI Zone perform very poorly for pollinators, making road verge habitats all the more important as 'refuges from cultivation'.[2]

With small modifications to conventional management and cutting regimes, these verges can become vital links that allow wildlife to move freely between fragmented habitats. This largely involves 'standing back' and allowing nature to run its course. In 2019, on the back of the government's National Pollinator Strategy,[3] the organisation *Plantlife* produced a set of best practice guidelines for managing grassland road verges. This is based on the overall principle of 'cut less, cut later' and removing cuttings to bring nutrient levels down.[4] In Hinckley and Bosworth, this would need to be agreed with Leicestershire County Council through their 'Urban Wildlife Verges' pilot project, whichwas launched in response to public interest, and offers parish, town, Borough and District Councils the opportunity to turn urban roadside verges into dedicated wildflower verges by submitting a request to the County Council. Verges that comply with their criteria would have to be identified according to the scheme's guidelines, and costs would include: the purchase of wildflower seeds, regular maintenance, any health and safety equipment, and public liability insurance. The organisation Buglife UK estimates that the wildflower itself seed costs approximatley £100 per kilogram,[5]

[1] Hinckley and Bosworth Borough Council (2009), 'Biodiversity Assessment: Final Report' [Online]: https://www.hinckley-bosworth.gov.uk/downloads/file/983/biodiversity_assessment_-_march_2009
[2] Phillips, Gaston, Bullock and Osborne (2019), 'Road verges support pollinators in agricultural landscapes, but are diminished by heavy traffic and summer cutting', *Journal of Applied Ecology,* 56(10) pp 2316-2327.
[3] DEFRA, 'The National Pollinator Strategy: for bees and other pollinators in England' [Online]: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794706/national-pollinator-strategy.pdf
[4] Bromley, McCarthy and Shellswell (2019), 'Managing Grassland Verges: A best practice guide', *Plantlife.* [Online] at: https://www.plantlife.org.uk/application/files/3315/7063/5411/Managing_grassland_road_verges_Singles.pdf
[5] Buglife UK (n.d.), 'Funding Your Community Meadow' [Online] Available at: https://cdn.buglife.org.uk/2019/07/4.BuglifeCommunityMeadowspackFUNDINGweb.pdf

The 2020 Phase 1 Habitat Survey notes that in peri-urban areas, including the area south of the M69, the existing road network provides a potential framework for substantial linear tree planting and/or grassland creation. This is likely to be the case in other peri-urban parts of the Borough.

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Examples from elsewhere

In 2018 Hull City Council began seeding a number of wildflower meadows alongside the city's road infrastructure, including a number of roundabouts. This was undertaken to support the National Pollinator Strategy while adding seasonal colour to the urban landscape. The meadows were also designed to support flood alleviation schemes, and were carried out in partnership with Yorkshire-based company Pictorial Meadows. Projects are now present at Holwell Road, Bude Road, Holderness High Road and Mount Pleasant, where a regime of regular trimming has been replaced with verges being left alone over the summer. This has delivered savings on maintenance costs by reducing the expenseof intensive mowing. In December 2019, the urban wildflower meadow project was awarded as Green Action Bees' Needs Champions in the annual awards run by DEFRA.[6]

There is also potential to engage local business in delivering wildflower meadows. In recent years, Enterprise Rent-a-Car created urban meadows across seven sites close to arterial roads in Glasgow, Sheffield, Leeds, Birmingham, Swindon, Liverpool and Woking.

Potential Challenges and Risks

- While the costs of implementing this opportunity are relatively low, the major challenge is securing the 'buy in' of the Highways Authority, and careful negotiations are required to ensure that safety and access standards are maintained. This

[6] HullCCNews (December 2019), 'Hull's urban wildflower meadows win national award', [Online]: https://www.hullccnews.co.uk/24/12/2019/hulls-urban-wildflower-meadows-win-national-award/

can be achieved, for example, by leaving 'visibility splays' at forward bends to roundabourts and at junctions,to ensure that vehicle sight lines are maintained where necessary.

- It is important that British native wildflowers are sown wherever possible rather than cultivated varieties, in order to avoid inadvertently harming butterflies, beetles and bees.
- Leicestershire County Council and local parish councils are responsible for cutting a large part of verges in the Borough, and both will be key partners to engage.
- Effective and timely communications with local community members will be needed to ensure 'buy in' to the altered appearance of the roadscape, and to avoid complaints that verges are not being adequately maintained. Demonstrating impact will be helpful in this effort, as will broader awareness-raising initiatives.

Potential partners	Mechanisms	Wider stakeholders to engage
Leicestershire County Council	'Urban Wildlife Verges' initiative	Plantlife UK Highways England Hinckley and Bosworth Green Spaces team Leicestershire & Rutland Wildlife Trust Local voluntary conservation groups (eg. Hinckley Natural History Society) Local Councillors
Parish/town Councils	Coordinating community-led delivery of selected verges eg. ongoing engagement in Sheepy Magna.	
Local businesses	Sponsorship of verges from local buisnesses as part of CSR initatives, including integration of wildflower planting into existing County-level 'Sponsor a Roundabout' schemes.	
Developer contributions	Potential to consider sums to cover the cost of managing urban/rural verges.	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

#2 Expanding woodland cover

Photo of tree saplings (courtesy of the National Forest)

The Opportunity

The Committee on Climate Change has stated that at least 30,000 hectares of land in the UK will need to be planted by 2050, and that more woodland will need to be brought into sustainable management, in order to meet climate change targets.[7] Meeting this objective will require the protection, restoration and significant expansion of native woodland and tree cover across the UK. While the National Forest - in the northeastern GI Zone - is a significant and valuable asset which must be supported, tree cover elsewhere in Hinckley and Bosworth is sparse. Hinckley and Bosworth currently has less than 6% tree cover which falls well short of the national target of reaching 17% tree cover by 2050.

Woodlands provide a broad range of 'ecosystem services'. The most prominent national policy driver for increasing tree cover is to boost the role of the landscape as a 'carbon sink' in the fight against climate change. However woodlands can also provide crucial habitats to enhance biodiversity – given that one in 10 of the country's woodland species is in danger of extinction.[8] They can also act as 'stepping stone' habitats and play a key role in restoring fragmented habitat networks, increasing flood resilience, and helping to restore water quality, particularly in agricultural landscapes.[9] Forestry can also create new jobs and sustainable timber which can 'lock up' carbon in buildings and other products.

Any tree planting initiative should take account of the important work already carried out by the National Forest and seek to build on it, and will require a more detailed 'site finding strategy' to explore where the most appropriate locations are to increase cover, in order to create a coherent network of woodland habitats that is mindful of landscape character. However the map in **Figure 5.11** (Chapter 5) gives an indication of some areas that may be suitable, subject to further investigation. In order to identify priority locations, this data should be combined with the emerging Ecological Network and Permeability Mapping project in Leicestershire, which will indicate where particular woodland habitats will be important to conserve and enhance, as part of the Nature Recovery Network.

In particular, the Borough's 2020 Phase 1 Habitat Survey recommends expanding the tree canopy out from sites such as Burbage Woods into urban and peri-urban areas. It also suggests that habitat connectivity could be improved by the expansion of the woodland network surrounding Groby in the north east of the Borough as part of a wider mosaic of conservation value habitats.

Partnership working will be essential to identify and realise the opportunities. The Woodland Trust suggest that 'public forest estates and other public land must lead the way'. Several opportunities exist to expand cover:

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[7] Committee on Climate Change (2020), *Land use: Policies for a Net Zero UK.* [Online] Available: https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/

[8] Woodland Trust (2020) *Emergency Tree Plan for the UK: How to increase tree cover and address the nature and climate emergency.* [Online] Available at: (https://www.wildtrout.org/assets/files/library/Water%20RBC%20Bluewater%20Farming%20report%20-%20Planting%20Trees%20to%20Protect%20Water.pdf

[9] Woodland Trust (2020) *Emergency Tree Plan for the UK: How to increase tree cover and address the nature and climate emergency.* [Online] Available at: (https://www.wildtrout.org/assets/files/library/Water%20RBC%20Bluewater%20Farming%20report%20-%20Planting%20Trees%20to%20Protect%20Water.pdf

- Tree planting on agricultural land ('agroforestry') will also need to be explored, in a post-CAP policy environment, given the evidence of the additional benefits for pollution mitigation and safeguarding water resources. The Borough's 2020 Agricultural Land Study maps those areas predicted to be non-BMV ('Best and Most Versatile Land'), and are likely to be more appropriate for tree planting.
- On a smaller scale, woodland planting by schools (where tree planting can also be used as a valuable educational resource)[10] and utility companies[11] should be explored.
- Increased canopy cover should be required on residential development sites, taking into account guidance from the Woodland Trust[12], as well as part of 'urban greening' efforts, particularly in the Southern GI Zone and public realm improvements.

Any strategy to boost woodland cover must focus on the quality of planting and management alongside the number of trees that are planted. Drawing on the 2020 Phase 1 Habitat Survey findings, measures to extend woodland habitats must be guided by the principles of optimising climate change resilience, such as the selection of locally-appropriate species and long-term management techniques.

Contribution to GI themes

					
Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Severn Trent Tree Planting Strategy

In 2019, Severn Trent water and waste company pledged to plant 1.3m trees over the next five years through a variety of schemes, including a partnership with the Woodland Trust. In the past, most planting has taken place in Derbyshire but the company is now seeking to expand. The trees will be made up of native species, and the scheme is part of a wider water industry initiative to plant 11 million trees across England by 2030 to support their goal of achieving a carbon neutral water industry.

These initiatives provide an opportunity to find additional land for planting if appropriate sites are available within Hinckley and Bosworth, as well as the opportunity to create links with other initiatives – including the National Forest – and with nearby developments which can be required to provide additional woodland planting adjacent to water company sites in order to expand coverage and help to connect a network of woodland areas.

Potential Challenges and Risks

[10] RHS (n.d) 'Information Sheet: Trees in School Grounds' [Online] Available at: https://schoolgardening.rhs.org.uk/Resources/Info-Sheet/Trees-in-School-Grounds
[11] Beament (August 2019), '11 million new trees to be planted in England by water companies', *The Independent.* [Online] Available at: https://www.independent.co.uk/environment/trees-planted-england-water-companies-a9061296.html
[12] Woodland Trust (2019), 'Residential developments and trees: a guide for planners and developers' [Online] Available at: https://www.woodlandtrust.org.uk/media/1688/residential-developments-and-trees.pdf

- Any woodland expansion or creation take into account landscape character and the 2017 Hinckley and Bosworth Landscape Character Assessment.

