Hinckley & Bosworth Borough Council

A Green Infrastructure Strategy for Hinckley & Bosworth

ECOLOGY

STEWARDSHIP

ENVIRONMENTAL PLANNING

LANDSCAPE & URBAN DESIGN

ENVIRONMENTAL STRATEGIES

A Report by:

TEP

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A Green Infrastructure Strategy for Hinckley & Bosworth

for

Hinckley & Bosworth Borough Council
Council Offices
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GLOSSARY OF TERMS

CLG	(Department for) Communities & Local Government
GLUD	Generalised Land Use Database: developed by CLG to record land types across all of England
Green Infrastructure / GI	A term encompassing all physical resources and natural systems, including ecological, geological and historical assets
Growth Agenda	The Government's agenda for substantially increased house building across England
Growth Points	Specific areas that have been identified as a focus for increased house building under the Growth Agenda
Green Infrastructure Zones	Specific parts of Hinckley & Bosworth for which detailed GI Plans have been developed. Zones were identified because of particular characteristics which require a specific GI response
Grey Infrastructure	All built environments, including buildings, roads, car parks, etc
IMD	Indices of (Multiple) Deprivation: a measure of deprivation across 7 domains – income; employment; health & disability; education, skills & training; barriers to housing & services; crime; the living environment. Produced by CLG in 2004 and revised in 2007

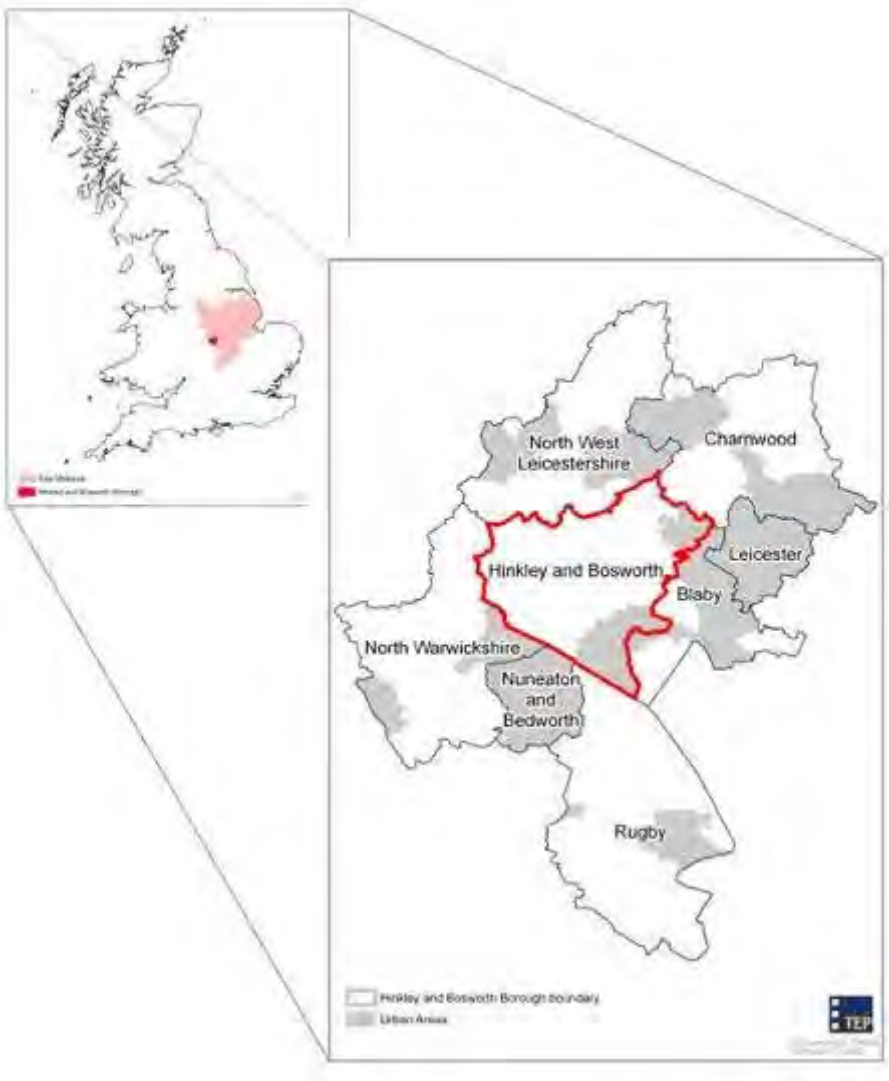
PBRS	Public Benefit Recording System: a GIS based tool that gathers together several different datasets to help guide the strategic decision making process
Public benefits	Social, economic and environmental goals acting in combination
RSS	Regional Spatial Strategy: sets out regional spatial priorities and interventions (including proposals under the Growth Agenda)
HBBC	Hinckley & Bosworth Borough Council
Sustainable prosperity	Economic growth achieved alongside social inclusion and environmental enhancement

CHAPTER 1: Introduction

Hinckley & Bosworth Borough

The Borough of Hinckley & Bosworth lies on the western part of the East Midlands region, in the county of Leicestershire and bordering the West Midlands:

Figure 1.1: Hinckley & Bosworth Location



The majority of Hinckley & Bosworth's 103,800[1] population lives in the Borough's urban centres: Hinckley, Burbage, Barwell and Earl Shilton in the south of the district. This is also where the majority of new development will be focused in the future. The Borough's Core Strategy sets out a "settlement hierarchy" of its rural settlements, with Key Rural Centres as the focus for most new development and improvements to service and employment provision, public transport and green infrastructure in the rural areas. The Rural Villages will experience some limited development to cater for the basic service needs of their populations, whilst the Rural Hamlets are not considered sustainable locations for development other than rural affordable housing schemes and infill development.

[1] Office for National Statistics 2007

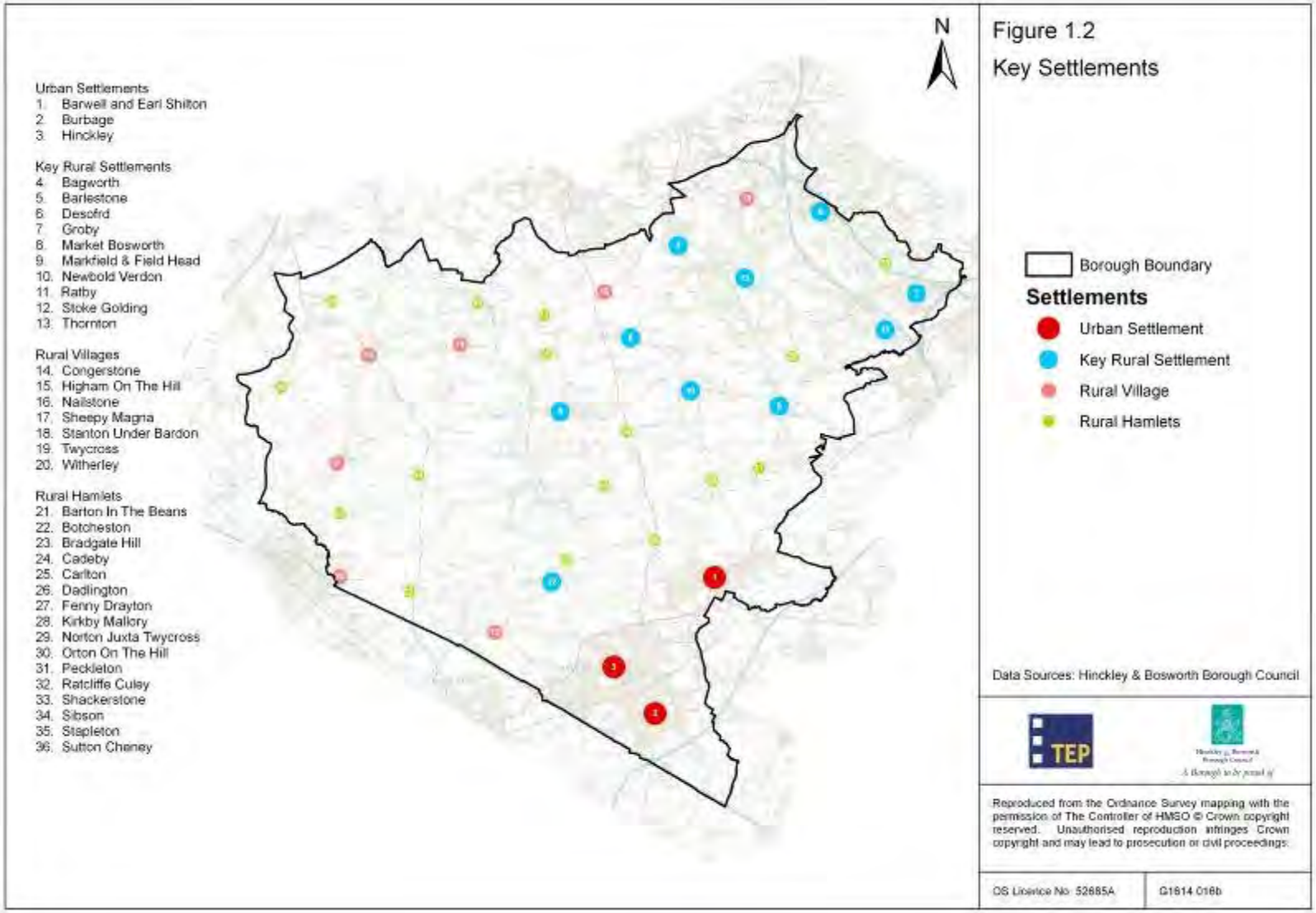


Figure 1.2

Key Settlements

Borough Boundary

Settlements

- Urban Settlement
- Key Rural Settlement
- Rural Village
- Rural Hamlets

Data Sources: Hinckley & Bosworth Borough Council

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The Borough has a rich diversity of landscapes[2], and although none of these are nationally designated, there are particular features that are protected under local planning guidelines for their landscape or biological significance, including:

- Green Wedges at Groby/Martinshaw Wood/Ratby; Groby/Anstey (also known as the Rothley Brook Meadow Green Wedge); Hinckley–Burbage/Barwell–Earl Shilton; and Ratby/Kirby Muxloe;
- SSSIs – including Ashby Canal, the largest SSSI in the Borough and also a designated Conservation Area;
- Sites of County and Local Nature Conservation Significance (5 principal sites plus other associated sites across the Borough).

However, despite these assets, the Borough is not particularly rich in biodiversity: 60% of the SSSIs are in an unfavourable condition and are continuing to decline, and at 5% regional woodland cover is one of the lowest in the UK[3]. There are several important initiatives at work in the area though and these are making a difference to the quality – and quantity of the green infrastructure resource, including The National Forest, Charnwood Forest and The Stepping Stones Project.

In parts of the National Forest woodland cover is as high as 17%[4]. Its presence brings significant regeneration opportunities to the north and eastern parts of the Borough, particularly relating to rural development (with proposals within Hinckley & Bosworth's Core Strategy to transform two Key Rural Centres into 'Forest Settlements', focusing on creating a new, natural 'sense of place' for the former mining villages of Bagworth and Thornton) and economic development in line with the objectives of the Regional Forestry Strategy.

Charnwood Forest also covers part of the Borough. It is recognised for its landscape, ecology, archaeology and recreational / tourism value and has been proposed as a Regional Park in the Draft East Midlands Regional Plan to protect and enhance the Forest's landscape. The Borough is also a partner Authority in the Stepping Stones project: a green infrastructure project that seeks to enable and co-ordinate green infrastructure activity across central Leicestershire.

Hinckley & Bosworth's inclusion in the 3 Cities Sub-Area (part of the 6Cs: 3 Cities 3 Counties Growth Area) means that it will come under increasing pressure to accommodate the growth required by the Draft East Midlands Regional Plan in the coming years. The categorisation of Hinckley as a Sub Regional Centre means that growth will initially be focussed on the urban parts of the Borough. Proposals for residential and business developments in Hinckley and intended urban extensions at Barwell and Earl Shilton (of 2,500 and 2,000 homes respectively) are likely to increase pressures on the Borough's landscapes and green spaces as well as presenting opportunities for enhancing and extending green infrastructure assets. For this to be achieved it is important to ensure that green infrastructure is embedded in the planning process at the earliest stage, and the Borough's focus on green infrastructure provision in relation to the urban extensions[5] is welcome.

Why Have a Green Infrastructure (GI) Strategy?

[2] Hinckley & Bosworth Landscape Character Assessment (2007)

[3] Space4Trees

[4] National Forest figures

[5] Hinckley & Bosworth LDF: Core Strategy Preferred Options (September 2007)

The quality of the environment is an essential component in providing a quality of place for living, working and relaxing. Hinckley & Bosworth has some outstanding urban and rural landscapes, but is under pressure to provide additional homes and associated and improved built (or 'grey') infrastructure facilities, and over time will become increasingly under threat from the implications of climate change.

Green infrastructure can be considered as an organising framework for integrating physical resources and natural systems with ecological, geological and historical assets. Integrating socio-economic and environmental evidence with policy orientations regarding environmental protection and urban development is central in undertaking needs and opportunities for protecting, enhancing and extending green areas.

Planning for green infrastructure will inform the development of Hinckley & Bosworth Borough Council's (HBBC's) local plans and strategies such as Local Development Framework documents and Area Action Plans, and in addition assist the implementation of those plans by providing baseline evidence and information for policy formulation and project development and delivery.

The public value of investment in green infrastructure (in terms of health, biodiversity, access, economic performance and image) has been confirmed in an independent economic appraisal[6]. This study suggests that the returns to society are worth several times the initial investment in green infrastructure.

Strategy Outcomes

This green infrastructure study will have three main outcomes. First, existing networks of green and blue (water) spaces and corridors within and between the urban areas, other settlements and the surrounding countryside will be identified to form the basis for developing a strategic green infrastructure sites and networks plan.

Although the existence of a strategy is important to guide development, its successful implementation is paramount in securing and enhancing the quality of life and sustainability of the borough. The second main outcome of this commission will therefore be the identification of policy and deliverability issues, including possible funding, delivery mechanisms and main actors for implementing green infrastructure in the Borough (i.e. the strategy will be grounded in deliverability).

Anticipated housing and business growth in both brownfield and green field sites will exert pressures on both the quality and quantity of existing green infrastructure assets in the Borough. The final main outcome of this study will be the development of an aspirational strategy for the conservation, protection and enhancement of green spaces, corridors and environmental resources of Hinckley & Bosworth. This strategy will take the growth projections into consideration and will articulate a clear vision for meeting the Borough's needs and opportunities for both development and nature conservation.

This strategy will identify and analyse green infrastructure assets in the Borough both spatially and thematically. The spatial elements of the strategy will use maps to illustrate the main areas of need and opportunity for green infrastructure development in response to the socio-economic and environmental characteristics of the Borough. The thematic aspects of the strategy will focus on a critical analysis of economic, social and environmental issues/policy relating to green infrastructure.

[6] "Economic Analysis of Forest Policy in England" (2003) CJC Consulting

The method statement that follows sets out in more detail the methodology that will be followed in developing a green infrastructure strategy for Hinckley & Bosworth.

Developing a Green Infrastructure Strategy: Methodology

The brief for this work requires this study to produce a Green Infrastructure Strategy for Hinckley & Bosworth, which will form the basis for conserving, enhancing and extending the green infrastructure of the Borough. It will provide an evidence baseline for incorporating into the emerging Local Development Framework, forming an integral element of planning for the sustainable development of the Borough.

The brief also identified several objectives that the Strategy should provide:

- A framework for multi-functional open space;
- A functioning biodiversity network;
- A sustainable movement network;
- Connectivity within / between urban and rural areas;
- Improved function and connection of habitat resources.

Following on from these objectives, we have identified a robust and objective means of devising a targeted Green Infrastructure Strategy that could be adopted into Local Development Documents and other Corporate Strategies as a means for delivering sustainable communities, building on three principles that the strategy must:

- Respond to specific local needs, which differ markedly across the Borough;
- Safeguard and enhance the core environmental networks and improve human connections with their neighbourhood environments; and
- Be capable of informing development control decisions and targeting funds and activity.

Our approach considers green infrastructure resources and assets, current and future demands and opportunities, and the potential benefits a multifunctional greenspace network can deliver, particularly in relation to proposed growth and major developments, delivered over the following stages:

i. The Green Infrastructure Resource:

i. Identify GI assets (actual and potential)

ii. Public benefit assessment, considering social, economic and environmental needs and opportunities

iii. Identify networks of strategic spaces, gaps & barriers

iv. Analysis of existing green infrastructure, and the need for green infrastructure benefits both now and in the future

ii. Green Infrastructure Policy & Practice

v. Consideration of implementation issues and deliverability

vi. Identifying indicators and targets to monitor the condition and capacity of the GI resource

iii. Green Infrastructure Strategy: vii.

Stakeholder workshop

viii. Develop a GI Strategy for Hinckley & Bosworth that is distinctive, safeguards key assets, enhances quality and secures asset management

These steps add to the process outlined for local / urban scale green infrastructure best practice approach as laid out in the 'Creating Successful Green Infrastructure Plans' document[7]. For budgetary reasons, our approach however does not include the proposed intensive environmental and townscape characterisation and limits the consultation to a single stakeholders workshop as opposed to the extensive consultation outlined in that document.

A detailed report covering the workshop proceedings and findings is included as Appendix 1.

[7] Creating Successful Green Infrastructure Plans: Best Practice from the East Midlands and the River Nene Regional Park (September 2007) RNRP, Natural England, CABE Space, EMRA

CHAPTER 2: What is Green Infrastructure?

There are various definitions of green infrastructure, sharing much common ground. This strategy adopts the definition for green infrastructure as laid out in the Leicestershire Community Strategy[8]:

"*Green Infrastructure is the network of green spaces and natural elements that intersperse and connect our cities, towns and villages. More than this, it is a holistic approach to viewing the natural environment that acknowledges the multiple benefits and vital functions it provides for the economy, wildlife, people and communities alike*."

Green Infrastructure may also be seen as part of the life-support system of an area; providing functions and environmental services to a community, such as employment, increased opportunities for and access to recreation, physical health and mental well being, social interaction, contact with nature, education, drainage and flood management, climate change adaptation and pollution mitigation. It may be considered the essence of local character and contributes to sense of place, the very heart of a community.

Green infrastructure spans administrative and political boundaries; it is publicly and privately owned, and it may be semi-natural or man-made in its origins. It may be green, brown or blue, for example woodlands, ploughed fields and rivers or lakes. In the urban realm it complements and balances the built environment; in rural settings it provides a framework for sustainable economies and biodiversity; in-between it links town and country and interconnects wider environmental processes.

Green infrastructure is considered in four parallel ways:

The green infrastructure **resource** is the collective area of all landscapes, green and open spaces, natural elements such as woodlands, rivers and coasts; and the corridors/connections between such places.

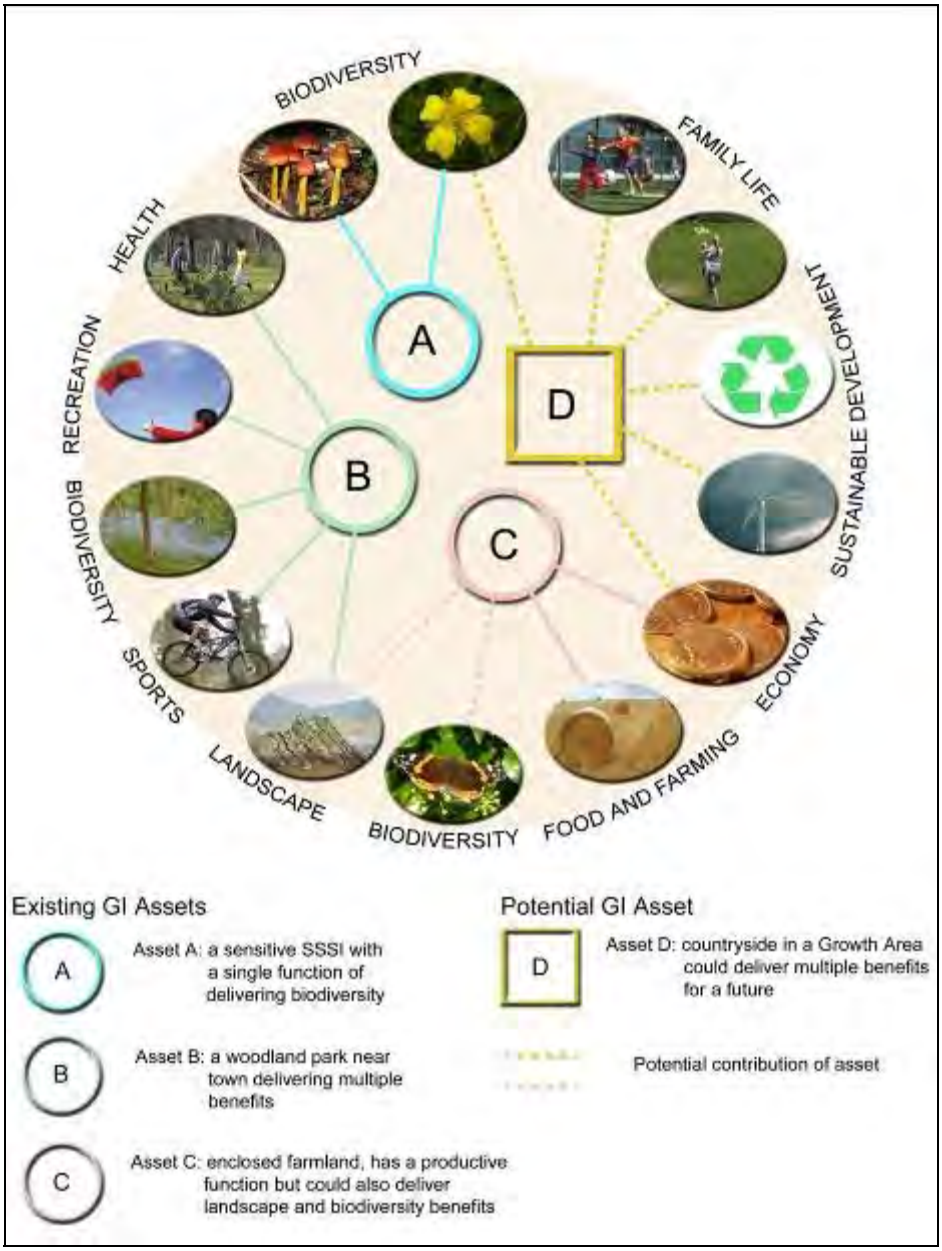
Green infrastructure **assets** are areas which, by virtue of their location, their use or their management, serve one or more functions of social, economic or environmental public benefit. Assets can be defined sites, or equally can be landscapes or other broader environmental features.

Green infrastructure **functions** are roles that land can play if managed in an appropriate way. Numerous environmental or socio-economic functions are possible (e.g. biodiversity, local distinctiveness, public health, sport and recreation, flood management, climate change adaptation and many others), and green infrastructure can be 'multifunctional' where different functions or activities occur on the same piece of land.

Generally multi-functionality is desirable as integration and interaction suggests an efficient and sustainable use of land, especially where pressures on land are acute. However, some assets have single functions of over-riding importance which might be compromised by multi-functional use, and the strategy responds to the need / desire to manage these key assets for their single purpose, intrinsic value – often in the face of unintended or inappropriate multi functional use. Re-evaluating perhaps previously underused areas to meet functional needs, and promoting and providing a wider range of GI assets can help resolve these conflicts.

Figure 2.1: Green Infrastructure Resources, Assets and Functions

[8] Leicestershire Community Strategy (2003) Leicestershire Local Strategic Partnership



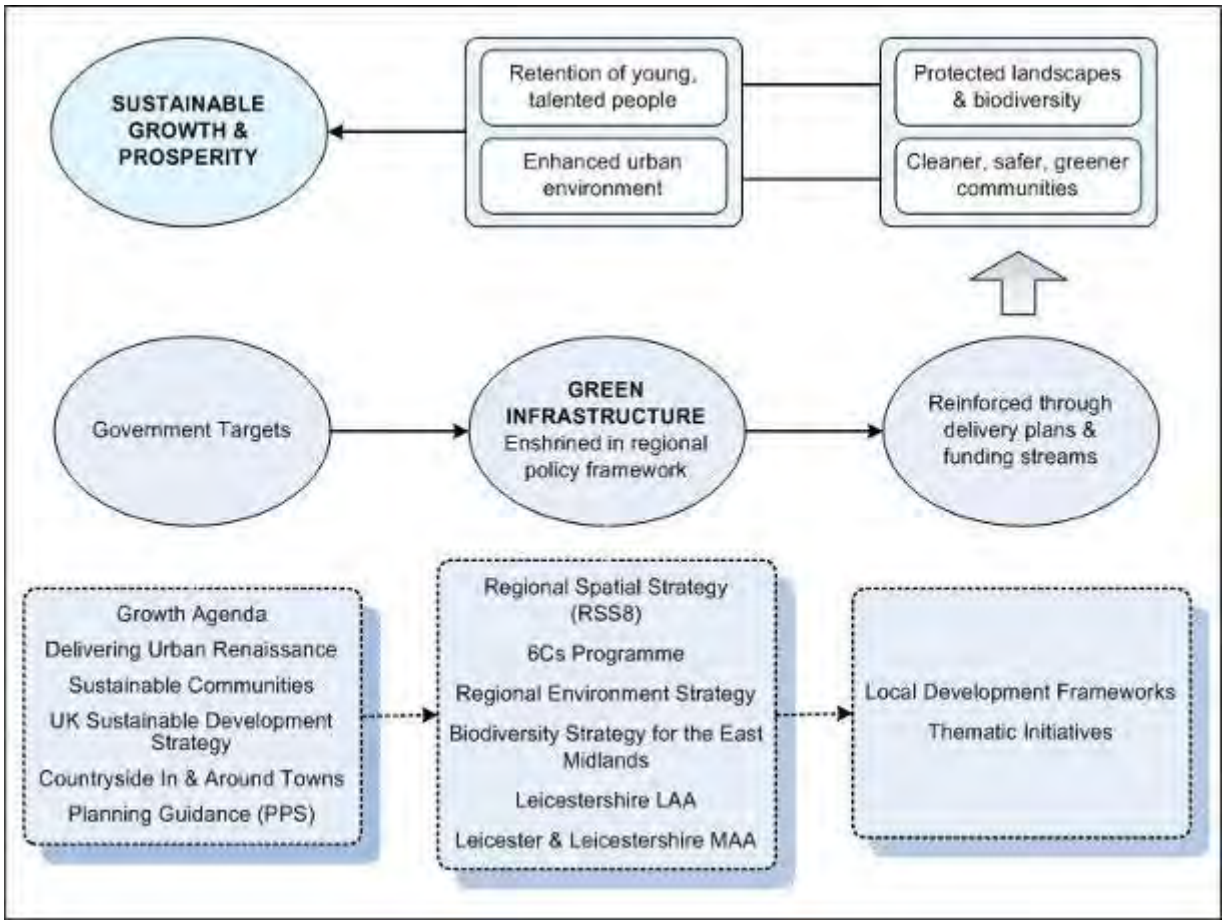
Green infrastructure is set firmly in the context of **public benefit** (sometimes expressed as 'ecosystem services' and / or 'social policy outcomes'), defined in relation to social, economic and environmental goals appropriately acting in combination (i.e. sustainability goals), and it has a spatial dimension, responding to the needs and aspirations specific to an area.

Thus, green infrastructure is much more than a 're-badging' of greenspace strategy. It is about identifying, protecting, conserving, enhancing and extending healthy environments, and is an essential element in planning for the sustainable development of Hinckley and Bosworth Borough. It is also a technique for planning greenspace throughout an area of change, ensuring that developments such as the Sustainable Urban Extensions include new usable open spaces and that these are linked to existing and enhanced green spaces and greenways.

Green Infrastructure in its Policy Context

Green infrastructure planning integrates robust evidence with policy requirements to identify areas of need and/ or opportunity for green space protection, enhancement and extension. In numerous national level strategy and policy documents it is implicitly recognised that there are many policy priorities that may be delivered through green infrastructure[9]. (see also Appendix 2).

Figure 2.2: Green Infrastructure in its Policy Context



National, regional, county and local policies all promote green infrastructure, both in terms of its functions; and also as an organising concept for delivering smart growth. It is also recognised as a means of sustaining environments and ecosystems in line with statutory requirements of the Habitats and Environmental Assessment Regulations.

International Policy Context

European directives and legislation are helping to drive forward the protection of biodiversity (species and habitats) and the promotion of environmental improvements, including:

- European Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC) - also known as the Habitats Directive (1992)

[9] e.g. The Urban White Paper 2000, Sustainable Communities Plan 2003, Rural Strategy 2004, Citizens Engagement in Public Services 2005, Securing the Future 2005

- European Council Directive on the Conservation of Wild Birds (79/409/EEC) – known as the Birds Directive (1979)
- European Union Directive (2000/60/EC): The Water Framework Directive (2000)

National Policy Context

Although the policy framework is still evolving, green infrastructure has quickly risen up the national political agenda to be referenced in many policy documents, including:

- *Our Towns and Cities: The Future - Delivering an Urban Renaissance, 2000 (The Urban White Paper) • Living Places, Cleaner, Safer, Greener, ODPM, 2002 • Working with the Grain of Nature: a Biodiversity Strategy for England, DEFRA, 2002 • Sustainable Communities Plan, 2003 • Sustainable Communities: People, Places and Prosperity, 2005 • Countryside In and Around Towns, 2005 • Securing the Future: The UK Sustainable Development Strategy, 2005*

In 2006 and 2007, Communities and Local Government announced a programme of New Growth Points (including the 6Cs: 3 Counties, 3 Cities programme) and Eco Towns. Prospectuses for these cite the need for green infrastructure measures (including funding streams) to be considered at the outset of settlement planning.

Nationally developed planning guidance requires local planning authorities to account for the protection (and building) of environmental capital as a co-product of development and land management. PPG17 (Open Space, Sport and Recreation) often provides the spatial review of more formal aspects of open and green space provision (quality and quantity) which can act as a basis for strategic green infrastructure planning, whilst other relevant policy guidance can be found in:

- PPS1 (delivering sustainable development);
- PPS6 (planning for town centres);
- PPS7 (rural areas);
- PPS9 (biodiversity and geological conservation);
- PPS11 (Regional Spatial Strategies); • PPS12 (Local Development Frameworks);
- PPS25 (flood risk).

Regional and Sub-Regional Policy Context

In many ways, the East Midlands is at the forefront of regionally planning for green infrastructure, with several key regional policy documents having a specific bearing on GI, particularly:

- East Midlands Regional Spatial Strategy RSS8 / Draft East Midlands Regional Plan [10]
- 6Cs: 3 Cities, 3 Counties Growth Point Programme
- East Midlands Regional Environment Strategy & Sub-Strategy 'A Biodiversity Strategy for the East Midlands'
- Local Biodiversity Action Plans & Priorities for Leicester, Leicestershire & Rutland and the National Forest
- Leicestershire Together: Local Area Agreement (LAA)
- Leicester and Leicestershire Multi-Area Agreement (MAA)

[10] References for all documents listed here are available in full in Appendix 2

- Leicester, Leicestershire and Rutland Landscape and Woodland Strategy
- Regional Forest Strategy: Space4Trees
- Stepping Stones Green Infrastructure Delivery and Action Plans

Local Policy Context

At the local level green infrastructure is again well represented and recognised as part of the future development of the Borough within its planning documents and strategies:

- Hinckley & Bosworth Borough Local Development Framework Core Strategy Preferred Options
- Hinckley & Bosworth Community Plan
- Hinckley & Bosworth Green Space Strategy
- Hinckley & Bosworth Play Strategy
- Hinckley and Bosworth Borough Council Corporate Plan

A brief synopsis of these documents and their relevance to Hinckley & Bosworth's GI strategy can be found in Appendix 2.

Green Infrastructure and Sustainable Prosperity

RRS8 sets out a vision of sustainable development, where:

'The East Midlands will be recognised as a region with a high quality of life and sustainable communities that thrives because of its vibrant economy, rich cultural and environmental diversity and the way it creatively addresses social inequalities, manages its resources and contributes to a safer, more inclusive society.'

The Draft East Midlands Regional Plan (2008) will supersede the RSS once adopted; this places even higher emphasis on GI, and so demonstrates its continued high profile in the region. The Draft Plan particularly recognises the role of GI in relation to climate change and across several Regional Core Objectives, specifically in Regional Core Policy c:

"To protect and enhance the environmental quality of urban and rural settlements to make them safe, attractive and crime free places to live, work and invest in, through the:

• *Promotion of green infrastructure"*

HBBC's Local Development Framework sets out spatial objectives where green infrastructure can have a central role:

i. Regeneration of Urban Centres ii.

Healthier Active Communities iii.

Stronger Safer Communities

iv. Identity, Distinctiveness and Quality of Design
v. Natural Environment and Cultural Assets vi. Resource Efficiency including

reducing emissions vii. Transportation and the need to travel

By planning and managing the multifunctionality of GI at the landscape scale a number of important benefits can be realised that set the context for sustainable prosperity:

1. Providing an inspiring setting for economic progress and investment;
2. Creating a focus for social inclusion, education, training, health and well being;
3. Reinforcing and enhancing landscape character;
4. Reversing habitat fragmentation and increasing biodiversity;
5. Developing a multi-functional landscape and greenspace resource that meets local needs;
6. Providing attractive and sustainable options for flood control and management;
7. Safeguarding and enhancing natural and historic assets, between, in and around major communities; and
8. Inspiring cohesive partnership working across a range of disciplines and sectors including voluntary and public.

Green Infrastructure can deliver benefits beyond those of environmental protection and enhancement; there are clear and substantial returns for communities and society as a whole and the local and wider economies. The implementation of GI in the Borough will almost certainly allow Hinckley and Bosworth to become 'a thriving, successful borough exemplifying green sustainable development across the East Midlands' as set out in the Vision for 2026 in the Borough's LDF Core Strategy, making a significant contribution to the ability of Hinckley & Bosworth to live and prosper within environmental limits.

CHAPTER 3: Green Infrastructure in Hinckley & Bosworth

Existing Green Infrastructure Resources and Assets

A variety of existing datasets and sources of information have been used to identify and map the distribution of green infrastructure assets within Hinckley & Bosworth, including:

- Green space assets without designations;
- Green space assets with designations, such as LNRs, SSSIs;
- Water courses and water bodies;
- Land under Countryside / Environmental Stewardship or other management regimes;
- Parks, gardens and heritage features;
- Recreation facilities;
- Access network, including footpaths, cycle ways and promoted paths

Figure 3.1 shows the distribution of green space assets within the Borough, including green space of a natural character and other green spaces such as parks. The National Forest area in the north east of the Borough dominates and contains most of the Borough's natural assets, mostly consisting of woodland and includes three large water bodies. Some of the Borough's rural settlements are on the periphery of the National Forest area and would benefit from natural linkages between themselves and the large natural resource of the Forest (Figure 3.2).

Outside of this area, natural assets are scattered and disparate with some smaller clusters around Market Bosworth, to the west of Shackerstone at Gopsall Park and Burbage Common to the east of Hinckley and Burbage. The agricultural landscape in the west of the Borough has few natural areas, though the river system in this area provides a natural landscape element that connects this area with the rest of the Borough, with the Ashby Canal providing another key connection between town and countryside.

Figure 3.3 illustrates that the main conurbations in the south west of the Borough have a relative scarcity of natural greenspace, although provision of amenity greenspaces (parks, gardens and recreational spaces) is fair and accounts for most of the greenspace provision across Hinckley, Barwell, Burbage and Earl Shilton. The main open space available to these towns is Burbage Common, which has a considerable biodiversity value and is an important recreational resource for the four towns. There are few if any natural corridors connecting the towns to the surrounding rural areas, though there are several streams flowing from the urban to the rural, particularly the Ashby Canal: connecting the west of Hinckley to the northern rural hinterland and passing close to the nationally and regionally important Battlefield Site.