- The increasing threat of pests and diseases, as identified by local stakeholders, is a significant concern. In particular, ash dieback is predicted to lead to the loss of around 150 million mature trees and 2 billion saplings and seedlings between 2030-2040.[13] This means that greater planting diversity is needed when creating new woodland resources, to ensure resilience to such threats.

Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Woodland Trust	Subsidised 'tree packs' (30-420 trees), 'trees for your farm' scheme, MOREwoods (500+ trees).[14]	Parish councils Schools Local community and volunteer initiatives
Agricultural land owners and managers	Countryside Stewardship Woodland Creation Grants (WCG)[15]	
Utility companies (including Severn Trent Water)[16]	CSR initiatives/existing tree planting pledges	
Central government grants for landowners	Urban Tree Challenge Fund (for peri-urban planting)[17] Emerging funding schemes for tree planting (as part of post-Brexit policy initiatives)	
Developer contributions	Section 106 agreements and BNG / biodiversity off-setting opportunities for the creation of new, linked woodland sites.	
Local businesses	Corporate sponsorship	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

[13] Woodland Trust (2020) *Emergency Tree Plan for the UK: How to increase tree cover and address the nature and climate emergency.* [Online] Available at: (https://www.wildtrout.org/assets/files/library/Water%20RBC%20Bluewater%20Farming%20report%20-%20Planting%20Trees%20to%20Protect%20Water.pdf
[14] https://www.woodlandtrust.org.uk/plant-trees/large-scale-planting/
[15] https://www.gov.uk/government/publications/woodland-creation-grant-countryside-stewardship-from-10-september-2018
[16] In 2019 Severn Trent pledged to plant 1.3m trees on its own land over the next five years, and had planted almost 700,000 trees since 2015. Available at: https://www.stwater.co.uk/news/news-releases/severn-trent-pledges-to-plant-1-3m-trees-in-next-five-years--hav/
[17] Developed in respond to the 2018 Autumn Budget announcement, and delivered in partnership with the Forestry Commission. Year 1 applications closed in 2019, and a second round of funding is available for 2020/2021.

#3 Managing public spaces for biodiversity

Bird life in parks

Wildflowers in park in Euskirchen, Germany

The Opportunity

While public green space can provide a range of benefits, common management practices - including the maintenance of turf grass lawns, tree and shrub pruning, pesticide and herbicide applications, and the introduction of non-native plant species - can threaten biodiversity. Traditionally the design and management of public parks has favoured an ornamental and manicured appearance, which can limit their ecological potential. However new guidelines on managing green spaces for biodiversity is challenging green space managers to consider how spaces can create richer, more fulfilling public spaces where wildlife can also thrive. Alongside a focus on maximising the wildlife potential of private gardens (see **Opportunity #5**), even small tweaks to management processes can help to address the fragmentation of habitats highlighted, in particular the noted concerns over poor grassland diversification within the Borough.

A key challenge is balancing the perceptions and needs of local residents with the ecological requirements. There are two options that could be considered in Hinckley and Bosworth, a) a focus on both Council-maintained spaces and b) creation of green spaces delivered via new development:

- **Existing Council-managed green space:** Hinckley and Bosworth Borough's Green Spaces Delivery Plan (2014-18) includes a firm commitment to improve Council-maintained green spaces. ' Biodiversity and environmental impact' is one of the four key themes that structures its strategic delivery going forward. Goals include increasing wildflower areas, creating 'green buffers' and reducing herbicides at Council-managed sites, among others. The strategy recommends that the updated Delivery Plan continues to encourage and prioritise management for biodiversity. The mechanism for delivering this is likely to be through an over-arching 'habitats perspective' approach integrated into maintenance regimes and contract management. More specifically this will take an 'outcomes-based' approach to contracting, as suggested by CABE.[18] . This will describe the general results required and leave contractors to establish the best methods of achieving those, supported by method statements.
- **New green spaces provided through the planning process:** Planning conditions for developers bringing forward sites should specify that such new green spaces will be managed for biodiversity and contribute wherever possible towards reducing habitat fragmentation. The emerging Biodiversity Net Gain (BNG) agenda will have a key role to play to achieve this, including the potential for off-setting schemes. The Kingsbrook development in Aylesbury Vale District Council aims to set a benchmark for this type of 'wildlife-friendly housing', as part of a partnership between RSPB and Barratt

[18] CABE et al (2006), 'Making Contracts Work for Wildlife' [Online] Available at: https://www.justgiving.com/fundraising/million-challenge

Developments, and sets a standard of 60% wildlife-friendly greenspace, excluding gardens, including areas of ponds, parks, meadows, orchards and nature reserves, in addition to networks of wildlife corridors.[19]

Guidance produced by CABE ('Making Contracts Work for Wildlife') in 2006 provides helpful information which could be used as starting point for discussions both internally within the Council and with developer partners.

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Southend-on-Sea Borough Council

Since 1998, Southend-on-Sea Borough Council has actively encouraged biodiversity in its parks and green spaces. As a highly urbanised Borough, parks and other green spaces within towns are the main opportunity to implement Biodiversity Action Plans (BAP) and other conservation strategies. The Council began by taking small steps as a starting point, in order to gradually introduce people to change. In some areas, grassland was taken out of regular amenity mowing and wildflower meadows were created.

The initiative was undertaken by a partnership between the local authority, wildlife agencies and volunteer groups, including the Essex Amphibian and Reptile Group who assisted with the management of maintenance regimes.[20]

Potential Challenges and Risks

- Any strategy must acknowledge fully the conflicts and restrictions that green space managers may face when considering changes to management practices.
- Ongoing pressure on public sector budget, makes it challenging to gain/reinforce the relevant skills needed to make changes to management practices. The proposed opportunities are process-led rather than investment-led, and budgetary pressures could be overcome by adopting a gradual approach of slow and phased changes which focus on the most

[19] RSPB (n.d), 'Kingsbrook, a new ear in wildlife-friendly housing'. [Online] Available at: https://www.rspb.org.uk/our-work/conservation/projects/kingsbrook-housing/
[20] Case study adapated from CABE et al (2006), 'Making Contracts Work for Wildlife' [Online] Available at: https://www.justgiving.com/fundraising/million-challenge

achievable actions to begin with and recognising that over the long-term, management for biodiversity regularly results in a reduction of maintenance costs.

- Managing public opposition to change, including concerns over health and safety or aesthetics is a key challenge, as highlighted in our stakeholder consultation. In Southend-on-Sea (see Example), an active approach to challenging complaints was used. This included a number of measures including: inviting people who made a complaint on a walk around the site with the woodland officer; establishing a 'Friends' group; and running a series of public and school walks.

Potential partners	Mechanisms	Wider stakeholders to engage
Developers	Planning conditions regarding provision and sympathetic maintenance of public spaces within sites. Emerging BGN requirements represents an opportunity to enforce this.	Wildlife Trust Local Community Groups Wider public and green space users Other Local Authorities which have pioneered alternative approaches (Knowsley, Telford & Wrekin etc).
Community groups	Engaging local groups in the maintenance of green spaces as part of a partnership-based approach.	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

#4 Making Space for Play

Tumbling Bay Playground (London)

Argents Mead play area and surrounding (Hinckley)

The Opportunity

The Study has identified a 'play deficit', which is concentrated around Barwell and Earl Shilton, given recent population growth in the area. Policy 19 of the existing Core Strategy requires a minimum of 0.15 ha of equipped children's play space per 1,000 population. However evidence on the benefits of play suggests that greater focus is required not only on the quantity of play space provided, but also its quality. Play spaces should also respond to the needs of young people of a range of ages, identified by the 2016 Open Space Strategy as being under-provided for. There is great scope for considering existing and new play spaces within the Borough as potential GI assets.

The National Trust's 2012 *Natural Childhood* report identified a 'nature deficit disorder', describing the human costs of alienation from nature. Physical and mental health problems are the more obvious consequences of this alienation, but so too are issues like emotional resilience and vital life skills like dealing with risk.[21] Successful GI-led play spaces can have a significant health and wellbeing benefits, as well as providing opportunities for community cohesion and interaction.

In particular, where play spaces are designed to provide nature-based play and provide non-prescriptive play opportunities which mimic the complexity of nature, they can provide valuable recreational opportunities for children and young people, as well as a stronger connection to the natural environment. In addition, nature-based play spaces can provide co-benefits in enhancing biodiversity, and can enhance the local landscape.

The motte and bailey-themed play at Argents Mead in Hinckley town centre has become a valued asset set within a Green Flag park. The park sets a benchmark for local play provision and provides interpretation to support Hinckley's nearby heritage assets. However elsewhere there are play areas of poorer design quality and more standardised equipment, with fewer opportunities for imaginative play, or features which support biodiversity.

At the larger scale, sites allocated for development in the Borough, such as the Sustainable Urban Extensions (SUEs) could integrate nature-led play facilities with other multi-functional benefits. Masterplans for sites coming forward should demonstrate that play has been fully integrated into the scheme and wider landscape.

[21] National Trust (2012), TBC

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Calverley Adventure Grounds

In 2015, a community group succeeded in turning a disused bowling green into a commuinty play space in Calverley, Tunbridge Wells. The design process invovled canvassing local children about the play experiences they wanted. The playground, was integrated into the surrounding natural environment, with a serpentine sand pit and planted borders inspired by the stream that once ran through the Calverley Estate.

The design provides physial and psychological benefits by promoting imaginative play, exploration and considered risk-taking. It also celebrates the heritage of Royal Tunbridge Wells through its design and accompanying interpretation boards.

The project was seen as setting a precedent for how the community and local business can work together to transform an underutilised space

Potential Challenges and Risks

- Viability of new development not allowing for play provision.
- Need to ensure wide 'buy in' through public engagement sessions where possible, for example involving schools in the design of the scheme.
- Lack of funds from Council to develop the scheme, often leading to reliance on the local community to take the lead in fundraising, applying for small local grants (eg. landfill grants) and undertaking fundraising activities.
- Concerns from residents that the play area will increase noise and attract vandalism – to be managed through extensive engagement with a wide variety of stakeholders, including teenagers.

Potential partners	Mechanisms	Wider stakeholders to engage
Developer contributions	Section 106 agreements	Play England Local community Local schools
Local communities	Crowd funding	
Heritage Lottery Fund/National Trust	Grants for play areas as part of park restoration, such as the Future Parks initiative.[22]	
Landfill grant makers	Funding from Landfill Communities Fund	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

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#5 Private gardens as 'stepping stone' habitats

Aerial view of private gardens in the vicinity of Teign Bank Road, Hinckley. Source: Google Earth V 6.2.2 (2020). Hinckley, UK.

The Opportunity

While large-scale green spaces such as Burbage Common and the Borough's country parks tend to be at the forefront of peoples' minds in relation to green space, private gardens are increasingly recognised as valuable multi-functional GI assets in their own right. Cumulatively, they can serve as a 'sponge' for stormwater and crucial 'stepping stone' habitats for local wildlife. In heavily urbanised areas, gardens can join up to form wildlife corridors, with particular benefits for species such as hedgehogs. Various reports have raised concerns over the increase of private gardens being paved over, particularly front gardens; linked in a large part to a steady rise over time in car ownership.

In 1995, a Government decision giving pavement crossovers (kerb drops) the status of 'permitted development' (ie. don't require planning permission) was a key driver of this change. This changed in 2008 when the right to pave a front garden with hard standing was changed to reduce the impact on flooding and on the pollution of watercourses, Since then, planning permission is required if the surface to be covered over is more than 5 square metres in area.[23] However 'pavement crossovers' (kerb drops) are still permitted. The growing popularity of low-maintenance artificial lawn in the UK is also a further threat to wildlife.[24]

There are a number of measures that could be implemented to protect and enhance the role of private gardens as GI assets in the Borough's urbanised areas. This includes 'policy' measures and softer awareness-raising initiatives:

- **Policy measures** – The planning authority could explore using legal precedent to refuse crossover applications in order to prevent front gardens becoming car parks, and could take enforcement measures on any illegal front garden parking.

[23] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7728/pavingfrontgardens.pdf
[24] Laville, Sandra (July 2016), 'Growth in artificial lawns poses threat to British wildlife, conservationists warn', *Guardian* [Online] Available at: https://www.theguardian.com/environment/2016/jul/04/growth-in-artificial-lawns-poses-threat-to-british-wildlife-conservationists-warn

- **Awareness-raising campaigns** – could be established by distributing materials already developed by organisations such as the RHS, among others, as well as running workshops for schools/school children on subjects such as 'hedgehog highways'[25] and other wildlife-friendly initiatives.
- **Working with housing developers -** should be undertaken to ensure biodiversity and flooding concerns are integrated into the delivery of new homes at an early stage. Government guidance on Biodiversity Net Gain (BNG) states that 'relatively small features can often achieve important benefits for wildlife, such as incorporating 'swift bricks' and bat boxes in developments and providing safe routes for hedgehogs'.[26] There is precedent for large house builders taking these steps, including the support of Bovis Homes for 'hedgehog highways'[27] and a joint venture between Barratt Homes and the RSPB to install bat and swift boxes at developments in Aylesbury.[28] These relatively accessible and affordable steps can be included as planning conditions, particularly for large development sites, and should make use of local guidance where appropriate, such as the planning advice on swift bricks in Leicestershire and Rutland produced by the Swift Partnership.[29]

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Ealing Front Gardens Project

In 2005 Ealing conducted its first ever comprehensive survey of the amount of front garden hard surfacing. It revealed that one-quarter of the Borough's 74,300 front gardens were completely hard surfaced, and a further fifth had nearly all (90-99% of their area) hard surfaced. This was largely driven by the conversion to parking spaces.

Ealing demonstration project (before and after)

The Front Gardens Project, aside from research and data gathering activities, also carried out demonstration projects to illustrate how gardens can be transformed to fulfil more environmental functions, while still providing parking. This was carried out in collaboration with the RHS and local designers and landscapers.

[25] https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/
[26] Government Planning Practice Guidance (PPG). Paragraph: 023 Reference ID: 8-023-20190721
[27] https://www.bovishomes.co.uk/news/housebuilder-launches-industry-first-hedgehog-campaign-to-protect-creatures-under-threat/
[28] https://www.rspb.org.uk/our-work/conservation/projects/kingsbrook-housing/
[29] Swift Partnership (n.d), Planning Advice: Use of Swift Bricks in New Developments in Leicestershire and Rutland [Online] Available at: https://www.naturespot.org.uk/sites/default/files/downloads/Swift%20Advice%20Sheet%20for%20Planners.pdf

Potential Challenges and Risks

- Legislation and policy has a limited impact on restoring biodiversity in private gardens, leaving a reliance on 'softer' measures such as awareness-raising campaigns.
- In the longer term, the increasing take-up of electric car charging infrastructure (given evolving national targets) is likely to increase the pressure to pave over existing gardens, given the need to install charging points and the inherent limitations of providing these 'on street'. This is likely to require a greater reliance on the promotion of design interventions whereby parked cars co-exist alongside more permeable surfaces (eg. paved tracks to take car wheels, leaving the remainder as permeable non-paved surface).[30]

Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Housing developers	Planning conditions	Royal Horticultural Society (RHS) Leicestershire & Rutland Wildlife Trust Leicestershire & Rutland Ornithological Society (LROS) Swift Partnership Hedgehog Preservation Society RSPBLocal schools
	BNG / biodiversity off-setting	
Education authorities	Integration of 'wildlife gardening' into school curriculum	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

[30] See RHS Guidance on 'Front Gardens: Designing). Available at: https://www.rhs.org.uk/advice/profile?pid=738

#6 Enhancing the Southern Green Wedge

The Opportunity

The Borough's two Green Wedges serve to guide development form from the urban area and prevent the merging of settlements to preserve their distinctive identity. The Hinckley/Barwell/Earl Shilton/Burbage Green Wedge (referred to here as the 'Southern Green Wedge') in particular is located between two built up areas where significant growth and development is projected. There are a number of ways in which the Wedge could 'work harder' to provide a wider variety of functions for both surrounding communities and wildlife.

The 2020 Review of the Green Wedge[31] highlights that the Wedge has a goal of "*providing a Green Lung into urban areas"* and to provide communities will access to green infrastructure and the countryside beyond. In line with these proposed uses, it is recommended that the Southern Green Wedge is further enhanced by encouraging and facilitating the use of land for:

- **Allotments/community gardens**: In response to the deficit of allotments identified earlier in this report, some land within the Green Wedge could be used for allotments/community gardens. Not only do these serve as a resource for community cohesion and an aid for mental health and wellbeing, they can also support high species richness, particularly when managed for biodiversity.
- **Community woodlands/orchards:** England's national program of Community Forests is a model for community involvement, inclusion, environmental regeneration and GI creation, and the creation of a community woodland within the Green Wedge should be considered.
- **Environmental Education Centre for children:** These centres can provide inspirational outdoor, 'hands-on' learning within the local landscape for children, schools and community groups. They can help educate the next generation to live

[31] Hinckley and Bosworth Borough Council (April 2020): Hinckley/Barwell/Earl Shilton/Burbage Green Wedge Review.

more sustainably, and evidence suggests they can have a powerful impact on wellbeing and health indicators, as well as improving connections with nature.[32]

This Opportunity of enhancing the use of the Green Wedge, could also support both **Opportunity #10** (Burbage Common), by providing alternative recreational space and expanding existing habitats, and **Opportunity #9** (Greenways through Hinckley). The principles outlined here could also be applied to the smaller Rothley Brook Meadow Green Wedge, where some (more limited) residential expansion is also being proposed.

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Woolley Firs Environmental Education Centre

Located in a historic stable block on a 300 year-old farm in Maidenhead, the Centre is surrounded by a dipping pond, arable fields and a recently-planted orchard, where children are able to explore. The centre is one of five run by the Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust (BBOWT), and offers pre-booked trips year-round where young people can learn more about wildlife. The aim is to get people interested and passionate about wildlife and encourage them to interact more with nature. The Trust also works with the local farmer to provide havens for wildlife on agricultural land.

The program of events includes wild flower planting and tree identification days alongside a 'nature tots' parent and toddler group which is run by donation.

Wooley First. Photo courtsey of Berks, Bucks & Oxon Wildlife Trust

Potential Challenges and Risks

- Fragmented land ownership and challenge of negotiating with landowners.
- Delivering provision for improved access and recreation whilst maintaining openness of Green Wedge.

[32] Shedrake, Amos and Reiss (2019), 'Children and Nature: A research evaluation for the Wildlife Trusts', *UCL Institute of Education* [Online] Available at: https://www.wildlifetrusts.org/sites/default/files/2019-11/Children%20and%20Nature%20-%20UCL%20and%20The%20Wildlife%20Trusts%20Full%20Report.pdf

- Development pressures on land within Green Wedge and need to maintain sustainable pattern of development.

Potential partners	Mechanisms	Wider stakeholders to engage
Leicestershire and Rutland Wildlife Trust	Collaboration in establishing Environmental Education Centre.	Local schools 'Nature Friendly Schools' network (Department for Education with support from DEFRA and Natural England) Forest Schools Natural England
Grant making bodies eg. Biffa Award, National Lottery Community Fund	Grant funding for launching community garden/environmental education centre.	
Local businesses	CSR initiatives	
Forestry Commission	Urban Tree Challenge Fund for tree planting in urban or peri-urban areas.	
Woodland Trust	Free or subsidised tree packs available for community initiatives.	
Neighbouring authorities (Blaby District)	Collaboration on extent of woodland creation east of designated Wedge.	
Agricultural landowners within the Green Wedge	Explore potential to diversity land uses as part of emerging land management policy context.	
Local community groups	Use the Parks Trust model as a mechanisms for funding maintenance of any new recreational/wildlife areas created in the park, on the model of the Lomond Hills Park in Fife.[33]	
Developers	BNG / biodiversity off-setting opportunities for creation of new areas of habitat.	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

[33] For more details on the Parks Trust and other similar models, see Nesta (2013), *Rethinking Parks: Exploring New Business Models for Parks in the 21st Century* [Online] Available at: https://media.nesta.org.uk/documents/rethinking_parks.pdf

#7 Wayfinding strategy for mixed-ability walkers

Entrance to the Wandle Trail in London

The Opportunity

Members of the walking community in Hinckley and Bosworth highlighted the need to remove any obstacles that currently prevent a wider range of people taking part in recreational walking in the Borough. While the Public Right of Way (PROW) network appears to be performing relatively well locally, the role of a wayfinding strategy is to maximise the benefits from those assets for a wide range of people. In particular, a Wayfinding Strategy should be designed to prioritise areas of population growth where 'non walkers' are more likely to benefit. While more ambitious Wayfinding Strategies can require greater investment, a simple consistent signposting system can be achieved at a relatively low cost.