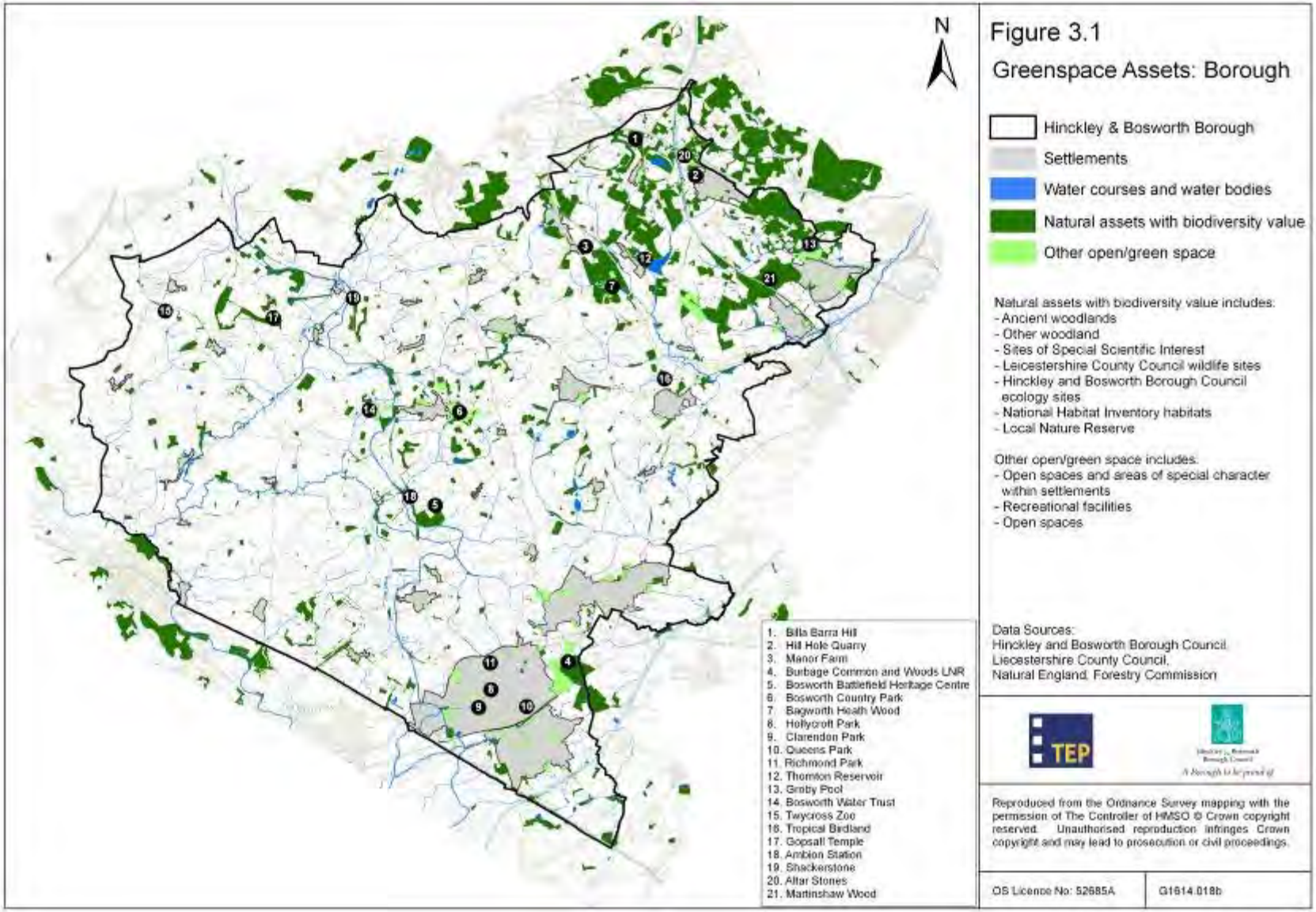

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Figure 3.1
Greenspace Assets: Borough
Hinckley & Bosworth Borough
Settlements
Water courses and water bodies
Natural assets with biodiversity value
Other open/green space
Natural assets with biodiversity value includes:
- Ancient woodlands
- Other woodland
- Sites of Special Scientific Interest
- Leicestershire County Council wildlife sites
- Hinckley and Bosworth Borough Council ecology sites
- National Habitat Inventory habitats
- Local Nature Reserve
Other open/green space includes:
- Open spaces and areas of special character within settlements
- Recreational facilities
- Open spaces
1. Bilia Barra Hill
2. Hill Hole Quarry
3. Manor Farm
4. Burbage Common and Woods LNR
5. Bosworth Battlefield Heritage Centre
6. Bosworth Country Park
7. Bagworth Heath Wood
8. Hollycroft Park
9. Clarendon Park
10. Queens Park
11. Richmond Park
12. Thornton Reservoir
13. Groby Pool
14. Bosworth Water Trust
15. Twycross Zoo
16. Tropical Birdland
17. Gopsall Temple
18. Ambion Station
19. Shackerstone
20. Altar Stones
21. Martinshaw Wood
Data Sources:
Hinckley and Bosworth Borough Council,
Leicestershire County Council,
Natural England, Forestry Commission
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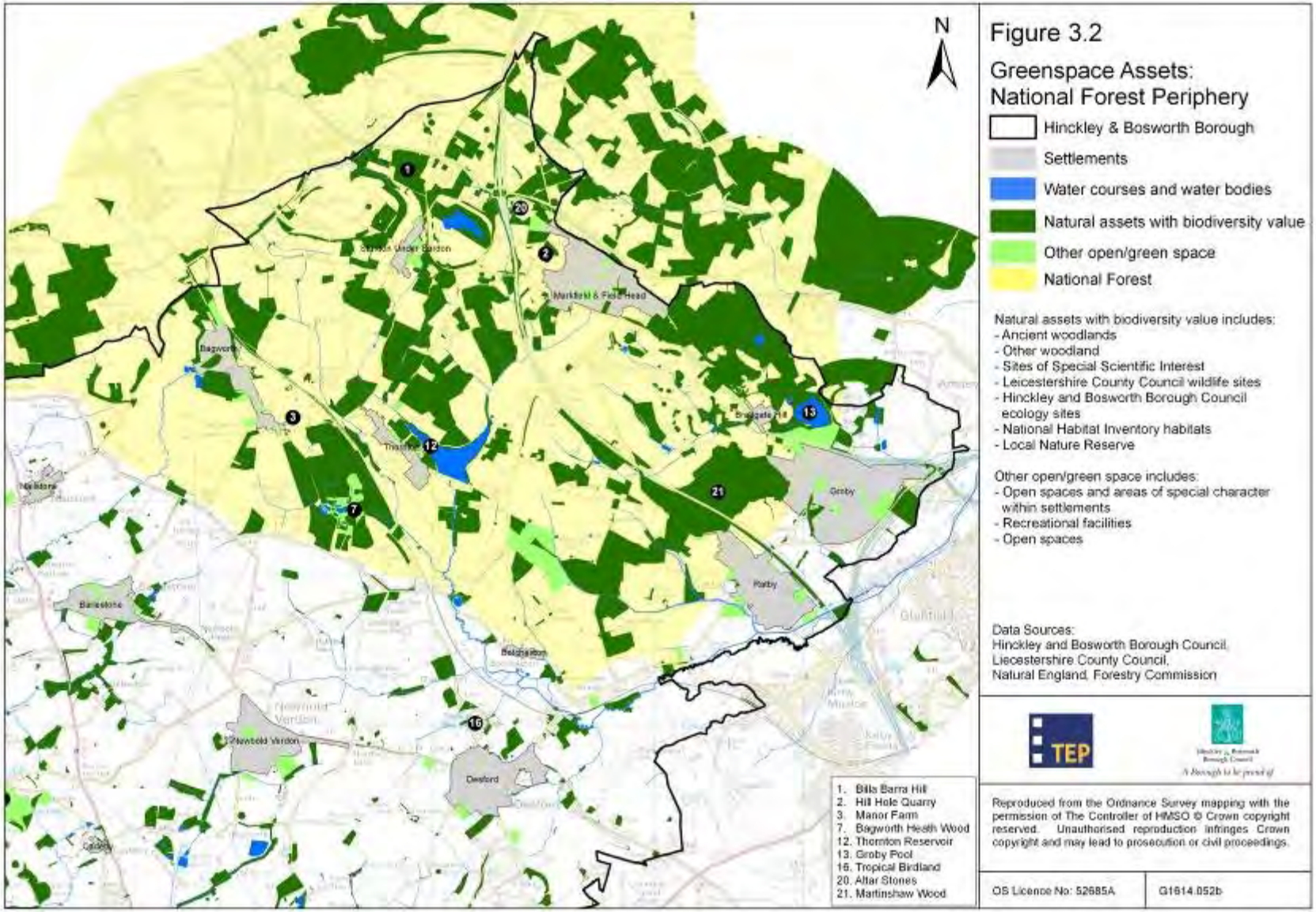
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Figure 3.2
Greenspace Assets:
National Forest Periphery
Hinckley & Bosworth Borough
Settlements
Water courses and water bodies
Natural assets with biodiversity value
Other open/green space
National Forest
Natural assets with biodiversity value includes:
- Ancient woodlands
- Other woodland
- Sites of Special Scientific Interest
- Leicestershire County Council wildlife sites
- Hinckley and Bosworth Borough Council ecology sites
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- Local Nature Reserve
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Data Sources:
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1. Bills Barra Hill
2. Hill Hole Quarry
3. Manor Farm
7. Bagworth Heath Wood
12. Thornton Reservoir
13. Groby Pool
16. Tropical Birdland
20. Altar Stones
21. Martinshaw Wood
Bagworth
Markfield & Field Head
Groby
Ratby
Barlestone
Newbold Verdon
Desford
Botcheston

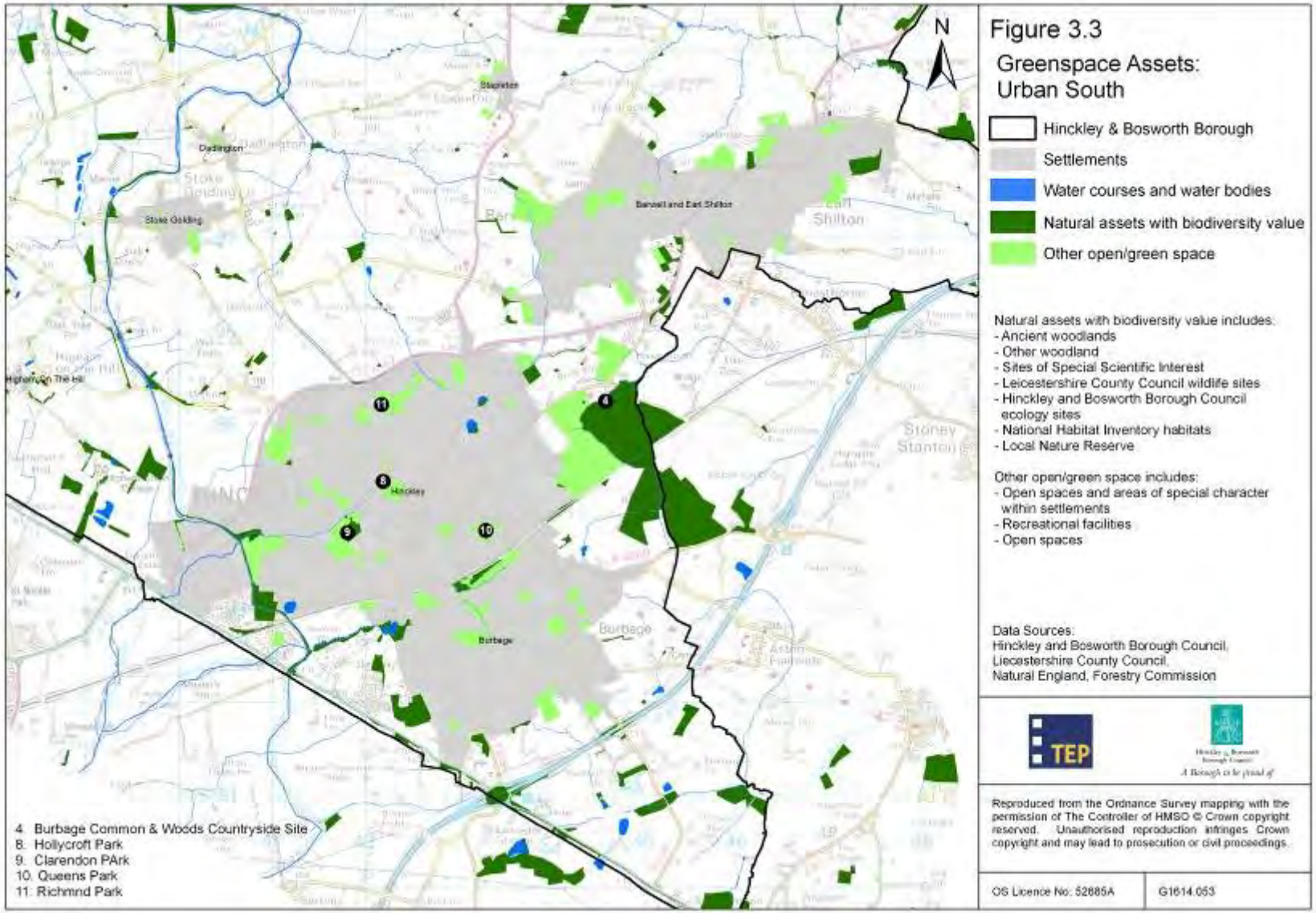
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Figure 3.3
Greenspace Assets:
Urban South
Hinckley & Bosworth Borough
Settlements
Water courses and water bodies
Natural assets with biodiversity value
Other open/green space
Natural assets with biodiversity value includes:
- Ancient woodlands
- Other woodland
- Sites of Special Scientific Interest
- Leicestershire County Council wildlife sites
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4. Burbage Common & Woods Countryside Site
8. Hollycroft Park
9. Clarendon PArk
10. Queens Park
11. Richmnd Park
Stapleton
Dadlington
Stoke Golding
Barwell and Earl Shilton
Hinckley
Burbage
Stoney Stanton

Figure 3.4 shows the distribution of land within the Borough that is designated (largely for biodiversity or heritage reasons) or under specific management regimes.

In the west of the Borough a considerable amount of the agricultural landscape is under Countryside or Environmental Stewardship agreements, introducing higher levels of environmental management across whole farms which will show biodiversity benefits over time. Similarly, in the north east of the Borough the National Forest will continue to promote and direct forestry management regimes, consolidating and safeguarding the natural value of this area.

Outside of the National Forest, there is very little land under specific nature conservation designation other than parts of the Burbage Common site, Sheepy Field SSSI and a section of the Ashby Canal alongside many small sites which are designated as having some ecological interest but are scattered around the Borough and generally lacking in connectivity. Conversely, historical sites are evenly distributed around the Borough and many form part of the villages and town centres, although the Borough's main historic interest is concentrated around the Battle of Bosworth site.

Green Wedges and Areas of Separation (figure 3.5) are an important part of the Borough's and County's green infrastructure resource. Green Wedges are designated areas (via Local / Structure Plans) separating conurbations, designed to maintain open space between settlements, and are subject to specific planning controls where only applications that will serve to maintain open space (or the management of it) are allowed, such as a sports pavilion or farm building. Within Hinckley & Bosworth there are two Green Wedges: one separating Groby, Ratby, Anstey and Glenfield, and another separating Hinckley and Burbage from Barwell and Earl Shilton. In other parts of Leicestershire Green Wedges are seen as a valuable resource and are expected to become large scale accessible green spaces as part of the 6Cs Programme[11].Areas of Separation to the west of Hinckley, Desford and Groby also act as 'green lungs' within the Borough.

Public access routes around the Borough are illustrated by figure 3.6. The public footpath network is extensive, with existing and proposed rural cycle routes connecting rural villages both to each other and to the main southern towns (largely using the road network as opposed to traffic free routes), providing significant recreational resources as well as local routes for accessing shops, schools and workplaces. The Rights of Way network is a managed resource, and subject to a programme of path maintenance and improvements (particularly in and around urban areas) through the Rights of Way Improvement Plan's Action Plan, and via funding from the Local Transport Plan (in Hinckley and Earl Shilton).The route of the Leicestershire Round promoted path takes in large parts of the National Forest, Market Bosworth Country Park, the Historic Battlefield Site and parts of Barwell and Burbage and Burbage Common. Equally, the Ivanhoe Way passes through the north of the Borough and connects Measham in North Leicestershire with the northern terminus of the Battlefield Railway and the museum. Both routes are therefore an important strategic asset for the Borough.

The four main towns in the south are well served by the public footpath network with routes radiating out in the surrounding countryside. However, although the rural footpath network is extensive, access is not comprehensive and several settlements

[11] 3 Cities & 3 Counties New Growth Point, Draft Partnership for Growth Programme of Development 20062026, 2007

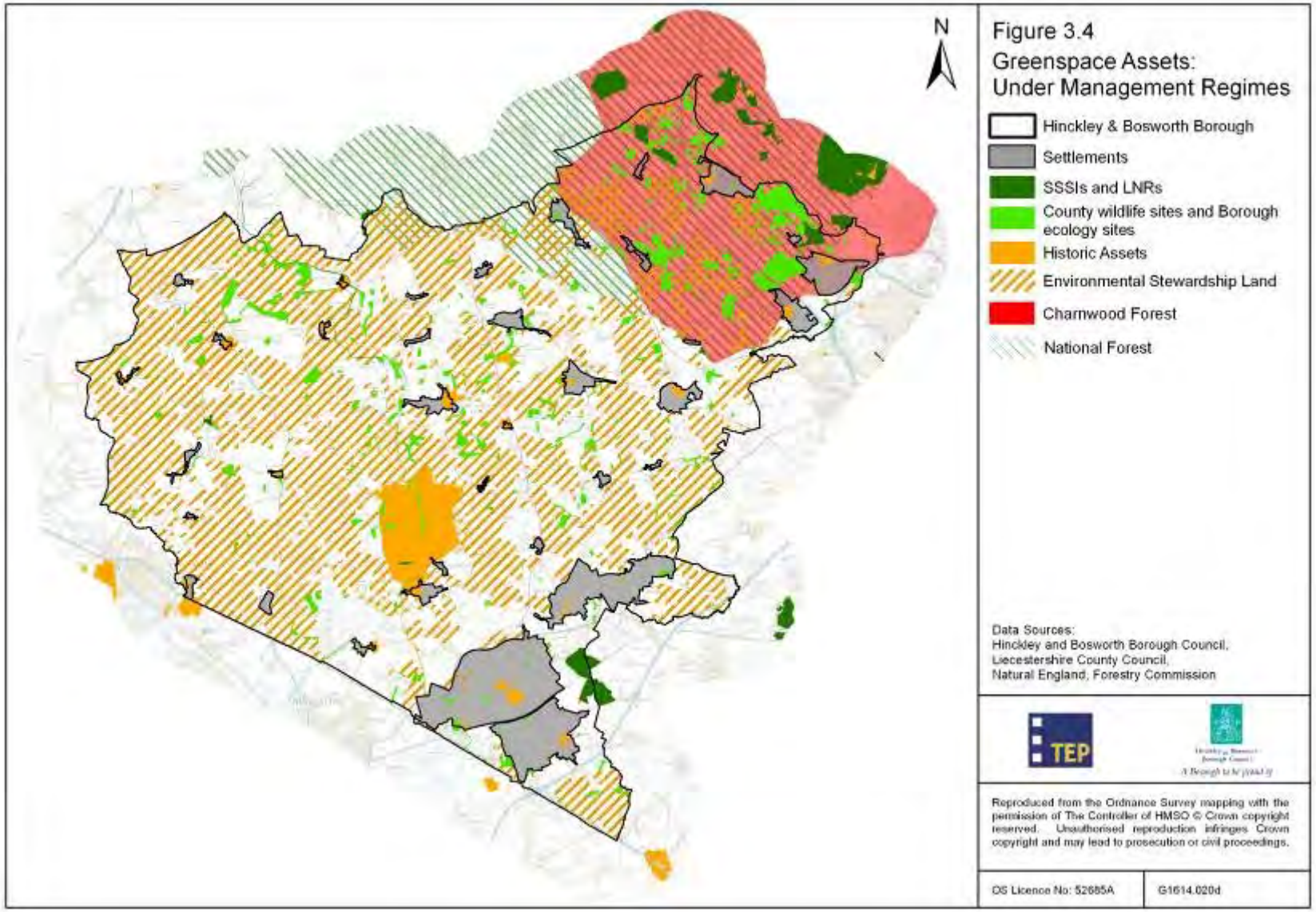
have no direct footpath connection between them (including Higham on the Hill and Fenny Drayton, Barlestone and Market Bosworth, Sibson and Fenny Drayton, Groby and Markfield).

The tourism assets shown in figure 3.7 concentrate primarily on those assets with a significant natural element.

There are several concentrations of tourism assets, catering for both residents of and visitors to the borough:

- The urban south of the Borough: mainly representing parks that are primarily for local community use
- The National Forest areas based around woodland and conservation, and are promoted as part of the National Forest;
- The northern end of the Battlefield line, the museum and access to Gopsall Park ruins;
- The centre of the Borough: including major attractions for visitors from outside of the Borough, including the Bosworth Battlefield Site and Railway Line, Bosworth Water Park and Bosworth Country Park – all well connected via the Leicestershire Round and the Ivanhoe Way;
- Individual assets at Twycross Zoo near Norton Juxta Twycross and Tropical Bird land at Desford, again attracting visitors from outside of the Borough.

The Borough also has several tourism and recreation initiatives and events that use the natural environment as a setting although they are not necessarily an environmental asset in themselves, e.g. Hinckley Half Marathon, Bosworth in Bloom.


N
Figure 3.4
Greenspace Assets:
Under Management Regimes
Hinckley & Bosworth Borough
Settlements
SSSIs and LNRs
County wildlife sites and Borough ecology sites
Historic Assets
Environmental Stewardship Land
Charnwood Forest
National Forest
Data Sources:
Hinckley and Bosworth Borough Council,
Liecestershire County Council,
Natural England, Forestry Commission
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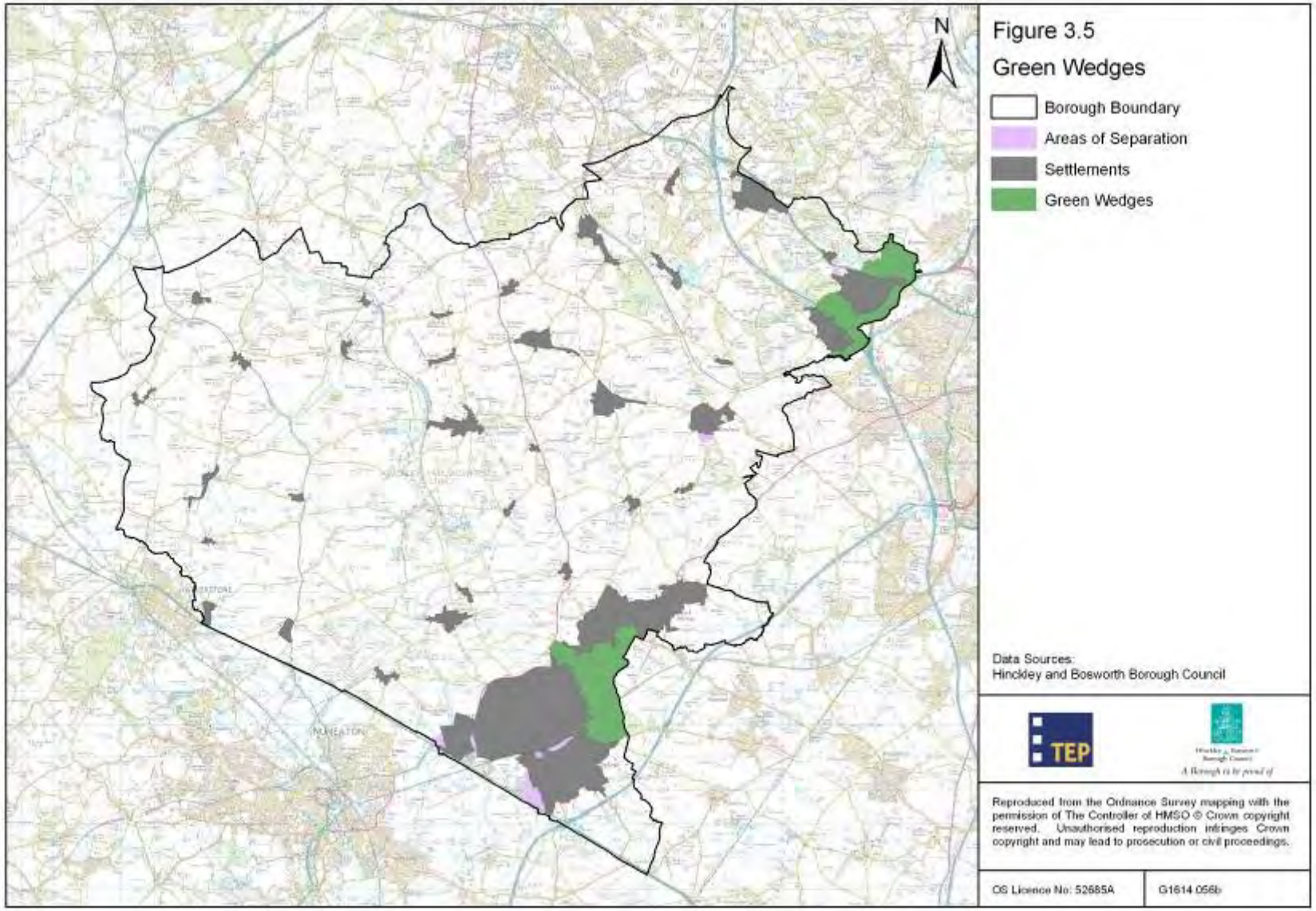
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Figure 3.5
Green Wedges
Borough Boundary
Areas of Separation
Settlements
Green Wedges
Data Sources:
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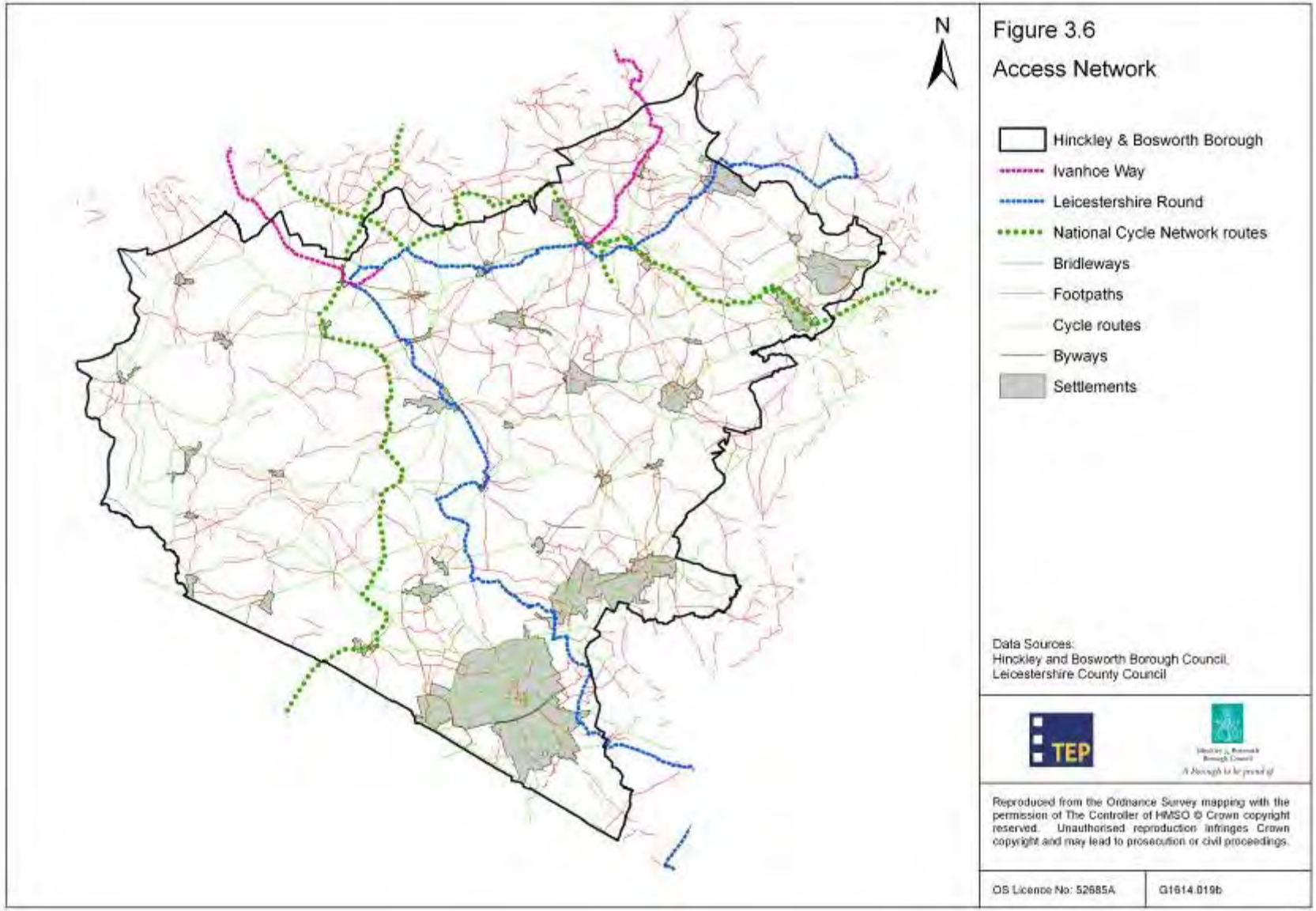
N
Figure 3.6
Access Network
Hinckley & Bosworth Borough
Ivanhoe Way
Leicestershire Round
National Cycle Network routes
Bridleways
Footpaths
Cycle routes
Byways
Settlements
Data Sources:
Hinckley and Bosworth Borough Council,
Leicestershire County Council
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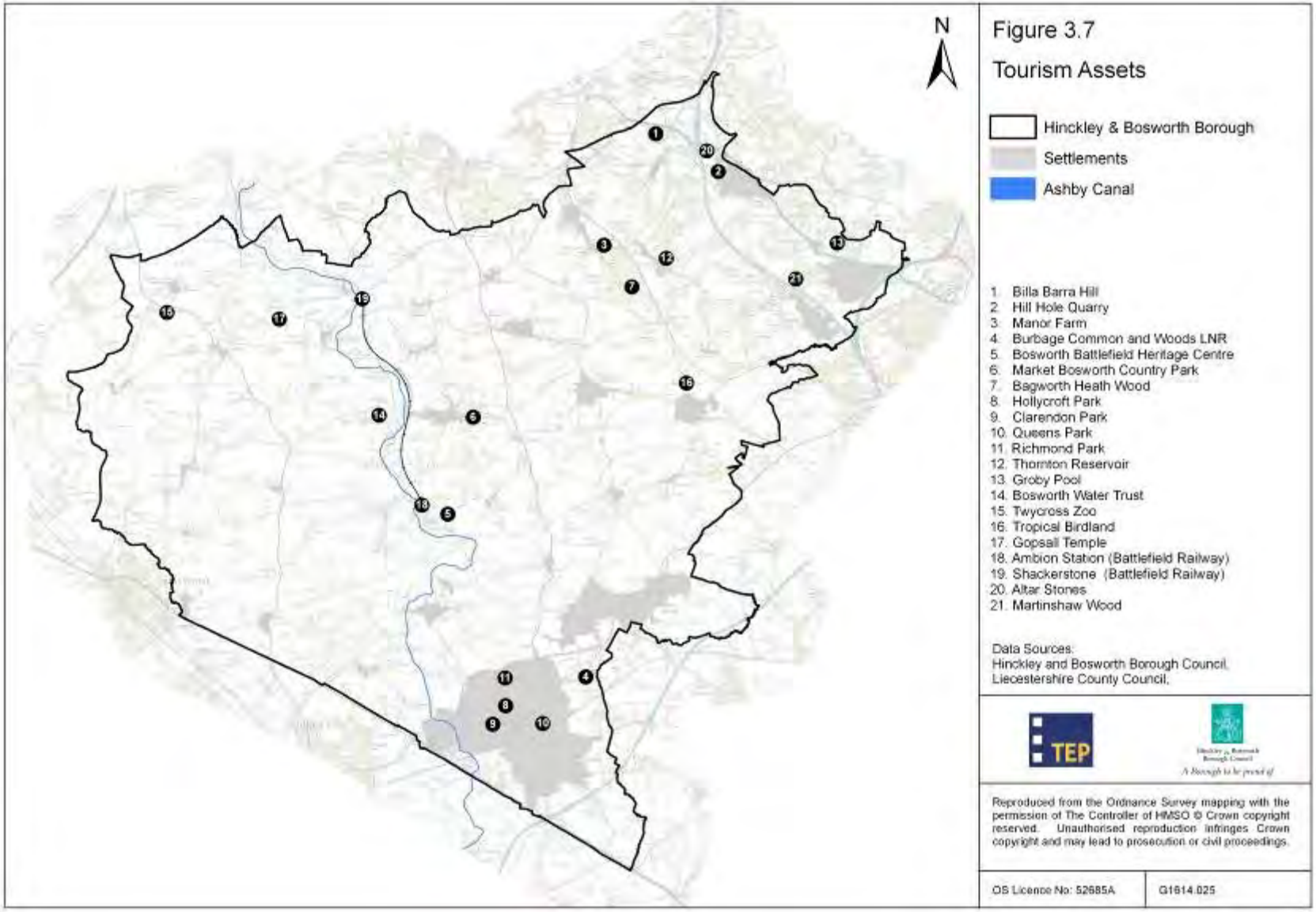
N
Figure 3.7
Tourism Assets
Hinckley & Bosworth Borough
Settlements
Ashby Canal
1. Billa Barra Hill
2. Hill Hole Quarry
3. Manor Farm
4. Burbage Common and Woods LNR
5. Bosworth Battlefield Heritage Centre
6. Market Bosworth Country Park
7. Bagworth Heath Wood
8. Hollycroft Park
9. Clarendon Park
10. Queens Park
11. Richmond Park
12. Thornton Reservoir
13. Groby Pool
14. Bosworth Water Trust
15. Twycross Zoo
16. Tropical Birdland
17. Gopsall Temple
18. Ambion Station (Battlefield Railway)
19. Shackerstone (Battlefield Railway)
20. Altar Stones
21. Martinshaw Wood
Data Sources:
Hinckley and Bosworth Borough Council,
Leicestershire County Council,
TEP
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The Socio-Economic Context for GI in Hinckley & Bosworth

Hinckley and Bosworth is a relatively affluent borough when compared with the regional and national averages.

Economically the Borough is fairing well in comparison to the wider region and England as a whole: Unemployment rates and economic inactivity are lower, as is the number of people claiming incapacity benefit:

Table 3.1: Socio-Economic Indicators for Hinckley & Bosworth

Indicator	Hinckley & Bosworth	East Midlands	England
Economically Inactive	17.2%	19.6%	21.4%
Unemployment Rate	4.1%	5.2%	5.5%
Incapacity Benefit Claimants	4%	7%	7%

Source: Office for National Statistics

In the Indices of Multiple Deprivation (IMD 2007)[11] the Borough is ranked 283rd out of 354, where 1st is the most deprived of the English local authorities. This is the Government's official measure of multiple deprivation at small area level; it brings together 37 different indicators which cover specific aspects or dimensions of deprivation across seven thematic "domains":

- Income
- Employment
- Health and Disability
- Education, Skills and Training
- Barriers to Housing and Services
- Crime
- Living Environment

Figure 3.8 shows the relative levels of deprivation across Hinckley & Bosworth. Although none of Hinckley & Bosworth's LSOAs[12][13] is within the most deprived 10% nationwide (and in fact 22.7% of the Borough's LSOAs are within the least deprived 10%), several areas display significantly higher levels of deprivation when compared to the rest of the Borough, with the main concentrations of deprivation within the four main towns in the south and the rural areas to the west along with several urban areas becoming more deprived between 2004 and 2007 (Figure 3.9).

[11] Indices of Multiple Deprivation, 2007, CLG

[12] LSOAs generally have between 1000 and 3000 people living in them with an average of 1500 people, allowing easier identification of pockets of deprivation. There are 66 LSOAs in Hinckley & Bosworth [14] ONS Mid Year Population Estimates 2006

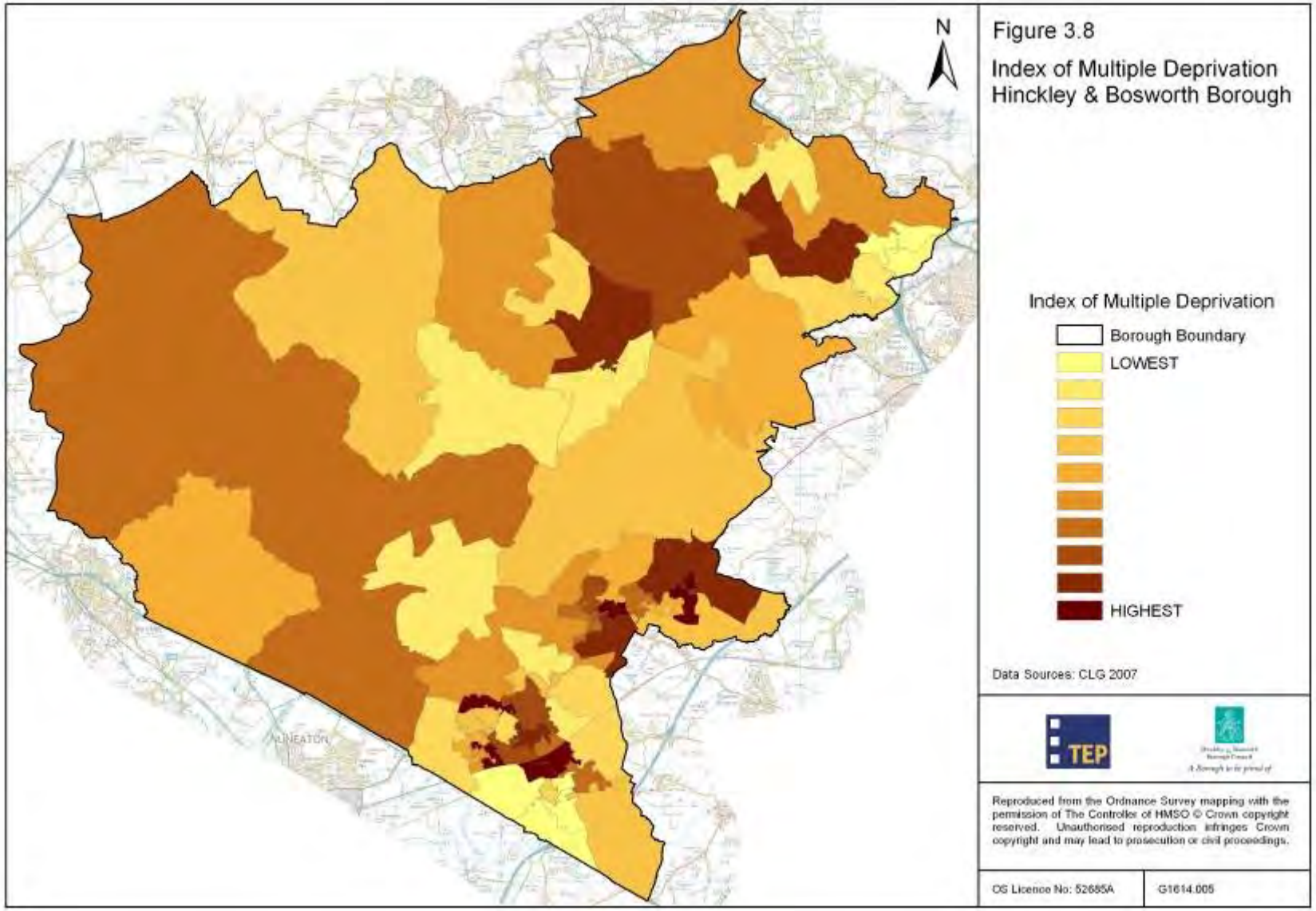
Hinckley & Bosworth has a population of 103,800[14], with a steady rise over the last five years of 0.7%. Most of the population is located in the main towns of Hinckley, Burbage, Earl Shilton and Barwell, meaning that the location and functionality of accessible open spaces within the urban areas will be critical to serve the needs of the population. Equally such spaces will need to be protected from possible damage through

overuse, particularly in the face of growth. This is particularly important when considering the characteristics of the population, and its ability to benefit from green infrastructure.

Hinckley and Bosworth has areas with a high proportion of relatively elderly residents (figure 3.10), although figure 3.11 shows that there are also areas where there is a high proportion of young people (under the age of 14). Green infrastructure needs may well be different in these areas: older (and therefore potentially less mobile) people will need doorstep greens and street greening (e.g. through street trees) whereas young people may demand more multifunctional open spaces that meet increasingly varied leisure and educational needs.

The implications of climate change on urban areas should also be considered. Predicted temperature changes will particularly impact on urban areas, which will experience an 'urban heat island' effect. Vulnerable communities (i.e. where populations are experiencing poor health, are particularly young or old, or have otherwise decreased mobility – see figure 4.7) will be particularly at risk. Green infrastructure can help to alleviate this effect, reducing temperatures in urban areas by providing shade and aiding air quality improvements.

Demographics and climate change place particular demands on and for green infrastructure in Hinckley and Bosworth, in terms of accessibility, functionality and design. The following chapter carries out a deeper analysis of the issues in an analysis of the socio-economic and environmental trends affecting green infrastructure in the Borough (the needs) and identifies the drivers for change (the opportunities), whilst the public benefit assessment identifies key areas in the Borough where these needs and opportunities coincide.


N
Figure 3.8
Index of Multiple Deprivation
Hinckley & Bosworth Borough
Index of Multiple Deprivation
Borough Boundary
LOWEST
HIGHEST
Data Sources: CLG 2007
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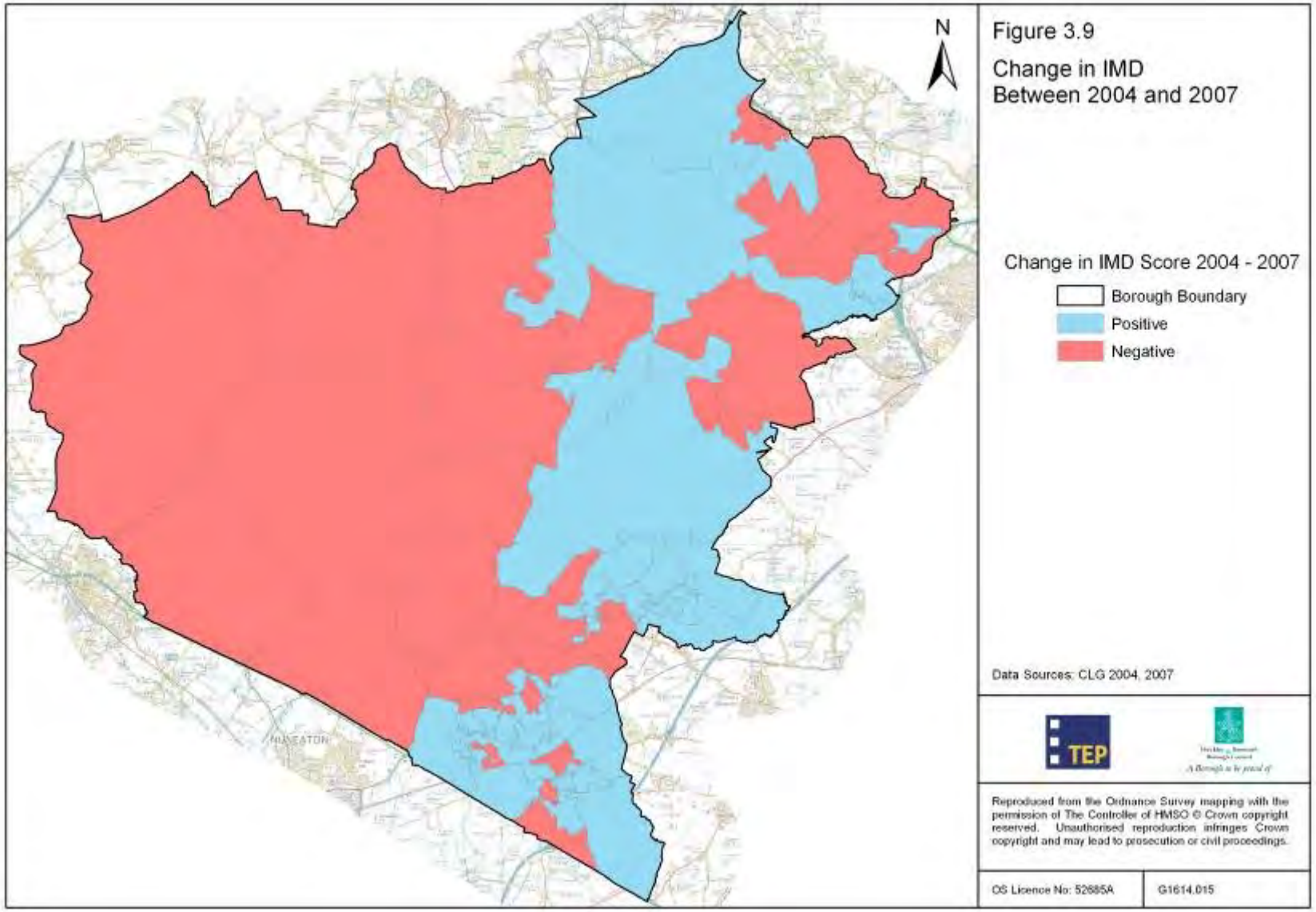
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Figure 3.9
Change in IMD
Between 2004 and 2007
Change in IMD Score 2004 - 2007
Borough Boundary
Positive
Negative
Data Sources: CLG 2004, 2007
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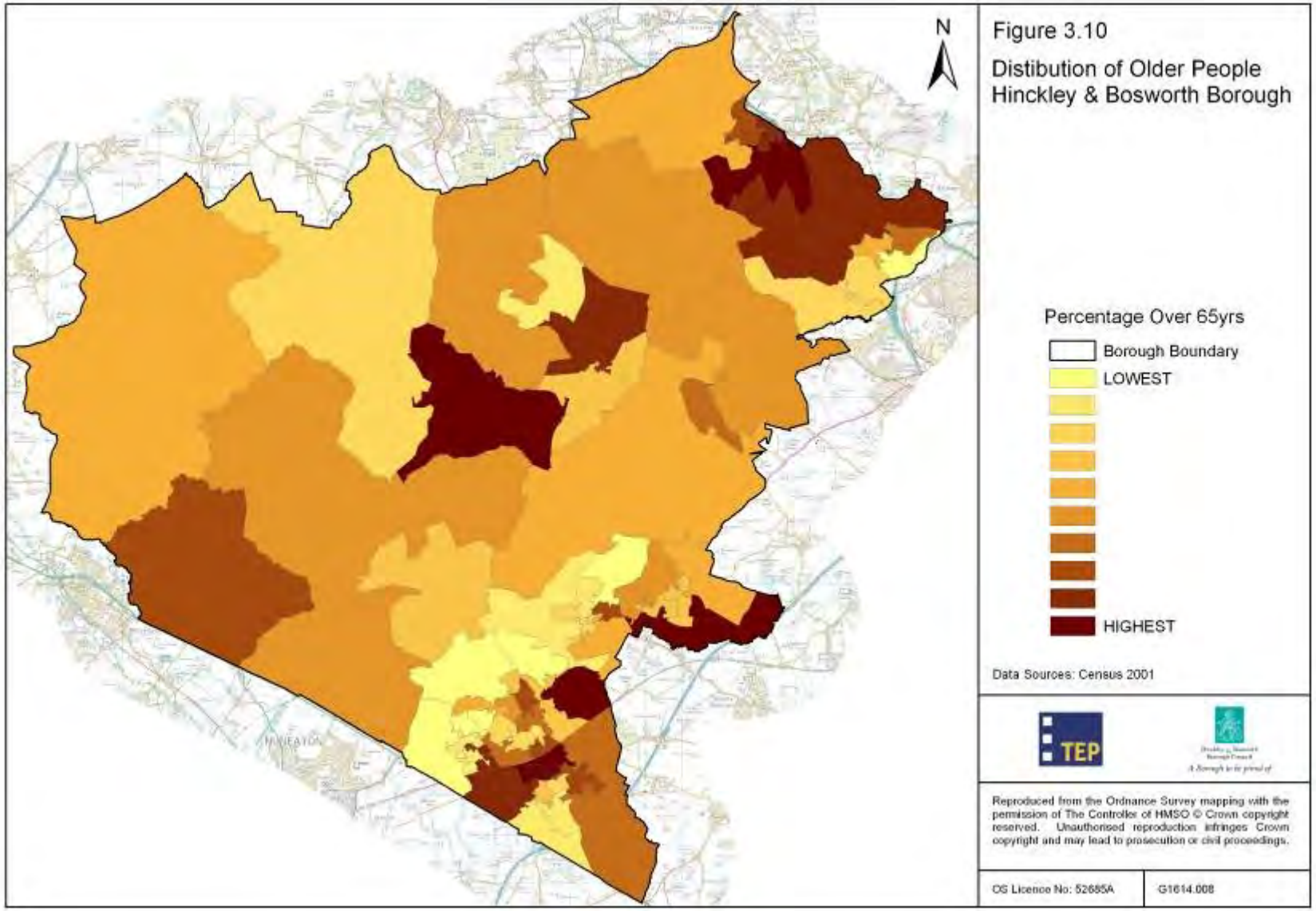
N
Figure 3.10
Distibution of Older People
Hinckley & Bosworth Borough
Percentage Over 65yrs
Borough Boundary
LOWEST
HIGHEST
Data Sources: Census 2001
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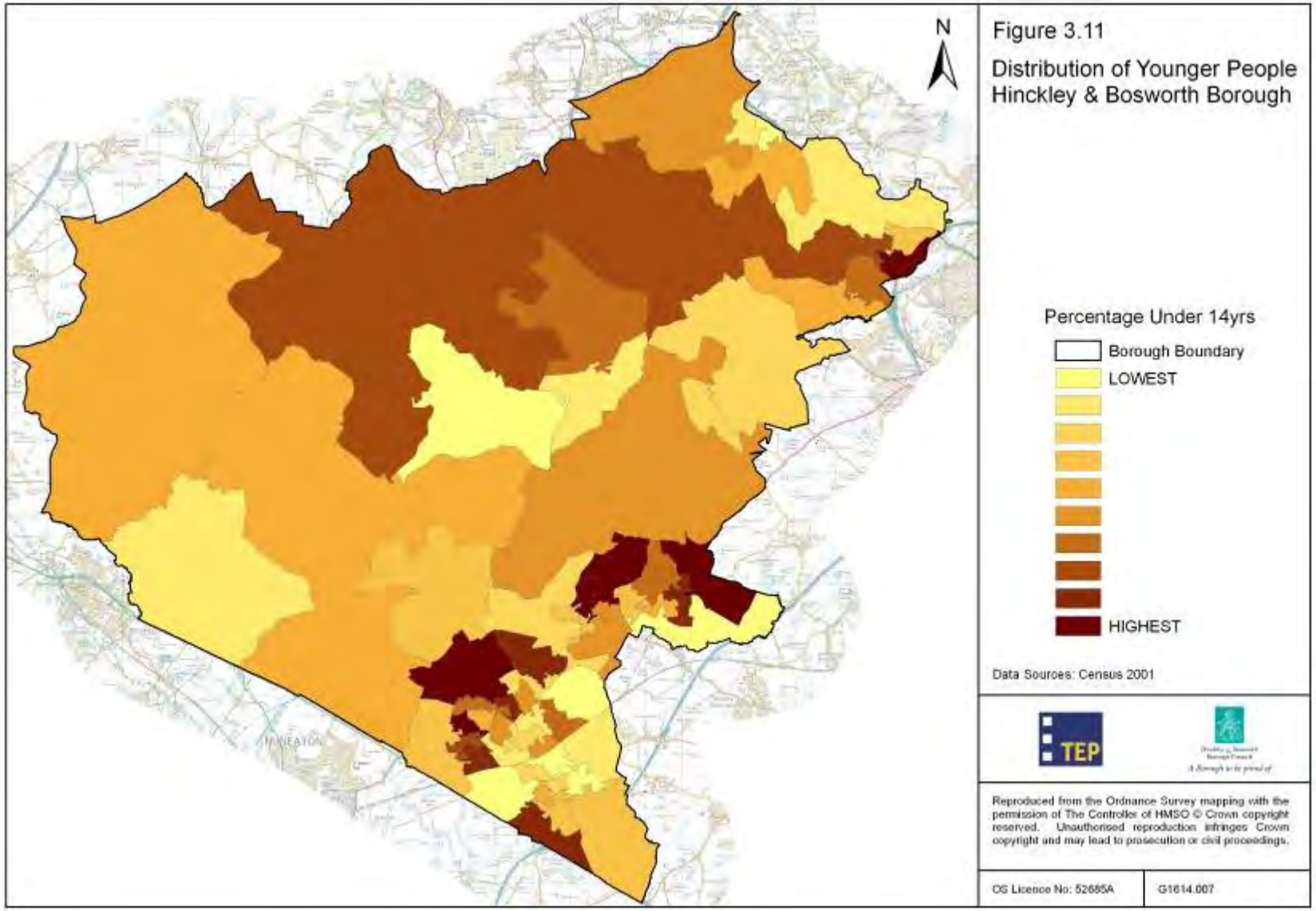
N
Figure 3.11
Distribution of Younger People
Hinckley & Bosworth Borough
Percentage Under 14yrs
Borough Boundary
LOWEST
HIGHEST
Data Sources: Census 2001
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CHAPTER 4: Green Infrastructure Issues & Drivers for Change