The focus should be on providing better guidance on entry-level 'circular routes' on the edge of the urban areas; allowing access to nearby countryside. However these should link up with longer distance routes such as routes along the Ashby Canal, the disused Nuneaton-Shenton railway line, the Ivanhoe Way and the National Forest Way. These routes should be designed to complement the more 'urban' downloadable walking routes that the Borough Council already provides,[34] but focusing on enabling access to the more rural routes on the edge of built up area. They should also be integrated with the county-level '*Choose How You Move'* program and online map.[35] Some important principles and tools will be:

- Creating a 'route identity' – for example by naming local trails and/or assigning them colours based on level of difficulty. They should also allow for interacting with cultural, built and natural heritage features such as ridge and furrow fields, woodlands, streams, local wildlife sites and locally listed buildings. This approach can be important in encouraging community participation and ownership. In order to boost local community engagement, a local competition could be held for the naming of the trails.
- Distance and time to destinations to be provided on signs - an issue that was highlighted by members of the local walking community as a barrier to access . Signposting to key nearby destinations – recreational assets such as Burbage Common or parks, nearby villages or heritage assets – could make the walks more easily navigable and encourage participation. Specific routes could also be designed to be 'stile-free' routes for those with mobility challenges or disabilities, and wherever possible routes should be designed based on the inclusive design principles for 'urban fringe and managed landscapes' laid down in the Countryside For All Good Practice Guide.[36]
- A simple Design Code for use throughout the Borough could be an important tool for developers or other partners looking to enhance routes and would provide a consistent identity for walking routes in the local areas. It could also boost the

[34] Hinckley and Bosworth Borough Council (n.d). Walking maps to download. [Online] Available at: https://www.hinckley-bosworth.gov.uk/downloads/download/1163/walking_maps_to_download
[35] https://www.choosehowyoumove.co.uk/
[36] Fieldfare Trust (2005), Countryside for All Good Practice Guide: A Guide to Disabled Peoples' Access in the Countryside [Online] Available at: https://www.pathsforall.org.uk/resources/resource/countryside-for-all (there are plans to produce a review and update of the Guide)

tourism value of walking routes and be aligned with more elaborate visual and wayfinding resources such as consistently designed interpretation boards at key destinations such as the Ashby Canal (see **Priority Opportunity 8: A Northern Gateway for Hinckley).** Any Design Code should demonstrate partnership working and be produced in close collaboration with bodies implementing the recommendations of the Hinckley Public Realm Masterplan (2020) to ensure consistency on a Borough-wide scale, as well as with Leicestershire County Council and the Canals and Rivers Trust, in order to support broader consistency and legibility goals[37]

Contribution to GI themes

					
Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Newport Wetlands

The RSPB, who manage Newport Wetlands in Wales, created an easy-to-follow navigation system that makes use of local materials and natural paths, signage and good design of space.[38] The strategy was based on the understanding that wayfinding is not only about getting from A to B quickly, but about creating a positive user experience. Signs not only direct but help the user to gain an understanding and appreciation for the location, developing a narrative and engaging users.

The signage also uses eco-friendly and locally sourced materials, and includes information on the distance to location/s. This can help to decrease any stress that might occur if a person is unclear how far they have to go on the route.

Potential Challenges and Risks

- Signage requires resource not only for installation, but crucially also a budget for ongoing maintenance.
- Coordination between various bodies is needed to raise awareness of routes eg. GP surgeries.

Potential partners	Mechanisms	Wider stakeholders to engage
Developer contributions	Section 106	Hinckley Ramblers

[37] The 2020 Hinckley Public Realm Masterplan highlighted that existing ad-hoc signage in the town centre varies in style and content, limiting its effectiveness, and draws attention to the need for a rationalized wayfinding scheme.

[38] https://www.travelwayfinding.com/newport-wetlands-case-study/

Potential partners	Mechanisms	Wider stakeholders to engage
Borough Council Grant opportunities	Capital funding for PROW Eg. the (now finalised) Natural England P4C (Paths for Communities) scheme.	Public health bodies (NHS) County Council (via 'Choose How You Move' program) Neighbouring authorities (particularly Blaby, North Warwickshire, Nuneaton and Bedworth and Rubgby). Landowners The Trails Trust[39] Canals and Rivers Trust

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

[39] The Trails Trust is a registered charity which promotes the protection, restoration and improvement of PROW with a view to improving the condition of life of the public.

#8 A 'Northern Gateway' for Hinckley

The Opportunity

Local stakeholders highlighted the weak links between the urban edge and countryside, to the north west of Hinckley. The allocated mixed-use development of 'Land west of Hinckley' (Allocation HIN02) represents a valuable opportunity to improve these linkages and provide an 'urban edge' community that acts as a 'gateway' to the adjacent open land.

The outline planning application for the site focusses on improving connections with green spaces and assets around the site. Further development coming forward in this area should also focus on creating improved connectivity, particularly with the Ashby canal as the green-blue 'spine' of the Borough and as a key heritage and biodiversity asset. This opportunity is based on the recognition that inland waterways such as this can provide a range of benefits, including ecosystem health, resilience, physical and mental human health, social cohesion, sense of place, and financial value as a setting for development.[40] In previous studies, the Ashby Canal was found to be a particularly sensitive landscape asset in the Borough, that requires careful treatment but which has great potential as a recreational asset (see Chapter 4). The 2020 Phase 1 Habitat Survey also highlights the role of buffers and sustainable pedestrian and cycle routes in mitigating impacts on sensitive habitats and providing linear connectivity, and the National Character Area (NCA) Profile for the Mease-Sence Lowlands promotes watercourse corridors as a strategic resource for recreation by extending informal, small-scale public access along the Ashby Canal.

The location where the Ashby canal 'meets' the built up area of Hinckley also coincides with an area with relatively high levels of deprivation, and a heritage-led enhancement of the 'waterway corridor' could provide the opportunity to focus regeneration efforts and to galvanise the local economy, acting as a catalyst for wider regeneration. However the urban fabric on the western edge of Hinckley is challenging, with the presence of large industrial units detracting from more human-scale landscape elements, and lacking permeability with the adjacent open countryside. Whilst a regeneration project taking in the whole length of the Ashby Canal is identified as an ambitious 'big picture' opportunity, this Priority Opportunity lies in prioritising the stretch of

[40] Inland Waterways Association (2019), 'The Value of Inland Waterways' [Online] Available at: https://www.waterways.org.uk/iwa_publications/pdfs/valueinlandwaterways

canal that straddles the urban edge and could serve as a more effective green corridor between the urban and rural area for Hinckley residents. Specific enhancements that could be undertaken include:

1. **Improved surfacing along prioritised stretch of canal –** providing well-surfaced access to walkers, families and those with mobility problems. This could be along a 2.5 - 3 km stretch taking in Hinckley Marina to the south and leading from the edge of Hinckley north to moorings at Hinckley Lane.

2. **Heritage interpretation along canal –** Hinckley & Bosworth's existing Rural Blue & Green Plaque trail is an importance resource for maximizing the heritage and recreational potential of the Ashby Canal. Future investment along this stretch of the canal could supplement these resources by delivering improved canal-side interpretation assets that more comprehensively introduces walkers and others to the history of the Ashby Canal, a designated Conservation Area. This would enhance the 'sense of place' for both external visitors and members of the local community. Any interpretation scheme should take account of the Interpretation Guidelines from the Canals and Rivers Trust,[41] and designed in close collaboration with them.

3. **'Buffer strip' to improve canal's ecological function –** The Ashby Canal is designated as a SSSI, due to the supporting environment it provides for aquatic plants and insects. However Natural England data highlights concerns over its condition. In part this is due to the impact of surrounding agricultural uses, the response to which will rely on broader land use reforms (see **Chapter 5, Theme 1**). However by maintaining a 'buffer strip' of vegetation between the pollution sources and the waterbody, the vegetation could act as a filter to pollutants while simultaneously creating thriving habitats for local wildlife. Wildflower seeding could also be introduced to enhance visual appeal and provide valuable habitat for pollinators.

4. **Connecting and 'softening' of routes on Hinckley's urban edge –** efforts should be made to ameliorate the existing 'harsh' urban environment on Hinckley's western edge, to 'draw people' into the surrounding countryside (including both existing residents and new residents at sites coming forwards west of the urban area) and to ensure that urban and rural are successfully 'knitted together'. This could take the form of 'greening' key routes and improving links to the Battling Brook Green Corridor, leading toward central Hinckley.

Each of the enhancements above would require further consideration in a detailed feasibility study, with a more detailed design brief. However, the proposed enhancements focus on key areas of current weaknesses, and would benefit from strong community engagement in the form of volunteer initiatives, such as the Canal and River Trust's 'adopt a canal' initiative.[42]

Contribution to GI themes

					
Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

[41] Canals and Rivers Trust 2005), 'Interpretation Guidelines' [Online] Available at: https://canalrivertrust.org.uk/media/library/308.pdf
[42] Canal & River Trust (2013), 'Adopt a Canal' [Online] Available at: https://canalrivertrust.org.uk/news-and-views/news/adopt-a-canal

Example from elsewhere: Bridgewater Canal (Worsley)

In 2014, Britain's first commercial canal – the Bridgewater Canal - was awarded £3.6 m from the Heritage Lottery Fund (HLF) which enabled it to regenerate nearly 5 miles of canal between Boothstwon and Barton.[43] As an area of historical importance with a prominent role in the region's industrial history, the regeneration was distinctly heritage-led, using interpretation boards narrating the canal's history, and public realm elements such as seating which reference the story of the canal. The regeneration project included a strong community engagement component with close working with volunteer groups.

A number of volunteer groups along the canal keep the towpath litter-free, and another dedicated 'heritage' group of local volunteers developed interpretative walks. This is backed up by a dedicated website (www.est1761.org) which provides detail of events, volunteering opportunities, pratical information and 'canal stories'.

The regeneration project is expected to add an extra £2m each year to the city's economy once completed.

Benches in the shape of coal boats act as references to local history at Worsley Delph.

Interpretation panels highlight key events in local history.

Potential Challenges and Risks

- Cooperation from surrounding landowners when implementing 'buffer strips' alongside canal.
- Securing adequate developer contributions.
- Negotiations over land rights for improving and adding to rights of way.
- Mitigating against harsh traffic-heavy environment along the A47 will be challenging.
- Negotiating between competing uses and functions of canal-side area (biodiversity/recreation/pollution mitigation etc).