This chapter examines the issues affecting the Borough's green infrastructure, and determines the drivers for change in Hinckley & Bosworth. Within the context of those national, regional, sub-regional and local policies listed in Chapter 2, we have specifically considered the findings of several critical pieces of research and proposed and existing initiatives, including:

- Regional Spatial Strategy for the East Midlands RRS8 (2005) GOEM
- Draft East Midlands Regional Plan (2008) EMRA / GOEM
- LDF Core Strategy Preferred Options (2007) Hinckley and Bosworth Borough Council
- 3 Cities and 3 Counties New Growth Point: Partnership for Growth Programme of Development 2006-2026 (October 2007) 3 Cities &3 Counties Partnership for Growth
- Hinckley and Bosworth Borough Council Green Space Strategy (2005) HBBC
- Hinckley and Bosworth Landscape Character Assessment (2006) HBBC
- Joint Strategic Flood Risk Assessment (2007) JBA Consulting for HBBC, Blaby District Council and Oadby & Wigston Borough Council
- A Biodiversity Strategy for the East Midlands (2006) EMBF & EMRA

ISSUES AFFECTING GREEN INFRASTRUCTURE IN HINCKLEY & BOSWORTH

From an assessment of several key pieces of research and initiatives in the Borough, we have identified several key issues which may affect the provision, protection or delivery of green infrastructure in Hinckley & Bosworth:

- Growth Point proposals
- Quality and quantity of green spaces
- Climate change
- Population demographics
- Biodiversity and natural resources
- Land use and management
- Funding regimes

Growth Point Proposals

Hinckley & Bosworth is recognised as one of the sub-regional centres in the Draft East Midlands Regional Plan and as a priority town(s) in the Three Cities sub-area[14]. At present the Borough is

[14] Draft East Midlands Regional Plan figures

expected to deliver 11,700 new dwellings in the period 2001 – 2026, which translates as approximately 468 dwellings per annum for the 25 year period. [15][16].

The current availability of building plots in the Borough is short of the required 11,700 as detailed in Table 4.1:

Table 4.1: Housing Supply and Demand HBBC[17]

Number of Houses to be provided 2001- 2026	11700
Existing Supply	
Completions (2001- 2007)	3123
Commitments (Unimplemented LP allocations & Large site commitments)	1539
Small site commitments	360
Urban Housing Potential Sites (site specific) 2006 - 2016	1531
Urban Housing Potential Sites (windfall) 2016- 2026	1300
Total Supply	7853
Number of houses we still have to find land for	3847

This shortfall of housing will be primarily addressed by Sustainable Urban Extensions (SUEs). HBBC has identified 6 possible sites for SUEs around the four main towns of Hinckley, Barwell, Burbage and Earl Shilton, as well as identifying rural areas that could provide housing land. The preferred option is for development to be concentrated around the main towns, with 2 preferred sites in the Core Strategy delivering 4,500 new dwellings plus associated employment sites:

- 2,500 dwellings plus a possible 15ha employment site to the west of Barwell;
- 2,000 dwellings plus a possible 10ha employment site to the south of Earl Shilton.

As the Borough's housing stock is expected to rise by 11,700, measures must be taken to ensure that the quality of life and place available to existing and future residents is of a high order. Infill development in the urban area will increase demands on existing open and green spaces and with other implications on wildlife, landscapes and other elements of the natural environment that can have an important role in providing a good quality of life.

[15] 3 Cities and 3 Counties New Growth Point: Programme of Development 2006-2026 (October 2007) 3 Cities & 3 Counties Partnership for Growth, and as described in the proposed changes to RSS8

Other built infrastructure requirements are associated with the house building proposals, particularly in relation to transport. Any built development on green field sites can lead to a loss of biodiversity or damage to natural/semi-natural habitats. Replacing a natural vegetated surface with a built or road surface will adversely affect the rate of groundwater recharge, which may in turn affect the rate of flow into the Thurlaston Brook (a tributary of the River Soar and one of Leicestershire's strategic river corridors). The introduction of flood/rain storage basins along road corridors and a commitment to leaving drainage ditches open and unculverted could help mitigate any negative effects on the hydrology of the area. For example, planning permission for the relief road at Earl Shilton (forming the southern edge of the potential Earl Shilton SUE) was granted on the basis of several landscape and environmental measures being included in the development, such as the provision of a cycle lane along the length of the route and creation of adjacent flood storage ponds.

[17] LDF Core Strategy Preferred Options (2007) Hinckley and Bosworth Borough Council (amended)

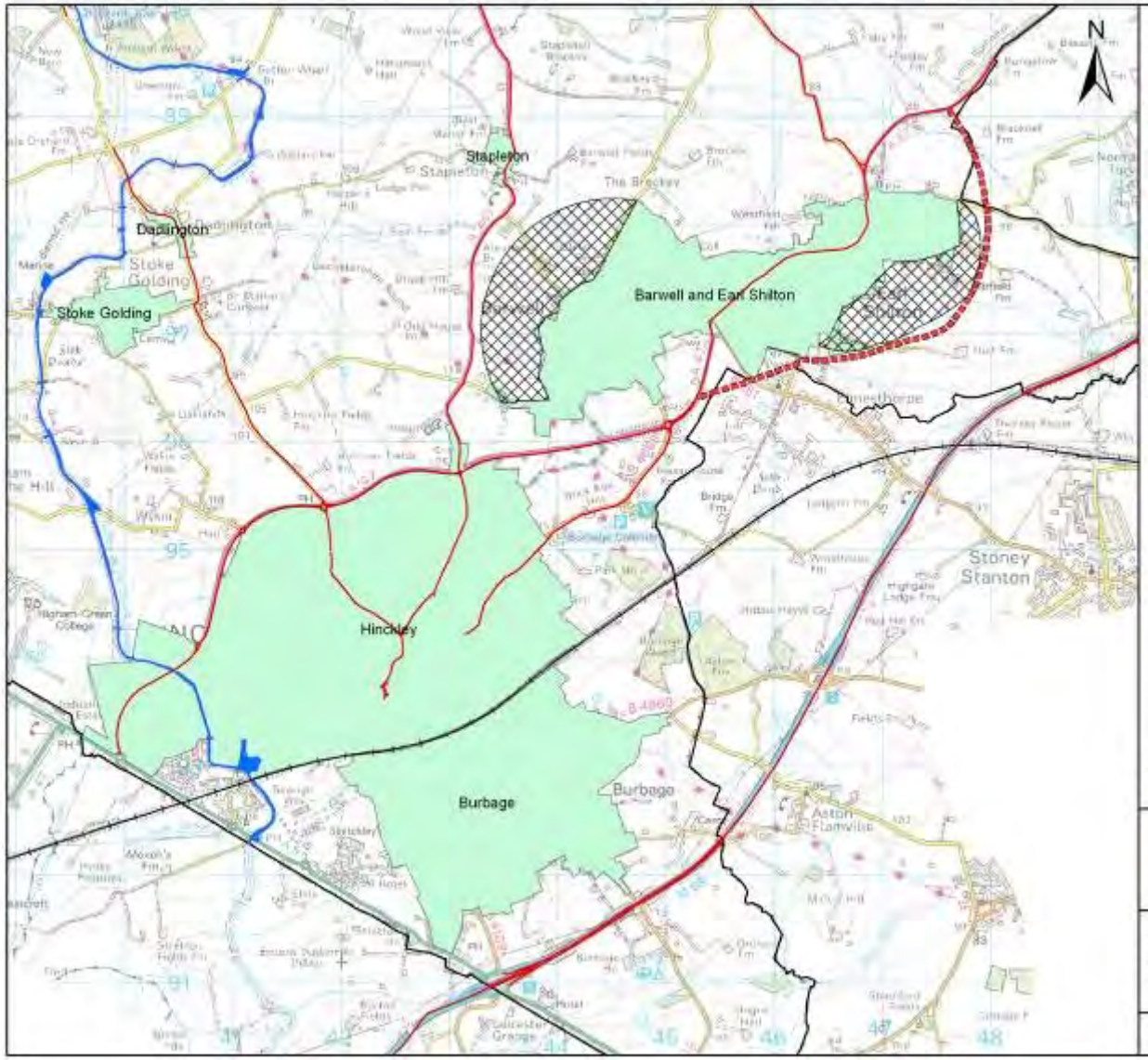

Figure 4.1

Preferred sites for sustainable urban extensions

- Earl Shilton Relief Road
- Main Roads
- Railway Line
- Ashby Canal
- Sustainable Urban Extensions (Indicative only)
- Settlements
- Borough Boundary

Data Sources:
Hinckley and Bosworth Borough Council

TEP

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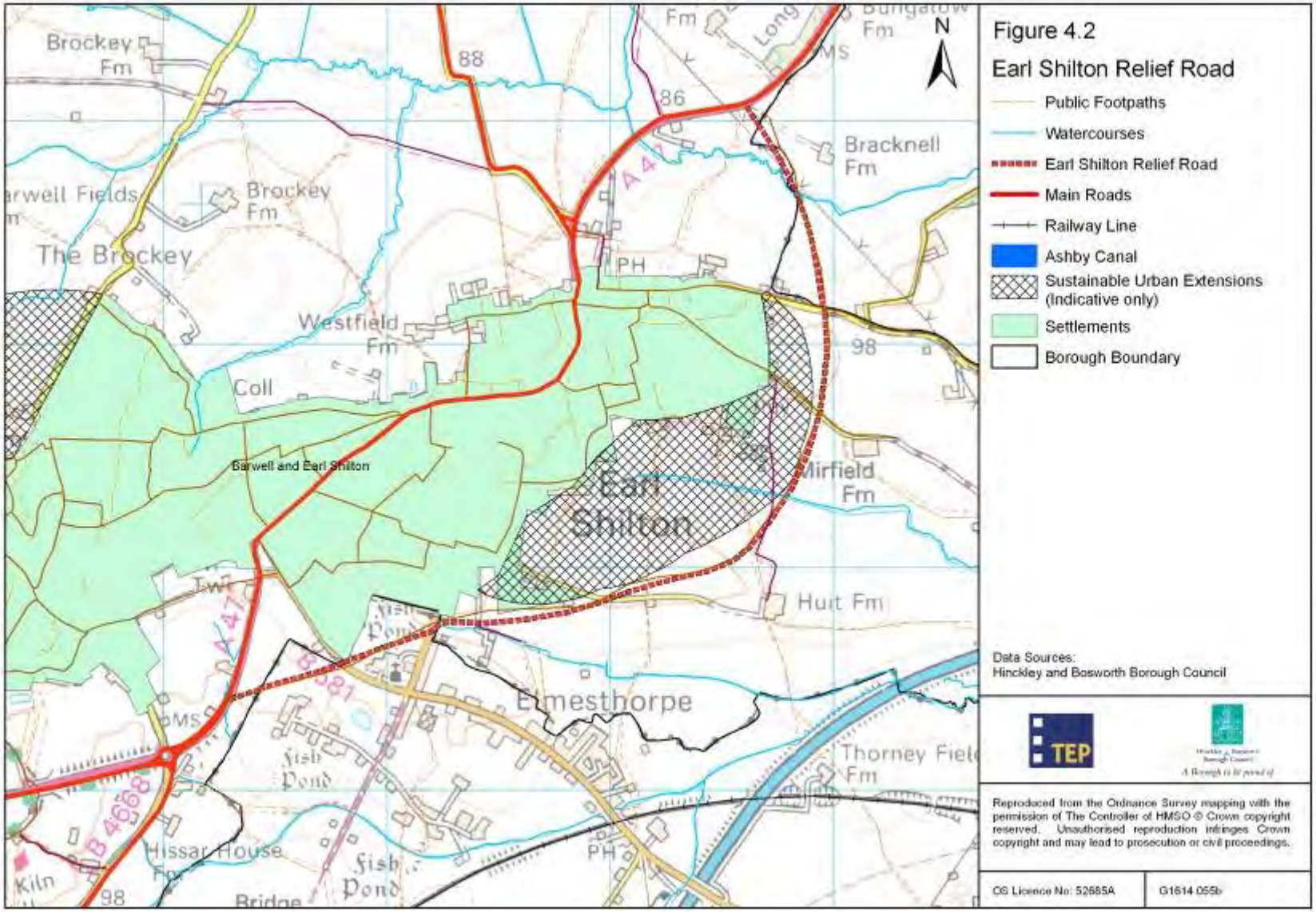
Brockey Fm
88
86
Bracknell Fm
A 47
Barwell Fields
Brockey Fm
The Brockey
PH
Westfield Fm
98
Coll
Barwell and Earl Shilton
Earl Shilton
Mirfield Fm
Hurl Fm
A 47
B 581
Ernesthorpe
Thorney Field Fm
Fish Pond
B 4668
Hissar House Fm
Kiln
Bridge
N
Figure 4.2
Earl Shilton Relief Road
Public Footpaths
Watercourses
Earl Shilton Relief Road
Main Roads
Railway Line
Ashby Canal
Sustainable Urban Extensions (Indicative only)
Settlements
Borough Boundary
Data Sources:
Hinckley and Bosworth Borough Council
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The loss of green infrastructure elements such as a simple hedge line, field margin or ditch will have implications for the movement of wildlife across landscapes, affecting the ability of species to maintain viable populations and so reducing the ability of the landscape to sustain wildlife. The provision and retention of habitats and corridors is therefore vital in maintaining and improving the Borough's biodiversity and for meeting HBBC's obligations under PPS9[17].

Maintaining the strategic landscape gaps between Hinckley, Earl Shilton and Barwell will be a key challenge as the need for growth increases, with the development of the SUEs threatening open or 'natural' views, open space provision and potentially quality of life for the existing residents of the two towns. Development control is only one part of the approach that is needed for truly sustainable development: building design and the landscaping within developments must also be factored into the planning process to address the negative effects of development on greenfield sites and provide for new and enhanced urban environments.

Quality and Quantity of Green Spaces

HBBC's Green Space Strategy[18] is a five year plan for improving the quality of green space provision across the Borough, incorporating the findings of a number of detailed assessments including an Open Space Quality Audit and an Open Space Quantity / Accessibility Audit.

In accordance with PPG17, the Green Space Strategy considered the quality, the size and in some cases the demand for green spaces across the Borough, covering 106 sites over 350 hectares, focusing on council owned and managed sites but also considering Parish Council provision.

Although the findings from the audits tend to focus on formal children's play areas, there are some key points that have direct relevance to this GI Strategy:

- The Borough has a surplus of 'informal play space'. These areas are recognised as being multi-functional in nature, delivering a range of other benefits such as drainage and biodiversity that must be considered before such spaces are designated as "surplus to requirements" in terms of greenspace provision.
- There are some deficiencies in particular types of green space: Hinckley, Burbage, Groby and Earl Shilton have deficiencies in the amount of equipped children's play areas, and allotment provision is below the level of demand in Hinckley, Burbage and Groby.
- 11 (rural) settlements[19][20] contained no publicly owned formal green spaces, and there may be a need for neighbouring settlements to "share" green space provision – according to needs and priorities of local communities.
- Green spaces across the Borough are generally in poor condition, with an average quality score (using a scoring system established within the audit to judge thirteen individual

[17] Planning Policy Statement 9: Biodiversity and Geological Conservation (2005) CLG

[18] Hinckley and Bosworth Borough Council Green Space Strategy (2005) HBBC

[19] Barton in the Beans, Bilstone, Cadeby, Orton on the Hill, Osbaston, Peckleton, Pinwall, Sheepy Parva, Shenton, Sibson, Wellsborough

elements against set quality standards) of 40.5% (ranging from 16% for the lowest quality site to 64.1% for the highest).

33

- The generally poor quality of green spaces and their facilities is affecting the capacity of existing sites to meet the needs of local people and is creating unnecessary shortfall – suggesting that the key issue is not about provision but about functionality of green spaces.
- Parish Councils will require financial and advisory support from HBBC / County Council Officers and others on the provision and management of their green spaces. Further, a mechanism for exchanging ideas and good practice as a way of driving through improvements at the Parish level should be encouraged and developed.

The Green Space Strategy outlines site-specific action to be taken regarding the green spaces under Borough control, and makes recommendations to parish councils as to the future management of the green space within each settlement. In a few cases this means the loss of the green space, with any revenue generated from disposal of the land directed to improving the quality of other parks and green spaces. This reacts to the quality and functionality findings of the Audits, and the need to provide high quality, accessible open spaces.

Whilst the accessibility of green spaces is considered, the Green Space Strategy identifies the need for a thorough audit of accessible natural greenspace in the Borough in line with Natural England's ANGSt model and makes recommendations as to the size of particular green spaces and their catchment area as appropriate to the Borough:

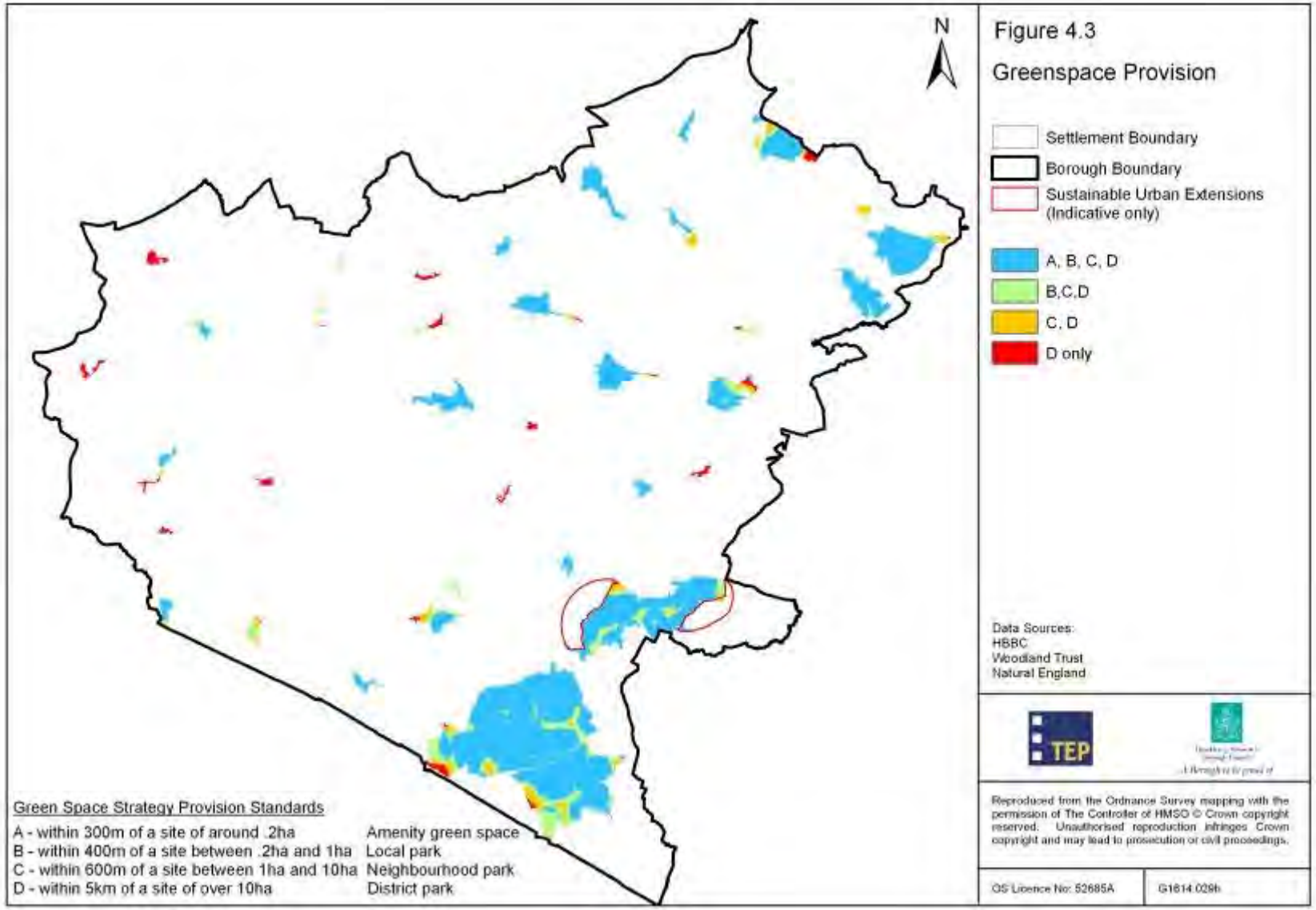
Green Space Typology	Size of Green Space	Distance to Asset
Amenity Green Space	Around 0.2ha	300m
Local Park	0.2ha – 1ha	400m
Neighbourhood Park/Open Spaces	1ha – 10ha	600m
District Park	Over 10ha	5km

Figure 3.3 applies these standards to the Borough's green spaces assets (and, where data was available, accessible green spaces beyond the Borough's political boundary), showing that there are several areas that do not meet the required green space provision, particularly in the urban south and around Desford and Markfield. Several of the smaller settlements also fail to meet these standards.

The Green Space Strategy also undertook public consultation regarding usage, access and perceptions of the green spaces, which revealed concerns over anti-social behaviour, dog fouling, litter and a lack

of facilities for young people. Similar feedback from the Borough's Citizen's Panel identified that better maintenance and cleanliness of facilities should be a priority. Poor perceptions of green spaces are likely to reduce their use and decrease the potential benefits green spaces can deliver, particularly in the urban realm where poor quality of health often goes hand in hand with poor quality of place.

Whilst in some areas access to green space is insufficient, the Borough has a wealth of public rights of ways. With almost 500 kilometres of footpaths, this resource remains one of the Borough's most important access assets, in that it provides safe and attractive walking routes to work, to school or simply for recreation.


N
Figure 4.3
Greenspace Provision
Settlement Boundary
Borough Boundary
Sustainable Urban Extensions (Indicative only)
A, B, C, D
B,C,D
C, D
D only
Data Sources:
HBBC
Woodland Trust
Natural England
TEP
Green Space Strategy Provision Standards
A - within 300m of a site of around .2ha Amenity green space
B - within 400m of a site between .2ha and 1ha Local park
C - within 600m of a site between 1ha and 10ha Neighbourhood park
D - within 5km of a site of over 10ha District park
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In many rural areas the footpath network connects settlements together, and it provides access to the countryside from urban areas, which is particularly valuable where formal accessible greenspace is deficient. Use of the network for physical activity is an important factor in maintaining and improving health, and where there are concentrations of poor health the network is especially important in providing exercise options: with around 94% of Leicestershire's population living in towns[21], footpath provision and access must remain a high priority. Promoting these routes as sustainable alternatives to other forms of transit will also contribute to improving air quality through reducing emissions.

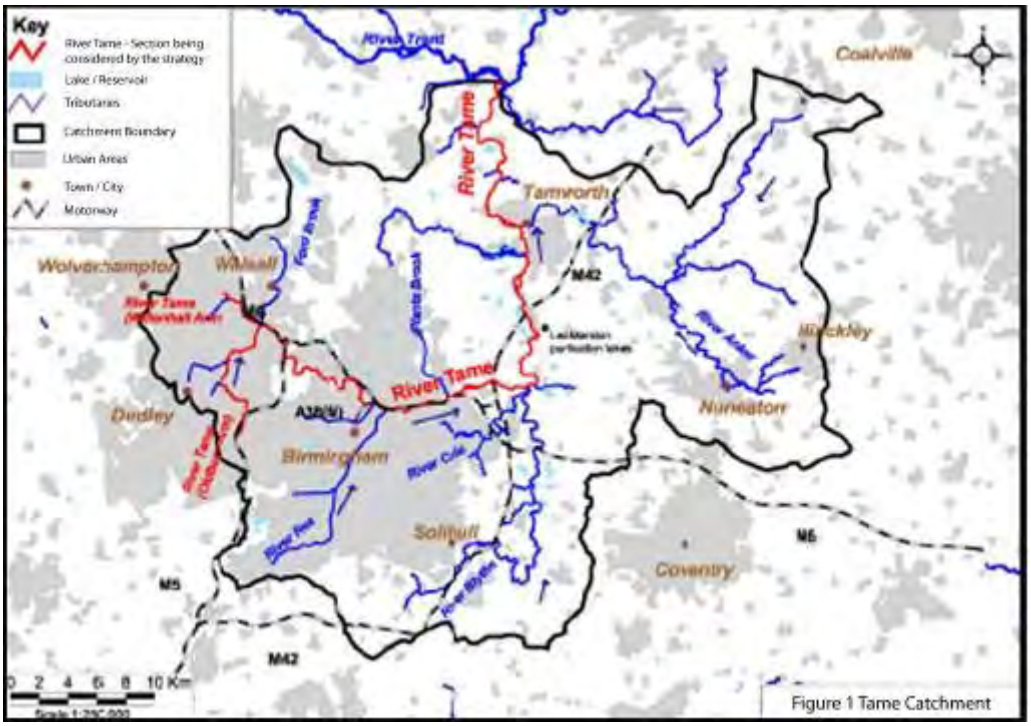
Climate Change

The challenge of climate change is something that will affect our lives over the coming decades, whether through the increased risk and magnitude of flooding, prolonged periods of drought, more intense and more regular storms or the predicted increase in summer temperatures. To address this challenge we will undoubtedly be required to modify our behaviour. In our private lives, in our communities and our regions, small changes and perhaps much larger changes will make all the difference for the present and future generations.

Flooding

None of the Borough's towns, villages or hamlets lay within Environment Agency flood zones 2 or 3, although many of the Borough's settlements are within the River Trent catchment area. Part of the River Anker rises in the Borough, flowing through Nuneaton before joining the River Tame at Tamworth (see figure 4.4). Due to modification and channelling the Tame catchment is already overly responsive to heavy rainfall; similarly Nuneaton is also subject to a high risk of inundation during prolonged rain events.

Figure 4.4: The Tame Catchment[22]



[21] Rights of Way Improvement Plan for Leicestershire 2006-2011 (2006) Leicestershire County Council.

[22] A Flood Risk Management Strategy for the River Tame: Scoping Report (July 2004) Environment Agency

The Borough's Joint Strategic Flood Risk Assessment (JSFRA)[23] states that any increase in development in Hinckley & Bosworth must be mindful of its potential to increase flooding risk and intensity to downstream settlements. This is particularly relevant to the Sustainable Urban Extensions intended for Barwell and Earl Shilton: with heavier and more intense rainfall predicted due to changes in the world's climate, any further insensitive or poorly planned development within the catchment area will heighten Nuneaton and Tamworth's already significant flood risk (Figure 4.5).

Although Hinckley & Bosworth's settlements are not at any direct risk from flooding due to swollen streams or rivers there are other flooding issues, and in 2004 and 2006 several neighbourhoods suffered from the effects of flash flooding. The JSFRA recognised groundwater flooding and surface water/sewer flooding as the most likely form of flooding in the Hinckley & Bosworth area. This is most likely a combination of poor drainage and too little natural surface absorption as a result of a high proportion of sealed surfaces.

Figure 4.6 illustrates the drainage patterns of in the urban south of the Borough, clearly demonstrating that Hinckley and Burbage will have an effect on the river system downstream. In some areas, in particular the western edge of Hinckley and the Harrow Brook, the effect of increased urban run-off will be felt locally. Other areas where drainage could become problematic are the two preferred SUEs, which are both sited on the existing stream courses of the Tweed River and Thurlaston Brook. Measures to retain existing ditches watercourses and other Sustainable Urban Drainage System (SUDS) measures will aid in reducing the effects of development in these areas. The Sketchley Brook and its tributaries have in the past been subject to flooding, in particular the watercourse passing through Brookside Park in Hinckley. The use of flood storage ponds along the watercourses within the urban area can help greatly in reducing the damage caused by intense rainfall and the inability of the receiving environment to deal with it. The developmental pressures within the urban area can further hider the capability of the land to absorb these flood events. To reduce the likelihood of local and downstream flooding, development along these stream and river corridors must be kept at a minimum.

"Heat Island" Effect

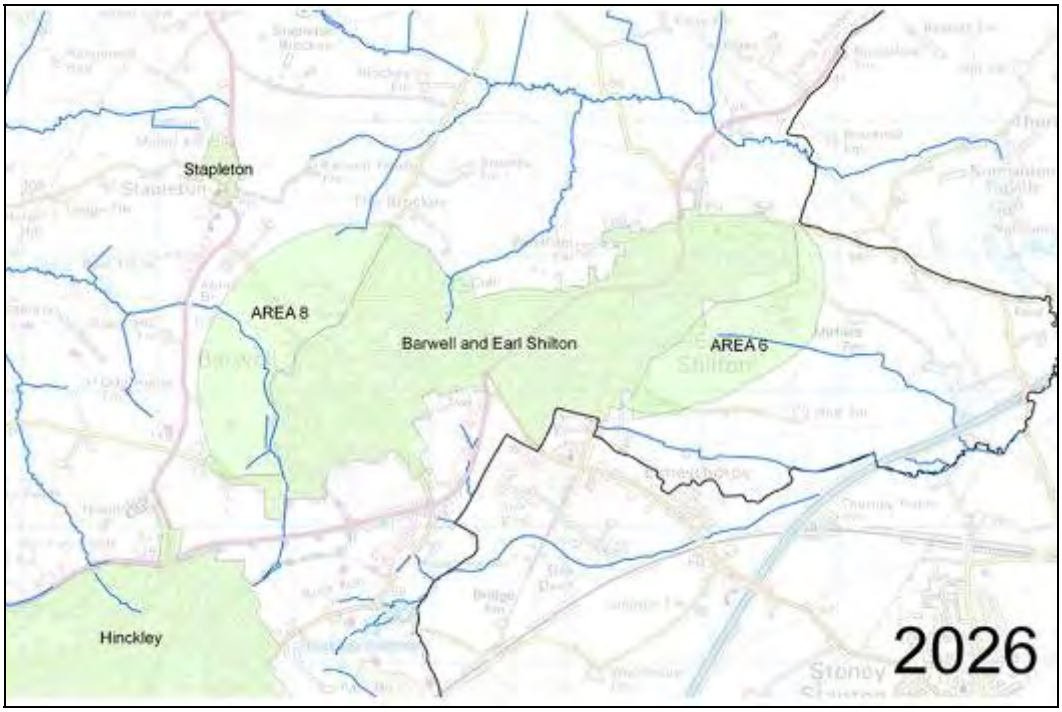
The urban 'heat island' effect is the result of heat absorbent and reflective surfaces found in urban areas (such as asphalt and concrete) increasing the ambient temperature up to several degrees higher than the surrounding countryside. The annual average summer temperature is also predicted to increase, creating what could be an uncomfortable environment for communities living in those urban areas. The combination of higher urban temperatures and high pollution levels arising from transport, industrial and domestic airborne pollution could mean that over the next few decades living in urban areas will become less appealing.

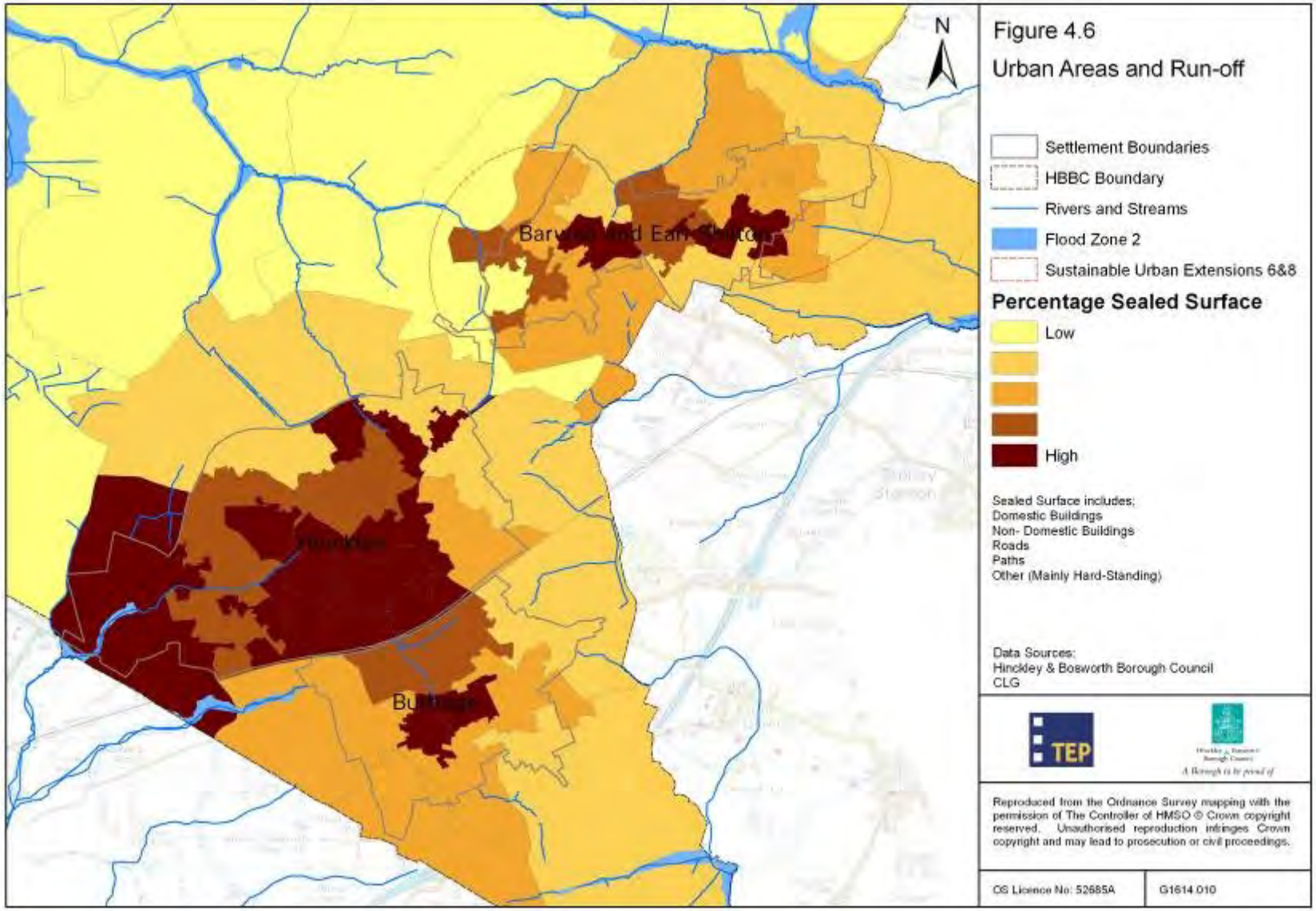
Discomfort from increased temperatures may make the Borough's urban areas less attractive to residents, will contribute to reducing quality of life and have a negative impact on health. Migration from the urban areas to the more comfortable rural areas could be a result, with the added consequences of stretching rural service provision, and increasing demand for more housing in potentially unsuitable areas whilst decreasing affordability.

Communities with high proportions of elderly or young people are particularly at risk from the effects of the urban heat island due to reduced mobility; equally those areas with high population density and those displaying a high number of health problems are vulnerable to increases in temperature in the urban realm.