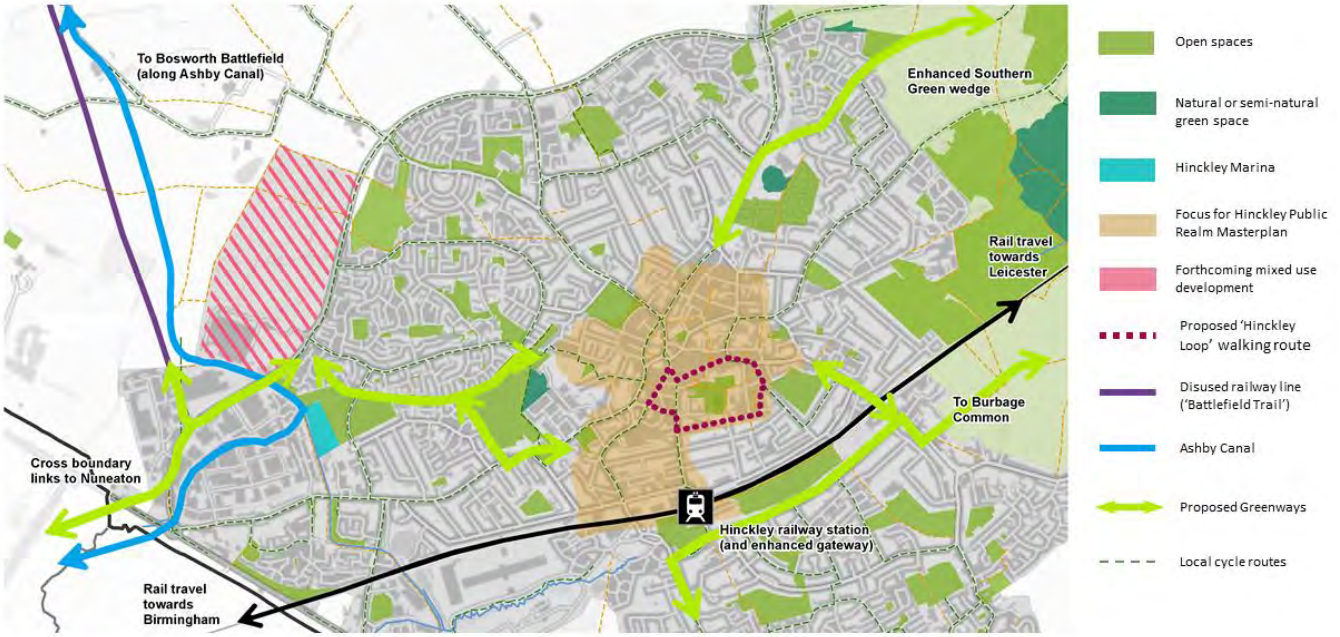
Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Heritage Lottery Fund	Grant Funding	Canals and Rivers Trust Local history groups
Developer contributions	Section 106	

[43] Lottery Heritage Fund (2014), 'Facelift for the Bridgewater Canal'. [Online] Available at: https://www.heritagefund.org.uk/news/facelift-bridgewater-canal

Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Canals and Rivers Trust	Community involvement via the 'Adopt a Canal' scheme.	Wildlife Trust

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

#9 Greenways through Hinckley



The Opportunity

Proposing routes for 'grey' cycle infrastructure is beyond the scope of this GI strategy, however, there is scope for improving cycling levels along targeted routes by 'greening' routes. This opportunity is therefore focused on 'bridging the gaps' in the existing fragmented greenway network. As highlighted in **Chapter 5** of this report, residents of the Borough are heavily reliant on car journeys for short journeys, and research has suggested that enhancing the green elements in streetscapes can support urban cycling.[44]

Proposals here seek to build on and complement the proposals set out in the 2020 Hinckley Public Realm Masterplan. Connectivity proposals in the masterplan centre around a central 'Hinckley Loop' (around the Argent Mead green space), which sits at the centre of a wider network of "yarns" (pedestrian connections) which radiate out from the Loop and historic core to surrounding neighbourhoods and points of interest, in an effort to improve walkability in Hinckley. In particular, there is a focus on improving walking and cycling links to Hinckley Station to the south. This Strategy proposes that future developments, and public realm enhancements in the wider Hinckley area build on these proposals to develop a series of interconnected 'greenways' which "plug into" the network outlined in the Masterplan and extend the "yarns" identified in the Masterplan. As such they,enhance the accessibility between the town centre, local green spaces, the nearby Green Wedge, the Ashby Canal, the disused Shenton-Nuneaton railway, and the open countryside surrounding the urbanised area. These routes are currently relatively hostile for cyclists with significant scope for improvement, As a multifunctional GI asset, these 'greenways' could also provide the added benefit of acting as biodiversity corridors.

As shown on the map, there are a number of route corridors that could be targeted, with the following connections as the key foci for upgrades to the network:

1. **Town centre/Hinckley station to development sites west of Hinckley:** greening of the route (roughly 3-4 km) to the station for the new community, which is already connected by designated local cycle ways. This would take the form of 'repairing' gaps in the existing greenway to allow cyclists to reach both the station and the town centre, whilst

[44] Nawrath, Kowarik and Fischer (2019), 'The influence of green streets on cycling behavior in European cities', *Landscape and Urban Planning* 190. Available online: https://www.sciencedirect.com/science/article/pii/S0169204618313732

connecting existing residential communities and parks and green spaces, including Clarendon Park, Clarence and the Battling Brook Green Corridor.

5. **Linking Hinckley Station with the Green Wedge along railway line:** there is an opportunity to create a largely off-road, well-signed greenway between the station and the Green Wedge (entering via the Outwoods), using a route running along the south of the railway line itself. This could also link into surrounding local cycle routes.

6. **Through the 'Green Wedge' to Barwell and the Barwell SUE:** wildflower verges or other planting could be introduced to screen cyclists from the adjacent heavy traffic on the A47 and provide added visual appeal to the key route through the Green Wedge, as well as providing a wider network of cycle routes through the wedge to link to other destinations (see **Opportunity #6**). The route from Barwell to Hinckley station is roughly 5km and was highlighted by the 2017 county-wide GI study as a priority for a high quality greenway.

7. **Cross-boundary links to Nuneaton:** as highlighted in the 2017 county-wide GI study, there remains an opportunity to create more attractive and accessible active travel routes between the communities in Hinckley and Nuneaton (Warwickshire).

8. **Enabling 'Green routes' to schools:** Cycling and walking charity *Sustrans* highlights that across England, only 53% of children walk to school (falling from around 70% a generation ago), and that one in four cars on the road at peak times are on the 'school run'.[45] This can lead to hotspots of air pollution around school buildings and hinders active and healthy lifestyles. This opportunity proposes that new areas of residential development delivered in the Borough must be designed to provide 'green routes' for residents to local schools in order to encourage sustainable travel habits. 'Home zones'[46] within developments should also be encouraged which integrate with surrounding green routes. Where possible green routes should also be retrofitted into existing busy walking routes to school. The delivery of 'walking zones' around schools, as proposed by *Living Streets,* should also be encouraged and facilitated by the Borough Council, in order to define an area around schools within which children and families are encouraged to walk rather than drive. This may involve minor physical improvements and improved signage.[47]

Contribution to GI themes

					
Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

[45] https://www.sustrans.org.uk/our-blog/get-active/2019/everyday-walking-and-cycling/walking-or-wheeling-the-school-run/
[46] A 'home zone' (or play street) is a street or group of streets where pedestrians and cyclists have priority and cars travel at little more than walking pace, based on the Dutch precedent of 'woonerf' schemes.
[47] https://www.livingstreets.org.uk/media/2031/walking-zones-guide-print.pdf

Example from elsewhere: Hastings Greenway

The Hastings Greenway Project is an innovative network of almost traffic-free linked routes, used for leisure amenity, utility walking, as well as cycling. The greenways weave through an urban environment and link Hastings town centre with other local destinations, including Conquest Hospital. The route was delivered in phases and is structured around a privotal circular Greenway link or loop, from which new strategic greenway links radiate out from the town centre to give Borough-wide Greenway connectivity. The project was supported by a number of partners, including Hastings Borough Council, East Sussex County Council, Network Rail, Ore Community Land Trust and others.

The Strategic Greenway concept has now been adopted in Hasting Borough Council's draft Local Plan, and in the 2014 East Sussex County Council's Walking & Cycling Plan for Hastings. The proposals witin the 2020 Hinckley Public Realm Masterplan (combined with the proposals outlined as part of this Priority Opportunity) take a similar approach to creating connectivity.

Extract from 2020 Hinckley Public Realm masterplan, illustrating the 'loop and yarns' concept, similarly to the Hastings Greenway

Potential Challenges and Risks

- Uncertainty over future central government funding for active travel.
- Potential user conflicts along greenways will need to be managed (eg. walkers and cyclists)

Potential partners	Mechanisms	Wider stakeholders to engage
Residential developers	Section 106 contributions to upgrading routes between new housing,local schools and other destinations, as well as the delivery of supporting 'home zones'.	Sustrans Transport planning team Leicestershire County Council ('Choose How You Move' platform) Hinckley Ramblers Network Rail
Department for Tranport (DfT)	Central funding eg. Access Fund (and successor schemes)[48]	
Big Local Lottery Funding	Funding for community groups.	

[48] At the time of writing this strategy update, the Access Fund was in its last year of funding unless renewed in the 2020 budgeting.

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

#10 Burbage Common and Woods

The Opportunity

At 80 hectares, Burbage Common is the largest of the Borough's countryside sites, consisting of semi-natural woodland and grassland. It is a 'flagship' peri-urban GI asset which is highly accessible from surrounding residential areas. It is also a designated Local Nature Reserve (LNR) and encompasses part of the Burbage Woods and Aston Firs SSSI. However, as a vulnerable habitat, the 2020 Phase 1 Habitat Study identifies that its more fragile habitats are particularly vulnerable to recreational use and must be managed. This is particularly pressing as there are high projections of growth within the adjacent built-up areas. The Phase 1 Habitat Survey recommends strategic habitat creation to ensure landscape-scale connectivity, and the maintenance of ecological character, quality and resilience. This could take the form of extension of the dry acid grassland.