[23] Joint Strategic Flood Risk Assessment (2007) JBA Consulting for HBBC, Blaby District Council and Oadby & Wigston Borough Council

Figure 4.5: Urban Areas, Rivers and Streams – 2008 vs. 2026




N
Barwell and Earl Shilton
Hinckley
Burbage
Figure 4.6
Urban Areas and Run-off
Settlement Boundaries
HBBC Boundary
Rivers and Streams
Flood Zone 2
Sustainable Urban Extensions 6&8
Percentage Sealed Surface
Low
High
Sealed Surface includes:
Domestic Buildings
Non- Domestic Buildings
Roads
Paths
Other (Mainly Hard-Standing)
Data Sources:
Hinckley & Bosworth Borough Council
CLG
TEP
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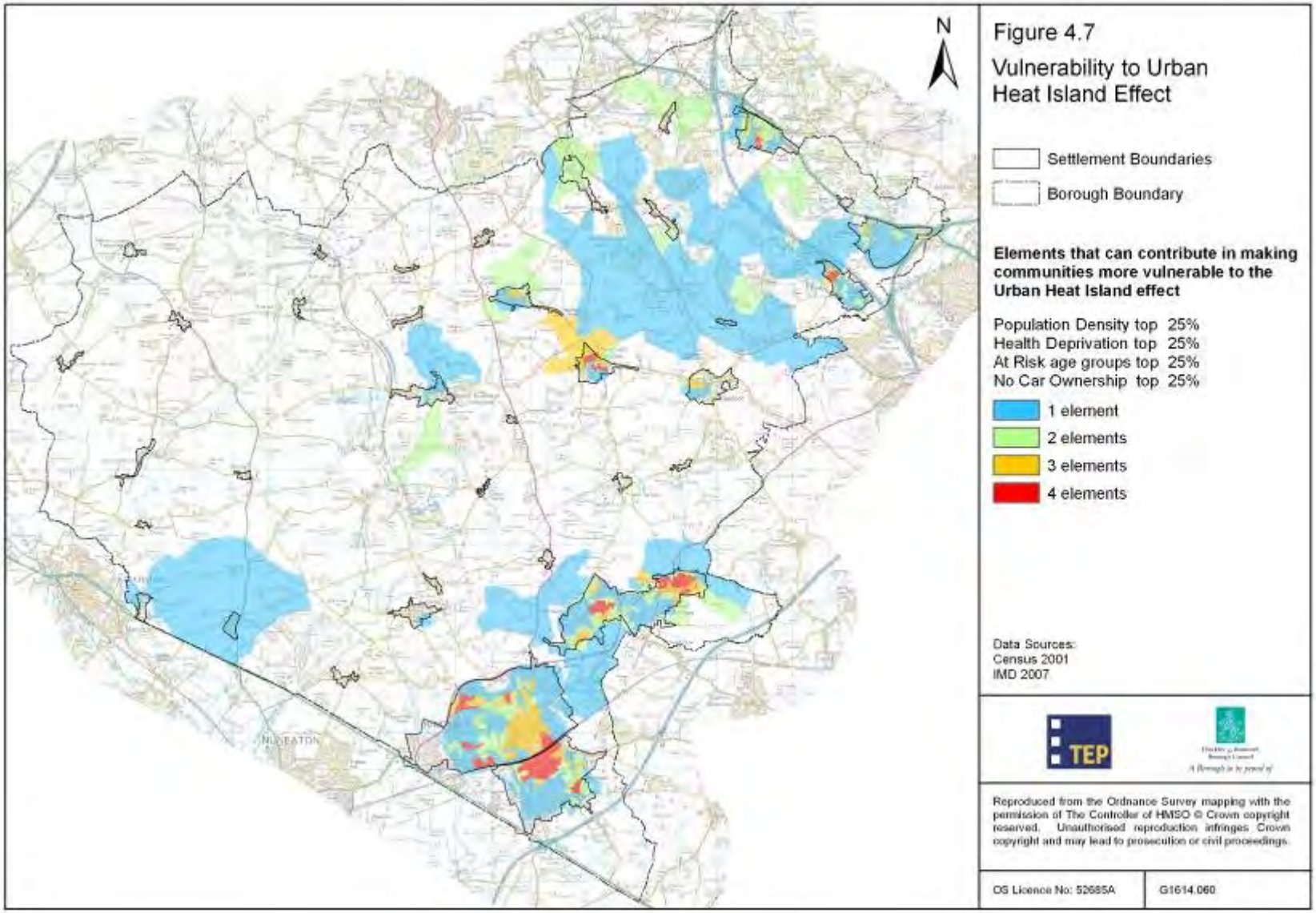
N
Figure 4.7
Vulnerability to Urban Heat Island Effect
Settlement Boundaries
Borough Boundary
Elements that can contribute in making communities more vulnerable to the Urban Heat Island effect
Population Density top 25%
Health Deprivation top 25%
At Risk age groups top 25%
No Car Ownership top 25%
1 element
2 elements
3 elements
4 elements
Data Sources:
Census 2001
IMD 2007
TEP
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Population Demographics

The Hinckley & Bosworth Community Plan[24] states that older people are making up an increasing proportion of the population, whilst the numbers of children and young people are predicted to decline. At present there are significant differences between the distribution of young and older age groups within the Borough (see Figures 3.10 & 3.11 in Chapter 3). In the main these demographic groups are concentrated in different areas; there are however certain places where there is overlap between these concentrations, especially in the centre of Hinckley and the western edge of the town.

Any change in the age structure raises questions over the provision of greenspace or at the least the types of greenspace that are being provided, particularly as these different age groups tend to be concentrated in different geographical areas. Green infrastructure needs may well be different in these areas: older (and therefore potentially less mobile) people will need doorstep greens and street greening (e.g. through street trees) whereas young people may demand more multifunctional open spaces that meet varied leisure and educational needs.

ONS estimates are that Hinckley & Bosworth's population will rise from today's 103,800 to 114,000 in 2029[25]: an increase of 9.8%. This growing population will increase demands for improved and increased accessibility to local green spaces, yet increasing accessibility will inevitably increase the pressures on sites (which can be particularly damaging to ecologically sensitive sites or those under stress from the effects of climate change) so adequate management and possibly restriction / redirection of use on the most sensitive sites may need to be implemented. Appropriate spaces that reflect the needs of the surrounding community can also have a large part to play in the continued improvement of health, and failure to address the changing needs of the local population may have implications for the health of the community.

Biodiversity and Natural Resources

PPS9 Biodiversity and Geological Conservation requires that all local planning authorities must have information regarding the amount and distribution of habitats within their area. PPS9 also recognises the need to protect and enhance wildlife corridors to improve connectivity between habitats. The connectivity of habitats and the reversal and reduction of habitat fragmentation can be an important function of green infrastructure. Multifunctional corridors provide connections between areas of natural essence for both wildlife and humans alike.

The Hinckley & Bosworth Landscape Character Assessment (LCA)[26] recognises that Leicestershire is one of the poorest counties for biodiversity in the UK, whilst the Biodiversity Action Plan (BAP) for Leicester, Leicestershire and Rutland [27] states that Leicestershire and Rutland are two of the least wooded counties in Britain. The LCA also finds that, despite nature conservation strategies and designations (including nature reserves and SSSIs), wildlife in these counties has continued to decline at a greater rate than any other area in the country. This is not helped by the present 'site based' approach to nature conservation in Britain, which could have a negative effect on those habitats outside of the designated protected areas: if an area does not fall within a SSSI or local nature reserve it is afforded little or no protection.
Within Hinckley & Bosworth there is another BAP being implemented, in the north east of the Borough within the National Forest area. The National Forest BAP differs slightly from the Leicester,

[24] Hinckley & Bosworth Community Plan 2007 -2012 (2007) Hinckley & Bosworth LSP

[25] ONS Mid Year Population Estimates 2006, and Sub-national 2004 Based Projections (October 2006)

[26] Landscape Character Assessment 2006, HBBC

[27] Biodiversity Challenge: An Action Plan for Leicester, Leicestershire and Rutland, BAP

Leicestershire & Rutland BAP, with different species chosen for priority, although the two BAPs share some similarities.

Land Use & Management

As recognised by work done within the Stepping Stones Project, working landscapes provide several green infrastructure functions, including landscape and cultural distinctiveness, biodiversity, locally grown produce, renewable energy, recreation and tourism. Recent changes in land management and agricultural practices brought about by global economic trends and economic decline could have a significant impact on the Borough's green infrastructure.

The East Midlands Rural Action Plan (RAP)[28] includes green infrastructure provision as one of its seven key actions, particularly focusing on increasing the quality of the region's green areas, but there are clearly wider implications for GI when considering the RAP's vision and priorities, for vibrant rural areas with:

- A thriving rural economy
- Quality (accessible) services
- A high quality environment
- Sustainable and inclusive communities

Farming accounts for the vast majority of land use in the Borough (79%) mainly in the west and remains one of the main factors shaping the character of the landscape and rural communities (although this is in contrast to its declining role as an employer, providing only 1.5% of jobs). In the face of Common Agricultural Policy (CAP) reform, the sector is becoming increasingly diversified (to tourism and recreation, organic produce, growth of bio-fuels, etc), and there is a need to help farmers maintain successful rural businesses whilst protecting and enhancing the Borough's diverse landscape areas.

Several of the priority habitats listed within the BAP are directly affected by development and land management techniques. One such example is "fast flowing streams" where the ability to sustain species normally associated with this type of habitat is severely compromised by changes in land management: land drainage increases the level of sediment entering the watercourse, and channel straightening can cause a loss of important riparian habitat. Loss of woodland and changes in farming practices have also contributed to the sediment increase.

Simple green infrastructure elements can bring about a reduction in this type of habitat loss. Maintaining a buffer as a corridor alongside the watercourse can provide opportunities for BAP priority species' movement such as otters and water voles, for recreational activities and can present an ideal opportunity for bio-mass planting (particularly willow, which can also be useful in providing cover for fauna moving along a river channel or floodplain).

Funding Regimes

With capital funding (relatively) more easily accessible, revenue funding to sustain the current green space network resource and assets is likely to continue to be an issue into the foreseeable future for both the public and private sectors. For the public sector this is known to be a continuing challenge

[28] The East Midlands Rural Action Plan 2007-2013 (2006) East Midlands Rural Affairs Forum

given Central Government's continued emphasis on providing health and education services, and the local political requirement to keep Council Tax at, or below, annual inflation indices.

Options for gaining funding for green infrastructure interventions exist – closely aligned to the growth agenda - through increasing private sector contributions to green infrastructure, via development gain and by aligning the business plans of public sector agencies closely with the green infrastructure strategy. These measures may go some way towards delivery of this strategy, either in supporting individual sites or projects or for approaches and practices that contribute to green infrastructure on a wider scale.

It is therefore vital to demonstrate that green infrastructure investment delivers wideranging public benefit, in particular supporting healthy lifestyles, economic performance and community cohesion, helping to advocate for "co-provision" of green infrastructure within funding programmes.

DRIVERS FOR CHANGE

Considering the range of issues discussed above, we have identified several drivers for change affecting green infrastructure in Hinckley & Bosworth:

- Growth & Development
- Climate Change
- Population Demands for Greenspace
- The Planning System
- Protection and Enhancement of Natural Resources

Growth and Development

Whilst growth and development can clearly be a threat, EMDA's evaluation of the environmental economy of the East Midlands[29] strongly demonstrates the role of GI in contributing to economic development. It shows that there are clear economic benefits derived from the environmental sector, which has generated 71,000 jobs and 3% of the region's GDP, across three 'sub sectors':

- the 'environmental industry' (i.e. environmental technologies and services, and improvements in business efficiencies),
- land based industries (e.g. agriculture and forestry, and local produce)
- capitalising on a high quality environment (tourism and leisure, and high quality of life and inward investment).

The report puts forward several recommendations for capitalising on the environmental economy, including three areas where GI can have a particular impact:

- Conservation and enhancement of the natural and historic built environment;
- Expanding environmental improvement activities in land based sectors such as agriculture and forestry;
- Increasing the contribution of the region's environment to economic activities such as tourism and inward investment.

[29] The Environmental Economy of the East Midlands: The Catalyst for Change (2002) EMDA

The Growth Point proposals directed by the Regional Spatial Strategy and described within HBBC's Core Strategy provide an ideal opportunity to capitalise on such benefits by planning-in green infrastructure from the outset. Examples of this type of green planning can be seen in the new growth areas around Northampton in particular an extension to the town of Corby.

CASE STUDY: Corby Urban Extension

Situated in the largest growth area outside of London in North Northamptonshire, Corby is experiencing a period of investment and growth. The town hopes to double its population by 2030 and have created 30,000 new employment opportunities.

As part of the town's regeneration strategy a sustainable expansion of the urban area is planned. Priors Hall received planning permission in 2005 and is expected to deliver 5,100 new homes and around 3,000 new jobs plus 400 more jobs in Corby itself. Built on the eastern edge of Corby this new development is partly built upon old quarry works, a remnant of the towns industrial past of steel production. With over 200ha of parkland including woodland to be preserved and or created, it is hope this area will bridge the gap between the urban fringe and the countryside. In accordance with sustainability principles the area will be served with an integrated network of footpaths and cycle ways, access to public transport is also a major part of the design.

The design of the extension aligns well with the sub-regional and local corridors outlined in the River Nene Regional Park Green Infrastructure Network. Within the Corby Local Framework Study, the Priors Hall development has initiated and will incorporate an additional corridor.

CABE has described the design as 'exemplary', in that it considered the needs of the wider area and community to successfully integrate the development with the existing urban realm and countryside.

Green infrastructure is seen as an integral element of the 3 Cities & 3 Counties Development Programme, reflected in the amount of funding green infrastructure is set to receive (of the £157.6m sought for National Growth Point funding, 10% is to be channelled towards green infrastructure projects[30]), existing initiatives (including Stepping Stones, National Forest and Charnwood Forest) and the appointment of a GI Officer to oversee, support and monitor GI within the 6Cs sub-region.

This Green infrastructure Strategy will help inform local planning decisions by providing a framework within which the aims and objectives of green infrastructure can be incorporated in the design and distribution of new developments under the Growth Point proposals, minimising impacts and maximising opportunities for green infrastructure provision in the Borough.

The immediate challenge for HBBC regarding the protection and enhancement of the existing green infrastructure assets will be in the planned building programme which runs until 2026, with the majority of development concentrated in the urban areas[31], and the associated infrastructure required to support these new developments.

Integrating new or enhancing existing green infrastructure features in association with development can mitigate any negative effects and can actually produce positive outcomes. The retention and improvement of Hinckley & Bosworth's green infrastructure assets will only be part of the solution needed in addressing the impact of growth and development. In promoting and if necessary enforcing 'greener' building designs, HBBC will help to reduce the effects of climate change on the Borough's

[30] 3 Cities & 3 Counties, Programme of Development 2006-2026 and indicative investment priorities for 2008-2011 - Strategic Green Infrastructure

[31] HBBC Core Strategy Preferred Options

communities. Flood storage, or reducing the rate of run-off through green roofs and water collection, street trees and more absorbent surfaces can all be part of the wider green infrastructure program.

An attractive environment ("quality of place") is critical for securing inward investment and for attracting and retaining a skilled workforce (particularly graduates and entrepreneurs). Green infrastructure resources and assets are vital in providing the attractive locations that provide an inspiring setting for investment and business location, providing green corridors and gateways and developing new attractive built environments to encourage business re-location. Green infrastructure functions associated with recreation, local landscape quality and healthier environments can also help to and provide high quality and attractive residential settings in urban areas and SUEs to attract in-migration of a skilled workforce.

Climate Change

Two of RSS8's 10 core objectives deal with climate change, to reduce both its causes and impacts largely through appropriate planning and design of new developments (Policy 1), whilst various other policies throughout RSS8 also refer to climate change mitigation and adaptation, including Policy 27 on Environmental & Green Infrastructure. The Regional Environment Strategy[32] also includes a specific policy to "minimise greenhouse gas emissions and protect the environment when adapting to the challenges and taking up the opportunities which climate change will bring".

The Leicestershire Community Strategy also identified the need for a climate change strategy for the sub region; and as a result, ENABLE has produced a climate change mitigation strategy [33] for implementation at the local level. It considers CO_2 reduction measures alongside other techniques (such as tree planting) that can provide community and amenity value as well as reducing climate change impacts. Specifically, it includes a table (adapted from the UKCIP Guide for Local Authorities[34]) of potential impacts and examples of adaptation responses across a range of public service areas. Throughout, the suggested responses to climate change impacts clearly indicate that there is a role for multifunctional green infrastructure in mitigating the impacts of climate change, including:

- The introduction of 'soft' flood defence measures (Housing & Buildings);
- Appropriate planting and maintenance of roadside verges (Transport & Highways);
- Ensuring adequate shading and cooling for vulnerable communities (Health & Social Care);
- Planning for wildlife corridors to allow natural migration (Environmental Services & Awareness).

The potential for multifunctionality that GI presents can be particularly valuable, as the impacts of climate change can be so varied. The contribution GI can make in alleviating the problems of urban run-off will be key to ensuring that the Borough's planned development will not affect the downstream settlements of Nuneaton and Tamworth (and Hinckley itself), whilst the increase in green infrastructure assets such as green roofs and rainfall storage ponds may also help in reducing the number and intensity of flash floods similar to those experienced in 2004/6. Increasing tree cover in urban areas can reduce the 'heat island' effect, yet this will need to be sensitive to the potential for drying out of the ground and subsequent building damage due to subsidence. Some habitats (grassland, aquatic habitats) will be particularly vulnerable to climate change, and migration of species may become an issue: green infrastructure planning can provide networks or corridors not only for

[32] Regional Environment Strategy (August 2002) EMRA

[33] Climate Change Strategy for Leicestershire (March 2005) ENABLE

[34] Climate Change and Local Communities – How Prepared Are You? (2003) UKCIP

recreational use but in conjunction with existing habitat patches and natural corridors create networks to enable the movement of species, helping to safeguard the Borough's biodiversity.

There is no suggestion that green infrastructure is a panacea for the predicted effects of climate change. However, it can go a long way in helping to alleviate many of the negative effects of a changing climate on our society and the natural environment and ***this green infrastructure strategy will provide the setting for a series of planned, well managed, inclusive, adaptable and multifunctional networks of green spaces that can contribute to these particular needs.***

Community Demands for Greenspace

HBBC's five year plan[35] to address the present condition of and facilities within its parks and public spaces prioritises those spaces in greatest need of improvement, and provides estimates of the costs associated with implementing these improvements. Any funding allocated or secured should account for these plans, but also take into consideration how interventions can contribute to existing or potential greenspace deficiencies, allowing funds to be spent to their best effect.

This Strategy will set out the framework for green infrastructure implementation that responds to specific local needs and opportunities to ensure delivery of the wider benefits of green infrastructure that respond to community demands now and in the future.

The East Midlands Sustainable Communities Action Plan recognises the need to create communities in which people *want* to live. Two of the Plan's five key themes - 'safeguarding the countryside' and 'well-designed, accessible and pleasant living and working environments'[36] - can relate directly to green infrastructure provision, whilst health, education, transport and climate change are all elements of the sustainable communities ethos where GI can deliver benefits that address community demands:

- **Health:** access to services, opportunities for exercise, improving mental health, contributing to clean air, enabling healthy eating (allotments);
- **Education**: widening educational opportunities such as Local Nature Reserves, Eco Schools, sports not necessarily pitch based;
- **Transpor**t: provision and promotion of sustainable transport alternatives to car (or indeed bus) travel, and safe traffic free routes;
- **Climate Change:** reducing flood risk, reducing the urban heat island effect, allowing movement of species.

Hinckley & Bosworth has an ageing population, yet there are areas where there are concentrations of young people (under 14's); green infrastructure interventions will need to be responsive to the differing requirements of these groups, whilst accounting for an overall growth in population.

In 'older' areas, there will be an increased requirement for doorstep green spaces that are safe and easily accessible to all. Lack of mobility will also demand greener streets and neighbourhoods to alleviate urban heat island effects and provide attractive living environments. The spatial distribution of play spaces must also reflect areas where there are concentrations of younger people –although as some areas attract older members of the community and the number of young children falls, it will be necessary to reevaluate the uses of some of these spaces, exploring how multifunctional the space could become and tailor this to the needs of the changing community.

[35] Green Space Strategy – Five Year Action Plan (2005) Hinckley and Bosworth Borough Council

[36] Sustainable Communities in the East Midlands – Building for the Future (2003) ODPM

Similarly, as energy (fuel) costs increase, demands for sustainable transport options are likely to become greater, and it is likely that there will be greater reluctance to visit sites that are beyond walking/cycling distance. This further reinforces the need for ensuring that existing greenspaces and access routes are of a high quality and meet the needs of various users (i.e. are multifunctional).

New greenways and linkages to rural and the urban fringe areas will require marketing and promotion to ensure all of the Borough's assets are available and known to its communities. Helping the population to recognise its own resources is an important factor in reducing car travel and generating interest to encourage residents to visit the facilities within their area rather than driving to somewhere that has been marketed well, whilst a sense of ownership can help in the protection and in some cases the management of particular sites.

An aging population opens up opportunities for community stewardship, as the older age groups tend to have more time to become involved in community activities and – as 'settled' residents – have a greater stake in the quality of their living environment, allowing for the encouragement of community involvement in green infrastructure maintenance, management and even ownership, particularly at Parish level.

The perception of the public regarding the ability and political will of the Borough Council to provide adequate greenspace may also affect the delivery of green infrastructure projects. In recent years the Borough Council has come in for some varied responses from the public, in particular the lack of consultation for new developments to the west of Hinckley. Of note were complaints about the loss of green spaces and transport safety issues. Willingness on behalf of the Council and the trust and belief of the community in the Council will ultimately govern the success and implementation of green infrastructure policies, programs and projects within the Borough.

The Planning System

GI as a distinct concept is moving up the political agenda, and is a critical element of the Growth Agenda – as demonstrated by the requirement for GI priorities to be included in Growth Point programmes (see above). Strategic plans for green infrastructure across the 6Cs Growth Area are being undertaken (co-ordinated by a GI Development Officer), and a GI strategy will form part of the future planning for growth within the sub region.

Chapter 2 set out the policy context for green infrastructure in national, regional and local terms. In numerous national level strategy and policy documents it is implicitly recognised that there are many policy priorities that may be delivered through green infrastructure, and green infrastructure planning is becoming much more closely linked with the spatial planning process.