Achieving a healthy balance between the recreational and biodiversity roles of a GI asset is tricky to achieve, particularly where sensitive ecological features are present, and must be approached with care. However, in light of the projected significant increase in visitor pressure at Burbage Common and the sub-optimal existing condition of the Common as a Local Nature Reserve (LNR), this strategy proposes a combination of measures, as follows:

- **Extension of habitats outward from the Common:** the 2020 Phase 1 Habitats Survey highlights that "*there is the opportunity for a substantial area of semi-natural habitat enhancement of lowland dry arid grassland and of deciduous woodland exnteding from Burbage Common and potentially connecting to similar habitats further east beyond the authority boundary*". These enhacements should be sought in negotiations with developers bringing forward sites in the vicinity of the Common.
- **Provision of alternative green recreational space:** As recommended by the 2020 Phase 1 Habitat Survey, in order to accommodate the projected marked increase in visitor demand, provision of additional, connected habitat will be required. This may take the form of providing alternative recreational green spaces and destinations within the Southern Green Wedge (see Priority Opportunity #6).
- **Re-routing of visitors:** Careful design of routes and wayfinding through the site will be required, avoiding the most sensitive areas of habitat and creating limited areas of reduced access. This could be combined with signage to encourage different routes or – if dog walking is identified as a source of pressure in relation to the site's qualifying features (unimproved acid grassland and semi-natural woodland) - requiring visitors to keep their dogs on a lead or designating dog-free areas. However, blanket bans can discourage interaction with nature for local residents and therefore more nuanced awareness-raising schemes may be more successful (see example below).

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Managing the impacts of dog walking at Carlton Marshes

In 2014 a pilot 'Share with Care' scheme was launched at the Suffolk Wildlife Trust's Carlton Marshes Nature Reserve near Lowestoft. This aimed to balance access and conservation through dialogue between local user groups, rather than applying blanket bans. It involves members of a local Dog Training Society volunteering as "dog ambassadors" to help resolve dog disturbance and fouling issues on the popular marshland reserve.

The Reserve attracts 50,000 visitors a year, around 40% of whom are dog walkers, and the wildlife and grazing cattle had long been affected by dog disturbance. This approach of promoting responsible and sensitive dog behaviour was favoured, and since its introduction the volume of dog waste has fallen and the number of bird breeding territories has increased from 133 to 176 between 2015-16.

Potential Challenges and Risks

- Coordinating land management agreements with landowners within the Green Wedge for provision of expanded habitat/additional recreational activities.
- Managing potential conflict between existing users, ie allowing appropriate recreational access whilst protecting vulnerable habitats.

Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Developers	S106 agreements and BNG / biodiversity off-setting to create additional habitat (including biodiversity off setting).	Wildlife Trust Natural England BugLife UK

Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Local business community	CSR programs (potentially in collaboration with community groups)	Local community and user groups Landowners within the Green Wedge
Big Lottery Fund/local communities	Community groups seeking grants for eg. creating a Community Meadow	
Woodland Trust	Subsidised Tree Mixes & packs available for expansion of tree cover (or free tree packs for use by community groups)	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

#11 The 'Battlefield Trail'

Bosworth Battlefield Heritage Centre

Example of a disused railway converted to an active travel route (Salford)

The Opportunity

During consultation, local stakeholders expressed a strong preference to better exploit the opportunity of the disused Nuneaton-Shenton railway line as an active travel route, a feature which was also proposed in the 2008 Green Infrastructure Strategy and the 2017 county-wide Leicester & Leicestershire GI study. There remains an unexploited strategic, heritage-led opportunity to enhance the former railway line as an active travel corridor. It would also deliver a recreational and heritage asset that boosts the value of the flagship Bosworth Battlefield heritage asset, and act as a vital wildlife corridor amid the fragmented habitats in the west of the Borough. Creating an un-broken trail between Hinckley and Shenton would be an ambitious undertaking and would require heavy investment. However this Strategy suggests that certain areas are prioritised under a 'staged' approach. A good starting point is likely to be extending the existing route south of Shenton Station (and the end of the heritage railway), across the Ashby Canal and linking up (and signposting to) Stoke Golding elements of the 1485 Sculpture Trail. From here, links could be made to the Ashby Canal and wider PROW network leading into Hinckley, via the light industrial area.

There is growing precedent in the UK for converting disused railway lines such as this one, which famously fell victim to 'Beeching's Axe' in the 1960s, into multi-functional active transport corridors. This opportunity in particular would be anchored by the presence of the Bosworth Battlefield Centre along the route, as well as Market Bosworth, both of significant tourist value to the local area. The line represents an opportunity to provide more sustainable access routes to the Battlefield (which are currently difficult to access other than by road) and to provide heritage interpretation along the route that can narrate the local history of the area, and open up the wider historic landscape. There is also scope for a spur of the former route to extend into the west of Hinckley, providing access to the amenities of the centre and linking into 'greenways' leading to the station and beyond (see **Opportunity #9**)

Disused railway lines can also provide havens of biodiversity, given that their linear form can simultaneously act as a wildlife corridor, linking with the linear corridor provided by the River Sence corridor and potential habitat network enhancement zone north of Market Bosworth. Further interpretation boards along the route can also help to engage families and young children in the local natural heritage of the area, introducing them to the flora and fauna with habitats here.

Contribution to GI themes

Landscape and Historic Environment	Biodiversity	Active Travel	Open Space, Sport and Recreation	Water Resources	Carbon Sequestration

Example from elsewhere: Stroud Valleys Trail

The Stroud Valleys Trail follows the route of the former Midland Railway line between Stonehouse and Nailsworth, a local railway line that was similarly active between the 1860s and 1960s. It is an 8km walking and cycling route, around 60% of which has an asphalt surface and 40% unsealed hard surfacing. It forms part of the Sustrans National Cycle Network.

The route has varying interest in relation to historic landscape, cultural heritage and ecological GI themes. Parts of it follow the Stroudwater Canal, with other parts following river corridors (the River Frome and the Nailsworth Stream). The route passes a variety of industrial and other heritage. Much of it is wooded, but it also provides access points (e.g. via connected footpaths) to nearby grassland habitats including Minchinhampton and Rodborough Commons. Although it is primarily a recreational resource, the route allows for active travel for other reasons between Nailsworth and Stroud/Stonehouse.

A stretch of Stroud Valleys Trail (Gloucestershire)

Gloucestershire Wildlife Trust, in partnership with the local district and county councils, is currently leading a project to improve 1.2km of the route. This will involve biodiversity enhancements including creation of glades and ponds. It will also involve resurfacing of the route using a material made from recycled tyres. The project has received funding via the European Regional Development Fund.

Potential Challenges and Risks

- User conflicts along the loop line (eg. between cyclists and pedestrians, as has been experienced by *Sustrans* at the Bristol-Bath Railway Path.
- Unravelling potentially complex land ownership patterns along the line.

- Significant level of investment required (particularly given the likely need to restore some bridges along the line), however the route could be delivered in phases, beginning with identified 'priority stretches' of the route identified through further study.
- Ensuring adequate accessibility for all users to the route and crossings over local roads.

Potential partners and funding streams	Mechanisms	Wider stakeholders to engage
Developers	Section 106 contributions from emerging developments along the route, including Hinckley. BNG / biodiversity off-setting .	Sustrans Hinckley Ramblers Battlefield Heritage Centre Wildlife Trust
Grant funders eg. Heritage Lottery Fund	Grant schemes	

Timescale			Potential costs		
					
Quick win (next 5 years)	Medium term (5-10 years)	Long term (10-20 years)	Low	Intermediate	Substantial investment

Embedding GI into the Hinkley and Bosworth Development Framework

Overview

6.18 The NPPF (2019) and legislative context provides strong support for enhancing Green Infrastructure because of the wide range of benefits it affords.

6.19 Local Plan Development plans should give further expression to this by setting an overarching vision of GI delivery during the Plan period. The Local Plan 2006-2026 (incorporating the Core Strategy (2009) and Housing Site Allocations and Development Management Policies (2016)) was informed by the previous Green Infrastructure Strategy (2008). The importance of GI in the adopted Core Strategy is reiterated in its vision, strategic objectives and detailed policies, which are to be superseded by new Local Plan policies. This section sets out a series of recommendations on how to 'embed' GI in these replacement Local Plan policies and how to support their delivery via the planning process.

Recommendations on Future Policy Development

6.20 Planning policy can play a critical role in the delivery of GI, by setting clear expectations for GI as part of long-term development plans. Hinckley and Bosworth Borough Council has a duty to act on climate change, generate employment, maintain healthy functioning ecosystems, maximise physical and mental well-being, and protect and promote cultural and heritage assets. The GI opportunities identified in this Strategy will help achieve these aims. GI will form part of the overall mitigation for planned site allocations and other future development that comes forward for determination. However despite the recognised multiple benefits of GI, it can often be difficult to deliver policy expectations due to competing policy priorities. As such, GI is often treated as a lower tier requirement at the application stage, particularly in Section 106 negotiations.

6.21 There is potential to strengthen the Council's GI policy approach in the emerging Local Plan Review that will allocate sites for housing and employment uses, designate sites for environmental protection and contain policies to guide and manage development up to 2036.

6.22 When designing a set of replacement policies, it is important to ensure that green infrastructure is fully embedded within the Local Plan rather than dealt with through an isolated policy alone (such as Policy 20: Green Infrastructure in the existing Core Strategy). An updated dedicated GI policy should be accompanied by a Local Plan structure which 'mainstreams' GI by weaving references throughout various policy areas. This will allow it to move outside any policy 'siloes' and support (and be supported by) other agendas, including health, economic and social policy areas. It is recommended that replacement policies are tested through the 'Mainstreaming GI' toolkit developed by the Nature Environment Research Council (NERC), an assessment process based on a content analysis of Plan wording.[75]

6.23 In accordance with the tool, two principles should guide replacement policies, focussing on providing both breadth and depth of policy coverage:

- **Functional coverage** ie. the extent to which GI is covered across all other chapters**,** including the introduction and vision for the Plan; and,
- **Strength of policy wording** ie. the phrasing used to articulate the treatment of GI.

6.24 The toolkit also includes a set of 'exemplar GI policies' which can guide those developed for Hinckley and Bosworth, both for a 'primary GI policy' and for supporting policies and stewardship requirements. There is strong emphasis within the toolkit on more explicit recognition of the value of 'place-making' as a uniting concept for GI.

6.25 The team which developed the tool recommend that scoring is undertaken independently by two assessors and then compared, and that both forward planning and development management staff are involved.

6.26 It is recommended that the Council considers supporting these replacement policies by preparing a Supplementary Planning Document to provide guidance on addressing GI needs and what will be expected to be delivered through development. In addition to setting out and providing detail on the expectations for the Borough, the SPD would also provide the opportunity to summarise design considerations and standards for GI (including open spaces and play space), providing examples and precedents where appropriate.

Mechanisms for Securing Funding through Development

6.27 There are two major existing mechanisms by which financial contributions to GI can be secured from new proposed development through the planning process: S106 agreements and the Community Infrastructure Levy (CIL). Section 106 (of the Town and Country Planning Act) is used when it can be reasonably demonstrated that a development directly affects a community or GI feature, therefore investment in GI is needed as part of the mitigation package. The Community Infrastructure Levy was introduced through the Planning Act (2008) as a levy payable by developers

[75] See Scott and Hislop (2019), 'What does good GI policy look like? *Town and Country Planning,* 88(5) [Online] Available at: https://www.tcpa.org.uk/Handlers/Download.ashx?IDMF=a70fd808-eee1-4b50-bb9d-805e5c017d26

towards the cost of local and sub-regional infrastructure to support development. This can apply to strategic Borough-wide projects and does not need to be directly related to the proposed development.

6.28 In addition, the introduction of mandatory Biodiversity Net Gain (BNG) through the emerging Environment Bill will provide an additional mechanism which is likely to become a powerful tool for securing GI features, both on-site and off-site, through new development.

Section 106 Agreements

6.29 Developer contributions under Section 106 of the Town and Country Planning Act 1990 should provide a mechanism for securing funding for the Council's GI priorities. Section 106 agreements are a tool which makes a development proposal acceptable in planning terms, which would not otherwise be acceptable. There are three legal tests which must be met, in order for a Section 106 agreement to be appropriate:

- Must be necessary to make the development acceptable in planning terms;
- Must be directly related to the development; and,
- Must be reasonably related in scale and kind to the development.

6.30 The limitation of Section 106 in the past had been that contributions could not be pooled (beyond 5 developments) to invest in a strategic site. However, the Government lifted this restriction in 2019. This means that S106 can now be used to enhance or promote the wider GI network, and could fund Borough-wide opportunities and GI priority projects.

Community Infrastructure Levy (CIL)

6.31 The Council will be considering the implementation of the Community Infrastructure Levy to apply for future development in the Borough. The implementation of CIL by the Council will be a vital component in the funding of essential infrastructure projects across the Borough, including the Priority Opportunities outlined in this Strategy. The Council will need to ensure that they set their charging schedule at a suitable level and ensure that key GI priority projects are included within an Infrastructure Funding Statement.

6.32 Regular updating of this Statement will be key as GI projects and other infrastructure projects get completed, so as to ensure that completed projects are taken off the list and new key projects are added. This will allow for continued delivery and monitoring of priority projects throughout the Plan period.

Biodiversity Net Gain (BNG)

6.33 Biodiversity Net Gain is "*an approach to development that leaves biodiversity in a better state than before*." The aim is to minimise losses of biodiversity and help to restore ecological networks.

6.34 BNG is already part of the NPPF (Paragraphs 170, 174 and 175).[76] However there is no specific percentage gain required. The forthcoming Environment Bill (in draft form at the time of writing) is set to include a requirement for all development of land to deliver a mandatory 10% biodiversity net gain. The emphasis is likely to be on retaining and enhancing biodiversity within the boundary of the development site. However it is likely that off-site contributions will have to be made in some cases, raising the prospect of channelling resources to strategic GI priorities across the Borough.

6.35 Once the Environment Bill gains Royal Assent, BNG requirements are expected to come into effect over a two-year transition period.

Wider Funding

6.36 Beyond funding from developer contributions, GI opportunities could be delivered from a diverse range of funding mechanisms. Funding will be dependent on the type of scheme, its origins and functions. Some proposals will need capital funding to establish a GI asset and subsequently revenue funding to secure its long term management. A new SuDS installation, for example, will require capital investment to initially create the scheme as part of development proposals, as well as revenue funding for its long-term maintenance and management to secure its functionality. Potential sources of funding for different forms of GI could include:

- agri-environment schemes;
- woodland grant schemes;
- endowments and community management trusts; and,
- parish councils and the local authority.

6.37 A range of potential funding opportunities are identified for each Priority Opportunity identified in this Strategy.

6.38 The capital and revenue costs of GI will be determined by the requirements of any individual scheme. GI can be a cheaper and a more viable alternative to investment in more traditional grey infrastructure. Any assessment will also need to take into account the multi-functional characteristics of green infrastructure, to ensure that functions are not costed twice.

[76] February 2019 update of the National Planning Policy Framework (NPPF).

Recommendations for Securing On-site Green Infrastructure

6.39 The Local Plan review should provide guidance on the GI features that are expected to be incorporated within a new development, where viable. These will vary depending on the nature and type of development, however the opportunities highlighted within this report provide guidance on what could be expected and where, according to identified priorities.

6.40 Crucially, expectations should be made clear, so that GI features can be 'designed in' at an early stage rather than retrofitted later. This also provides valuable certainty to the developer. GI within development must be designed, multi-functional and managed, rather than mono-functional landscaping.

6.41 Some Local Authorities (mainly London Boroughs) have sought to achieve this by introducing an 'urban greening factor' (UGF), however the suitability and viability of this approach would need to be examined locally. This Strategy recommends that the Building With Nature standard[77] is used in early discussions with Development Management teams. The Standard seeks to raise the standard of GI over time and improve the quality of GI coming through the development pipeline via a series of themes. It should form the basis of the design of proposed development, as well as its assessment by Planning officers.

6.42 When articulating expectations of development, it is important not to be overly prescriptive as this may leave insufficient flexibility to account for local circumstances and lead to poor design choices. However, proposals for on-site GI provision should take account of the following Priority Opportunities as set out in this Strategy, alongside the principles contained within the Building with Nature standard:

- Opportunity #3: Managing public spaces for biodiversity (regarding new green spaces provided through the planning process)
- Opportunity #4: Making Space for Play
- Opportunity #5: Private gardens as 'stepping stone' habitats (in particular the notes on "working with housing developers")
- Opportunity #7: Wayfinding strategy for mixed-ability walkers (ensuring routes through the development site link up with the opportunities identified)
- Opportunity #9: Greenways through Hinckley (ensuring routes through the development site link up with the key prioritised routes)
- Opportunity #8: A Northern 'Gateway' for Hinckley (ensuring development to the West of Hinckley takes account of key linkages within its design)

6.43 For all development proposals which include new residential units, it is recommended that an assessment is undertaken to determine whether they are within an area of open space deficiency (including quantity, quality/value and accessibility) as set out in this study (and detailed in the Open Space and Recreational Facilities Study). Such assessments should determine which open spaces / play spaces comply with local accessibility standards in order to ensure that existing high quality open space and play provision is safeguarded, or that new open space is provided.

6.44 Where sites have been allocated, it will be beneficial to develop development briefs or policies that specify what the requirements will be in terms of GI provision at each site. This may include both on-site provision or enhancements to existing GI assets.

6.45 In determining planning applications, sufficient weight should be given to design considerations in order to ensure that GI achieves the standards set out in recognised good practice guidance. In particular, given concerns raised during consultation for this Strategy, it is important that GI assets provided are 'future proofed' ie. that adequate provision is made for their management and maintenance, including the responsibility for these activities and their funding.

6.46 A key issue for Hinckley and Bosworth will be the implementation and affordability of these measures and the extent to which it affects the viability of developments being proposed. This can only be determined on a case by case basis. However it is essential, recognising the multi-functional benefits GI can deliver, that it is not treated as a 'nice to have but not essential' feature in the list of requirements for new developments. It should also be recognised that some features – such as the integration of routes for hedgehogs, bat boxes and 'swift bricks' discussed under Priority Opportunity #5 – do not imply significant cost, but rather require consistent up-front design expectations of developers.

6.47 It is important to note that the emerging Environment Bill is set to make Biodiversity Net Gain mandatory for new development in the UK. This will be an important tool for structuring developer response to GI requirements, and

[77] Building with Nature Standard [Online] Available at: https://www.buildingwithnature.org.uk/about

should also be used to direct interventions toward the Priority Opportunities outlined in this Strategy.

Recommendations for Securing Off-site Green Infrastructure

6.48 Depending on the location of new development, it may be appropriate for development to contribute to off-site GI enhancements in strategic areas or along strategic routes, in order to strengthen the overall integrity of the network. The introduction of Biodiversity Net Gain, and the opportunity it offers for off-site contributions, will also be an important mechanism for channelling funds toward improvements in strategically important areas.

6.49 Several of the Priority Opportunities outlined in this Strategy can form the focus for these opportunities, in particular:

- Opportunity #2: Expanding woodland cover
- Opportunity #6: Enhancing the Southern Green Wedge
- Opportunity #8: A 'Northern Gateway' for Hinckley
- Opportunity #9: Greenways through Hinckley
- Opportunity #10: A more resilient Burbage Common and Woods
- Opportunity #11: 'The Battlefield Trail'

6.50 The Local Plan review should include some spatial expression of the Priority Opportunities outlined in this Strategy, which can then be used by Development Management officers in their early discussions with developers and ultimately in the determination of applications. As such, these considerations would be treated as a material consideration in planning decisions, adding weight to the GI opportunities and increasing the potential for their delivery.

Appendix A

Summary of Consultees and Response Types

Consultee	Sector	Response
Neighbouring authorities		
North West Leicestershire District Council	Local authority	No response
Charnwood Borough Council	Local authority	Responded online
Blaby District Council	Local authority	No response
Rugby Borough Council	Local authority	No response
Nuneaton and Bedworth Borough Council	Local authority	No response
North Warwickshire Borough Council	Local authority	No response
'Stage 1' consultees		
Leicestershire County Council (Environment Policy & Strategy	County council	Phone call/e-mail correspondence
Leicestershire County Council (Highways)	County council	No response
Local Nature Partnership (Leicestershire)	County council	No response
Leicestershire County Council (Ecology)	County council	E-mail correspondence
Leicestershire County Council (Landscape Architect)	County council	Responded online
Leicestershire County Council (Heritage)	County council	E-mail correspondence
Leicestershire County Archaeologist	County council	No response
Highways England	Local Plan consultees	No response
The Environment Agency	Local Plan consultees	No response
NHS West Leicestershire	Local Plan consultees	No response
Network Rail	Local Plan consultees	No response
Severn Trent	Utilities	Responded online
National Trust	NGOs, community and voluntary organisations	No response
CPRE	NGOs, community and voluntary organisations	No response
Sport England	NGOs, community and voluntary organisations	Responded online
Friends of Charnwood Forest	NGOs, community and voluntary organisations	No response

Consultee	Sector	Response
Friends of Hollycroft Park	NGOs, community and voluntary organisations	No response
Leicestershire and Rutland Badger Group	NGOs, community and voluntary organisations	No response
Leicestershire and Rutland Bat Group	NGOs, community and voluntary organisations	No response
Leicestershire and Rutland Ornithological Society	NGOs, community and voluntary organisations	No response
Leicestershire and Rutland Dragonfly Group	NGOs, community and voluntary organisations	No response
Leicestershire and Rutland Amphibian and Reptile Network	NGOs, community and voluntary organisations	Responded online
Market Bosworth Natural History Society	NGOs, community and voluntary organisations	No response
Hinckley Natural History Society	NGOs, community and voluntary organisations	Responded online
Hinckley and Bosworth Agricultural, Horticultural and Equestrian Society	NGOs, community and voluntary organisations	No response
Sheepy NHP Forum	Neighbourhood Planning Group	No response
Market Bosworth NHP Forum	Neighbourhood Planning Group	No response
Bagworth, Thornton and Stanton under Bardon NHP Forum	Neighbourhood Planning Group	No response
Barlestone NHP Forum	Neighbourhood Planning Group	No response
Burbage NHP Forum	Neighbourhood Planning Group	No response
Desford NHP Forum	Neighbourhood Planning Group	No response
Higham-on-the-Hill NHP Forum	Neighbourhood Planning Group	No response
Markfield NHP Forum	Neighbourhood Planning Group	Responded online/phone call
Newbold Verdon NHP Forum	Neighbourhood Planning Group	No response
Stoke Golding NHP Forum	Neighbourhood Planning Group	No response
West Clarendon NHP Forum	Neighbourhood Planning Group	No response
All Parish Councils within the Borough	Parish Councils	Responses online from Carlton Parish Council, Groby Parish Council, Market Bosworth Parish Council and Witherley Parish Council.
Hinckley and Bosworth Conservation and GIS team	Hinckley and Bosworth Council	E-mail correspondence
Hinckley and Bosworth Green Spaces team	Hinckley and Bosworth Council	Responded online
Hinckley and Bosworth Cultural Services Team	Hinckley and Bosworth Council	Responded online

Consultee	Sector	Response
Hinckley and Bosworth Development Management Team	Hinckley and Bosworth Council	Responded online
'Stage 2' consultees		
Historic England (Midlands)	Key stakeholder	Responded online
English Heritage	Key stakeholder	No response
Natural England	Key stakeholder	Telephone interview
Canals and Rivers Trust	Key stakeholder	Telephone interview
Sustrans	Key stakeholder	No response
Hinckley Ramblers	Key stakeholder	Telephone interview
Forestry Commission	Key stakeholder	Telephone interview
Woodland Trust	Key stakeholder	No response
National Forest Company	Key stakeholder	Telephone interview
RSPB Leicester	Key stakeholder	No response
Leicestershire & Rutland Wildlife Trust	Key stakeholder	Telephone interview

Appendix B

Countryside and Environmental Stewardship Arrangements in Hinckley and Bosworth

B.1 The uptake of biodiversity-related Countryside Stewardship (CSS) options in Hinckley and Bosworth from 2016 to 2019 is summarised in **Table B.1** and **Table B.2** and the accompanying bar chart. Uptake in 2016, when the scheme started, was low with a total of 3.79 ha of land overall and 2.62 km of hedges. However, this rose significantly in 2017 to 111.31 ha and 56.11 km of uptake. Uptake dipped in 2018 then rose again this year (2019) to 86.89 ha and 41.12 km.

B.2 **Table B.3** and **Table B.4** and the accompanying pie chart show the currently active ES and CSS options related to biodiversity (as of 2020). Currently a total of 511.37 ha of land and 160.72 km of hedgerows are managed under ES and CSS options. Options are clustered by land ownership: for example, there is a dense cluster of CSS options adjacent to the M1 south west of Markfield. This cluster is associated with one landowner; many of the clusters are linked to single land owners. Clusters are spread relatively evenly throughout the rural areas of Hinckley and Bosworth. In total there are 13 land owners with ES options and 20 with CSS options.

B.3 Overall, the available data does not indicate a general recent decline in uptake of CS, although it is notable that certain farms that took up the older ES scheme do not appear to be under CS at present (indicating the potential for a reduction in stewardship provisions when ES terms come to an end). The data also indicates certain 'gaps' in uptake of either ES or CS, particularly in western parts of the Borough which have been noted for their intensity of management.

Table B.1: Hectares of uptake of biodiversity CSS options (2016-19)

Countryside Stewardship option code and title	2016 (ha)	2017 (ha)	2018 (ha)	2019 (ha)
AB1 - Nectar Flower Mix Total	0.92	2.69	1.98	4.37
AB2 - Basic Overwinter stubble		75.37	30.93	26
AB3 - Beetle banks	0.07	0.34		
AB5 - Nesting Plots for Lapwing			5.5	
AB6 - Enhanced overwinter stubble		6	10.6	5
AB9 - Winter bird food	2.57	6.5	4.01	12.58
AB11 - Cultivated areas for arable plants		0.51		
AB16 - Autumn Sown BumbleBird Mix		5.42		2.71
AB8 - Flower rich margins and plots			0.75	7.84
GS10 - Management of wet grassland for wintering waders and wildfowl				5.96
GS4 - Legume and herb-rich swards				21.72
OP4 - Multi species ley		14.48		
SW11 - Riparian management strip				0.71
WD3 - Woodland edges on arable land			0.45	
WT1 - Buffering in field ponds and ditches in improved grassland	0.23			
Total	**3.79**	**111.31**	**54.22**	**86.89**

Table B.2: Metres of uptake of biodiversity CSS options (2016-2019)

Countryside Stewardship option code and title	2016 (m)	2017 (m)	2018 (m)	2019 (m)
BE3 - Management of hedgerows	2,621	56,113	27,898	40,702
BN11 - Planting new hedges			1,125	100
BN6 - Hedgerow Coppicing			1,927	199
BN7 - Hedgerow Gapping			140	121
Total	**2,621**	**56,113**	**31,090**	**41,122**

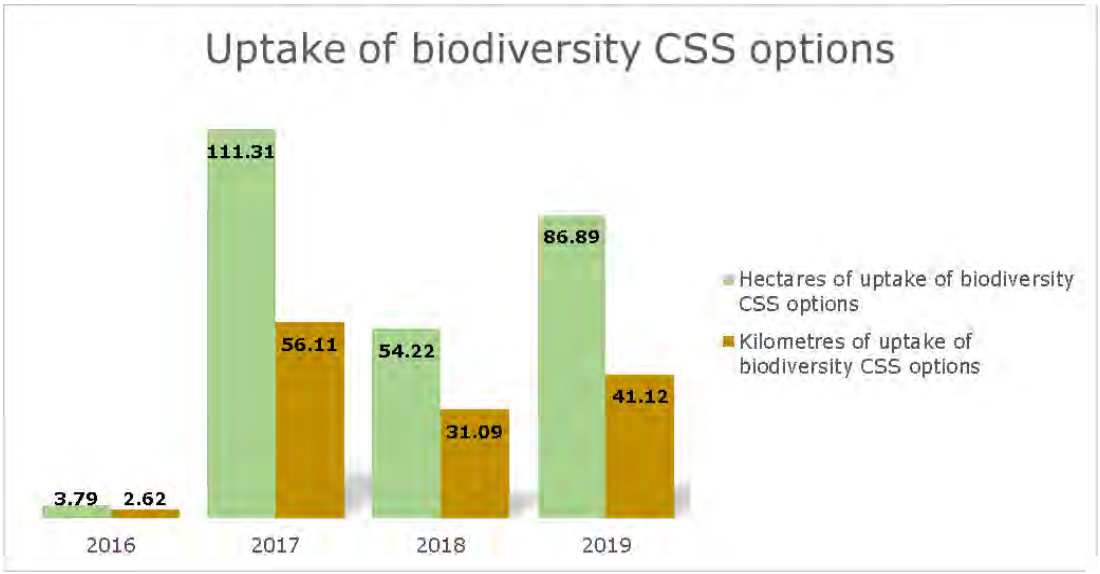


Table B.3: Hectares of active biodiversity CSS and ES options (current)

CS or ES option code and title	Hectares	Scheme
AB1 - Nectar Flower Mix Total	9.96	CSS
AB11 - Cultivated areas for arable plants	0.51	CSS
AB16 - Autumn Sown BumbleBird Mix	8.13	CSS
AB2 - Basic Overwinter stubble	132.3	CSS
AB3 - Beetle banks	0.41	CSS
AB5 - Nesting Plots for Lapwing	5.5	CSS
AB6 - Enhanced overwinter stubble	21.6	CSS
AB8 - Flower rich margins and plots	8.59	CSS
AB9 - Winter bird food	25.66	CSS
EF1 - Field corner management	2.47	ES

CS or ES option code and title	Hectares	Scheme
EK2 - Permanent grassland with low inputs: outside SDA & ML	22.86	ES
EK3 - Permanent grassland with very low inputs: outside SDA & ML	12.12	ES
EK5 - Mixed stocking	31.76	ES
GS10 - Management of wet grassland for wintering waders and wildfowl	5.96	CSS
GS4 - Legume and herb-rich swards	21.72	CSS
HC12 - Maintenance of wood pasture and parkland	25.14	ES
HC7 - Maintenance of woodland	1.1	ES
HF1 - Management of field corners	0.34	ES
HF12 - Enhanced wild bird seed mix plots	10.77	ES
HF4NR - Nectar flower mixture	2.1	ES
HF6 - Overwintered stubble	44.17	ES
HG7 - Low input spring cereal to retain or re-create an arable mosaic	24.17	ES
HK15 - Maintenance of grassland for target features	19.74	ES
HK6 - Maintenance of species-rich, semi-natural grassland	16.44	ES
HK7 - Restoration of species-rich, semi-natural grassland	40.98	ES
OP4 - Multi species ley	14.48	CSS
SB - Scrub management 25% - 75% cover	1	ES
SW11 - Riparian management strip	0.71	CSS
WD3 - Woodland edges on arable land	0.45	CSS
WT1 - Buffering in field ponds and ditches in improved grassland	0.23	CSS
Total	**511.37**	

Table B.4: Metres of active biodiversity CSS and ES options (current)

CS or ES option code and title	Hectares	Scheme
BE3 - Management of hedgerows	127,334	CSS
BN11 - Planting new hedges	1,225	CSS
BN6 - Hedgerow Coppicing	2,126	CSS
BN7 - Hedgerow Gapping	261	CSS
EB1 - Hedgerow management for landscape (on both sides of a hedge)	13,596	ES
EB3 - Hedgerow management for landscape and wildlife	8,397	ES
EB6 - Ditch management	2,624	ES
EB7 - Half ditch management	4,994	ES
HR2010 - Hedgerow restoration includes laying, coppicing and gapping up	161	ES
Total	**160,718**