Figure 4.8: Integration of green infrastructure with spatial planning
(Adapted from West Midlands Green Infrastructure Prospectus, TEP & AMA)

The East Midlands Green Infrastructure Network (www.emgin.co.uk) aims to bring the two approaches closer together by promoting the multiple public benefits of green infrastructure to planning authorities and private sector developers and encouraging the integration of green infrastructure in all physical infrastructure developments.

Traditional political boundaries have meant that in the past important landscape scale assets and corridors have suffered from lack of co-ordination and clarity as to obligation and responsibility, however arrangements under the LAA and proposed MAA require Authorities to work in partnership with each other and other agencies to deliver effective and cost efficient cross boundary programmes. Such a cross boundary approach to delivering green infrastructure will increase capacity and expertise for the provision, management and funding of green space projects.

This Strategy will need to build on the co-operative approach required by the LAA / MAA, aiming to promote the multifunctionality and wider relevance of GI to a broad, cross-sectoral audience that can then work with HBBC to produce mutually beneficial outcomes.

Protection and Enhancement of Natural Resources

The SUE Sustainability Appraisal [37] acknowledged that Hinckley's SUEs would detract from the sustainability objectives of increasing biodiversity levels and protecting and enhancing the rich diversity of natural, cultural and built environmental and archaeological assets.

This Strategy will take account of protected and unprotected habitats to offer a framework on which a network of natural/semi-natural habitats can be based, identifying natural, man-made and

[37] Leicestershire Sustainable Urban Extensions Sustainability Appraisal Sustainability Report, Non-Technical Summary (2007) Leicestershire County Council

potential landscape corridors to guide the reversal of habitat fragmentation and increase the Borough's biodiversity holding capacity.

The re-connection of habitats and increase in their area is essential in maintaining and enhancing the Borough's biodiversity (consistent with the requirements of PPS9), whilst innovative and considerate design can minimise and in some cases increase the biodiversity carrying capacity of development areas. The provision of a network based on increased size and connectivity of habitats will enable the Borough's wildlife to adapt to future climatic changes and developmental pressures.

Bringing rivers into the network is complimentary to the Strategic River Corridors Project[38] and the priority habitats within both of the BAPs being applied within Hinckley & Bosworth. EMRA's Strategic River Corridor Survey[39] suggested ways in which rivers within the Borough can be protected and enhanced within the LDF core strategy:

Box 4.1: Suggested LDF Core Strategy Policy for Strategic Rivers

New development should maintain and enhance the strategic importance of the river corridor in terms of its:

- existing and potential biodiversity value;
- role in sustainable flood risk management;
- potential for regeneration, rural diversification, tourism and new enterprise;
- cultural and historic environment assets, including archaeology;
- accessibility to and along the river;
- recreational and educational value;
- landscape character and townscape quality.

As a result of the potential and existing biodiversity and recreational value of the river corridors they should be considered as some of the key elements of any proposed green infrastructure network within the Borough. The Assembly's suggested policy allows HBBC to afford improved protection to the Borough's river network. In adopting these recommendations it has the potential to alleviate some of the flooding issues for the downstream settlements and provide vital linkages between the urban towns and the more rural areas.

There are three major environmental protection and enhancement initiatives at work in the Borough:

- The National Forest: transforming 200 square miles of Central England into a mosaic of land uses, framed by woodland, for benefit of communities, landscapes and the natural environment;
- The Stepping Stones Project: a green infrastructure project working in the greater Leicester area (including part of Hinckley & Bosworth);
- Charnwood Forest: a distinctive area of rugged upland landscape covering approximately 42 sq miles towards the north-western corner of Leicestershire, recognised as being a unique natural environment and requiring special consideration.

[38] East Midlands Strategic River Corridors Project, Vision Statement, EMRA, 2003

[39] East Midlands Regional Assembly, Strategic River Corridors (2004)

However, these initiatives cover only part of the Borough, and the Strategy should build on their principles and seek to extend the benefits of these major initiatives, seeking to protect and enhance natural, cultural and landscape assets across the Borough as a whole.

CHAPTER 5: Public Benefit Assessment

A vital part of any green infrastructure strategy is to identify where green infrastructure can deliver the greatest public benefits.

Public benefit is defined in relation to social, economic and environmental goals acting in combination – i.e. sustainability goals. Public benefit has a spatial dimension: the priorities for green infrastructure in Hinckley, Burbage, Barwell and Earl Shilton are likely to be different to those of the villages such as Market Bosworth or Barlestone. It is also essential that we assess green infrastructure resources and assets in terms of the potential *multiple* (social, economic and environmental) benefits they can bring to the Borough.

The public benefit assessment presented in this chapter helps to identify those areas that can deliver multiple public benefits in Hinckley & Bosworth by:

i. Identifying relevant social, economic and environmental functions of green infrastructure in the Borough;

ii. Using indicators to produce public benefit maps;

iii. Identifying areas most in need of the various and multiple benefits that green infrastructure can bring to sustain prosperity and quality of life.

i. Identifying Green Infrastructure Functions and Benefits in Hinckley & Bosworth

Considering the research so far, we feel that the drivers for change identified in Chapter 4 represent the social, economic and environmental functions that green infrastructure fulfils / can fulfil in Hinckley & Bosworth:

a. Climate Change

b. Protection and Enhancement of Biodiversity and Natural Resources

c. Population Demand for Green Space

d. Growth and Development

e. Planning System

These functions are all couched within sustainable prosperity, and can deliver a range of benefits for the residents and landscape of the Borough.

ii. Producing Public Benefit Maps

For the second stage of the assessment – producing public benefit maps – we have used the Public Benefit Recording System (PBRS)[40]. This is a GIS based aid to strategic planning & investment, and it is also a philosophy assisting cross-sectoral working, enabling co-operation across social, economic and environmental agendas to establish new understanding and approaches.

As a decision making tool, the PBRS brings together social, economic and environmental datasets to present the greatest public benefit potential through a series of maps. This provides the evidence base

[40] www.pbrs.org.uk

from which – *with interpretation, vision and on the ground knowledge* – decision makers can make reasoned judgements as to where to invest in green infrastructure.

iii. Identifying Areas

Using a series of datasets (detailed in Appendix 3), a spatial analysis is produced for each of the functions described above to highlight where green infrastructure can bring particularly high levels of public benefit to Hinckley & Bosworth, considering both needs and opportunities to address those needs. Recognising its cross-cutting role and vital importance, we have then grouped the various functions under the heading of 'the Planning System' to help us to identify co-incidences and correlations between functions (i.e. those areas where *multiple* benefits from green infrastructure investment may be obtained).

On all maps, red shading indicates those areas which have the greatest potential to deliver public benefits, and blue shading those areas with the lowest potential.

a. Climate Change (Figure 5.1)

The predicted effects of climate change such as increasing winter rainfall and increasingly hotter and dryer summers could impact on Hinckley & Bosworth in several ways, including:

- The urban 'heat island' effect;
- Urban run-off and local and downstream flooding;
- Loss of soils and water quality;
- Worsening air quality due to increasing traffic and temperatures;
- Reducing the ability of biodiversity to thrive.

This assessment identifies that those areas at the greatest risk from climate change and having the opportunity to address/minimise those risks tend to be concentrated around the Borough's urban areas and watercourses, particularly around the Sketchley Brook, the Harrow Brook, Burbage Allotments, Burbage Common, Hinckley town centre and the Barwell SUE.

Sketchley and Harrow Brooks have a susceptibility to flooding, are located in areas of high population density and offer potential for conserving and increasing biodiversity. To make the most of these assets and to reduce the risk of flooding both locally and further downstream there are several interventions that could be employed, which could have the added benefit of increasing the biodiversity of the brook corridors by increasing the amount of habitat and providing the necessary corridors along which wildlife can move and spread as the climate changes. Such interventions may include the opening up of culverts, widening of the brooks, the delineation of brook corridors and the provision of flood storage ponds along the length of the brooks.

The *Burbage Allotment* site is located within an area that is home to high percentage of people that could be considered at risk from the negative effects of the 'heat island' effect (see figure 4.7). It also has a contribution in reducing urban run-off and a potential biodiversity and recreation role. The creation of a more open space along its length and the retention of some of the wildlife rich overgrown areas would probably be enough to maximise its potential, although any intervention must be sensitive to its existing social and biodiversity value.

Burbage Common features because of its biodiversity and environmental services such as air and water quality. The Common is the single largest publicly accessible greenspace in the Borough, providing

green and open space to the communities of the four main southern towns. As the population of the Barwell and Earl Shilton expand and the need for recreation space increases it is likely the Common will be subject to greater pressures. Some habitats are more sensitive to climate change than others and increased footfall and user pressure could create undue stress upon flora and fauna. Options for directing / restricting access across the site could help to accommodate the expected new users and safeguard the Common's wildlife resource.

As a built up urban area, *Hinckley town centre* has a high amount of sealed surface and pollution levels, both of which can intensify the urban 'heat island' effect. The large numbers of people using the town centre for employment, services and commercial reasons means that the centre is most crowded at the hottest time of the day. Increasing the number of street trees in the town centre can provide shade and cooling, whilst replacing some hard surfaces with vegetation and introducing green roofs and walls could help reduce the rate of urban run-off.

Its proximity to the A447 and its location on the main drainage routes leaving Hinckley highlight *Barwell's Sustainable Urban Extension*. To minimise possible adverse effects on the Tweed River and reduce any flood risk, the design scheme for the SUE should include provisions to leave the stream corridor open and vegetated.

The *rivers* and the land adjacent to them in more rural parts of the Borough are highlighted, particularly the River Sence corridor and tributaries and the Rothley Brook corridor with particular hotspots between Shackerstone and Sheepy Parva, Thornton Reservoir and Newtown Unthank and around the Groby Pool area.

The river systems have an essential role in managing flood risk to downstream conurbations such as Nuneaton, particularly when considering the potential for higher intensity rainfall as a predicted effect of climate change. There are also potential effects on rivers from land management regimes which may intensify with climate change, particularly on water quality through erosion and/or diffuse pollutants from agricultural fertilisers: with higher rainfall, containing or reducing the level of nutrients and sediment entering the watercourse will become increasingly difficult. However the large amounts of land under stewardship and low agricultural quality of some of the riverside land means that some measures can be taken to reduce this risk, such as widening of the natural vegetative corridor by providing a buffer strip along the river's length or perhaps using adjacent poor quality agricultural land for biomass planting helping to prevent soil loss and sediment entering the watercourse. Such measures can also increase the biodiversity function (providing natural corridors along which wildlife can move freely) alongside those economic benefits derived from sale of wood products for fuel and the reduction of potential flood damage costs further downstream.

The contribution of the *National Forest's woodlands* to preserving soils and water quality, filtering of particulate matter from air and sequestration of CO_2 are important, particularly in relation to the high levels of pollution in this part of the Borough (relating to the M1 and A46 in particular). This level of pollution will almost certainly have an effect on the health of the residents of Markfield, Groby and Ratby. GI interventions regarding climate change mitigation in this part of the Borough should concentrate on improving air quality by helping to reduce particulates, in particular along the length of the two main transport routes.

b. Protection and Enhancement of Biodiversity and Natural Resources (Figure 5.2)

The natural resources assessment has both quality and distribution considerations, specifically:

- Air, water and soil quality;

- Natural corridors and networks;
- Biodiversity (species and habitats) distribution.

Throughout the Borough there is comparatively little in the way of natural or seminatural habitat, although there are areas where there is a clustering of habitats - the most obvious being the *National Forest* in the north east, around *Market Bosworth* and *Gopsall Park*, and the *river systems*. The *protected status* of Groby Pool, Burbage Common, Billa Barra and Cliffe Hill Quarry alongside their proximity to other important habitats highlights their importance, and any interventions should be in the form of expansion and protection in order to safeguard the future of these important assets. Across the Borough, landowners should also be encouraged to preserve and where possible increase the connectivity of the landscape by refurbishing and replanting hedgelines and where possible create a protective buffer along the river corridor.

Woodlands, and particularly the clusters around Gopsall and Market Bosworth and some wooded areas in the north east of the Borough (i.e. close to motorways as a source of pollution), stand out because of their biodiversity value and their importance in maintaining / improving air, water and soil resources. Efforts to improve connectivity between the individual patches of isolated habitats, including both active planting and allowing of nature to 'reoccupy' spaces between sites, should be encouraged to maximise potential.

Again, the Borough's *water courses* are shown as important, including both river corridors and the area around the canal close to Hinckley, due to both their contribution as a stand alone habitat and their function as wildlife corridors. Maintaining and improving the water courses can maximise their potential benefit, particularly through the biodiversity poor areas of the western half of the Borough where the open landscape can affect the mobility of species.

The importance of the watercourses and catchments within the Borough is reflected by the Charnwood Reservoirs Catchment Project. A partnership between Severn Trent Water, Natural England, Farming & Wildlife Advisory Group (FWAG), the Environment Agency and the Leicestershire and Rutland Wildlife Trust has encouraged landowners around Charnwood's reservoirs to adopt more environmental friendly management techniques. Under Environmental Stewardship nearly two thirds have changed management practices, including how fertilisers are applied to agricultural land and various habitat management measures. This has delivered benefits not only to the water quality through reduced nutrient enrichment but also helping to reverse the decline in the condition of the SSSIs through suitable bank side habitat management.

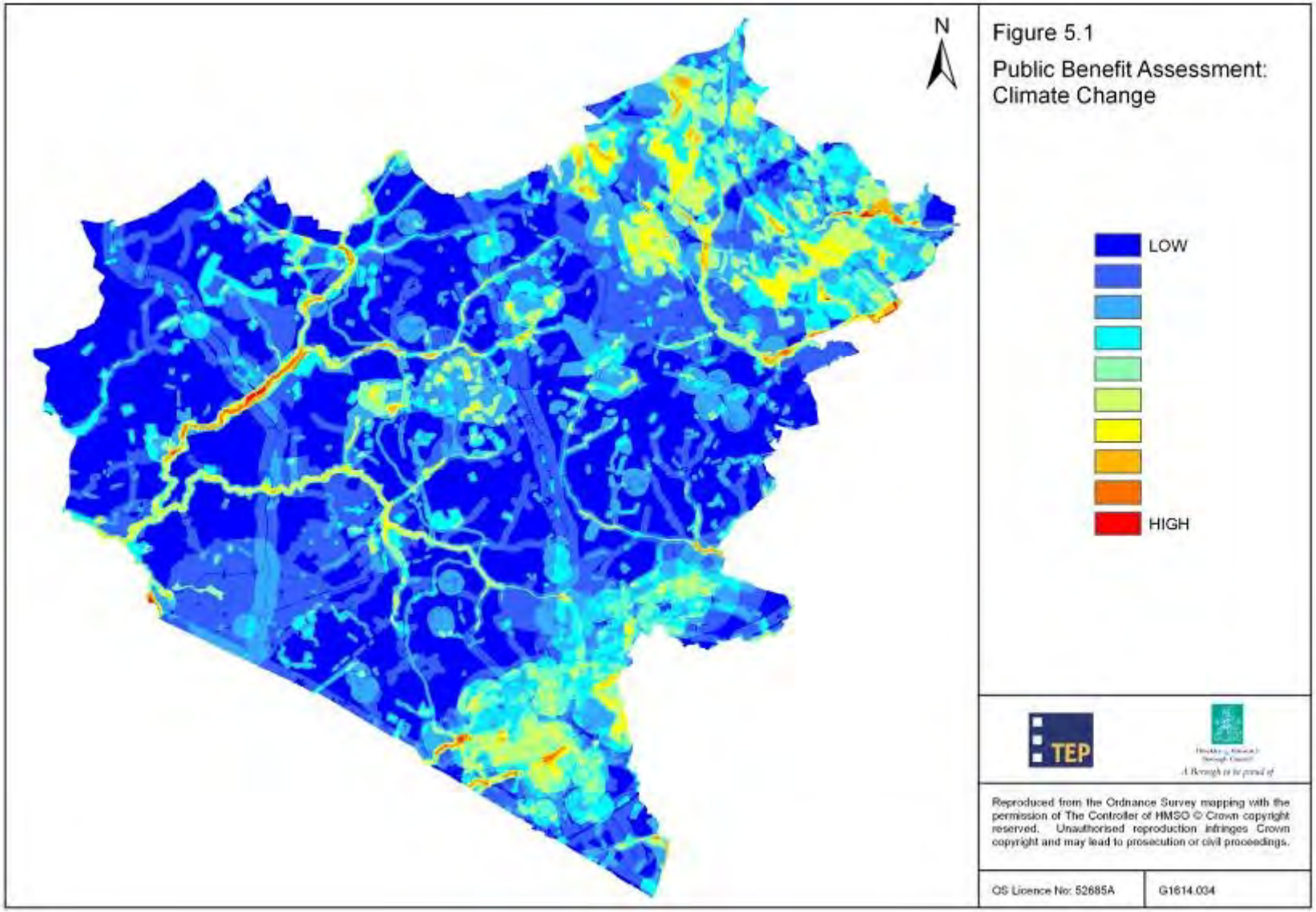
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Figure 5.1
Public Benefit Assessment:
Climate Change
LOW
HIGH
TEP
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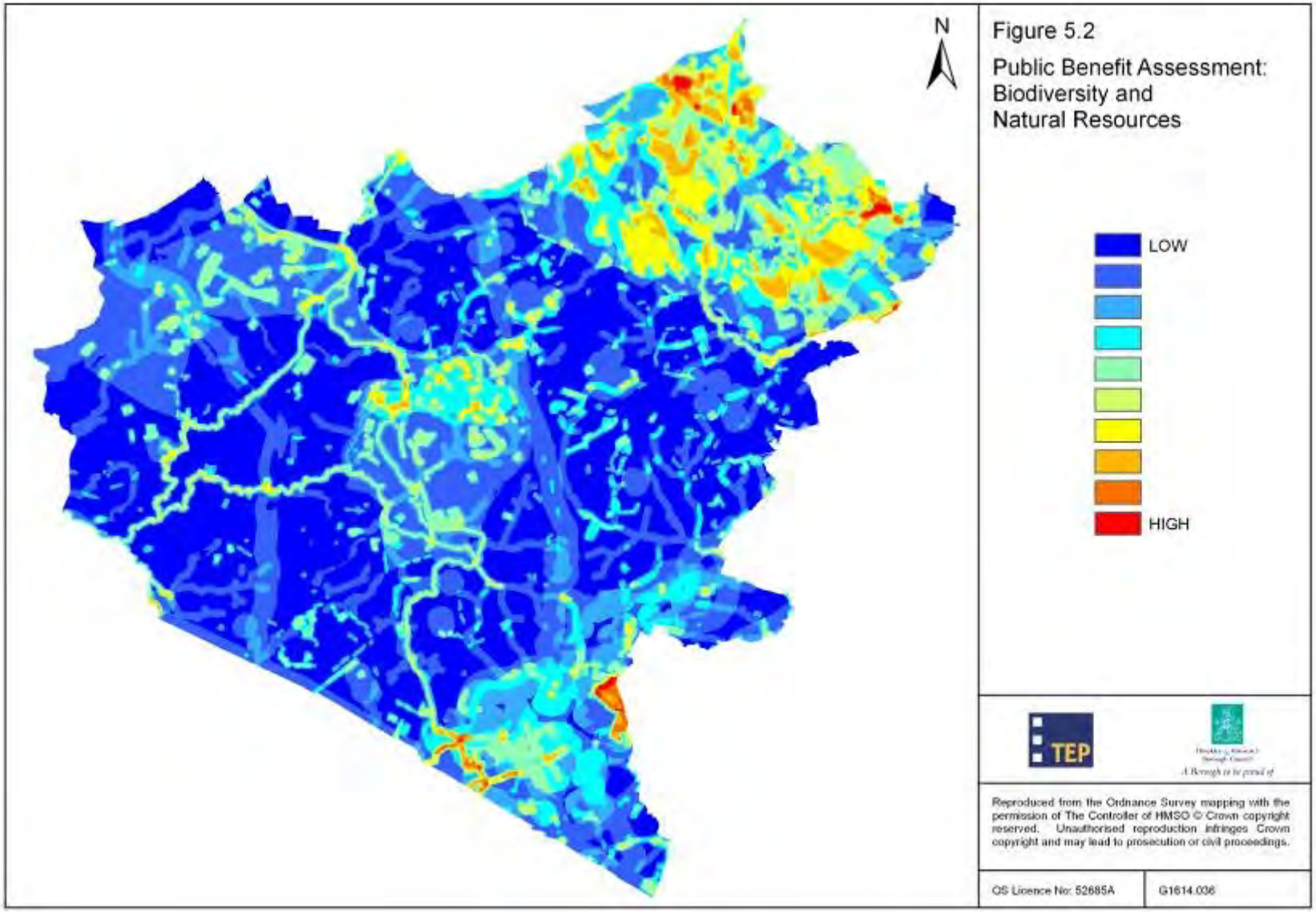
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Figure 5.2
Public Benefit Assessment:
Biodiversity and
Natural Resources
LOW
HIGH
TEP
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c. Population Demand for Green Space (Figure 5.3)

This assessment focuses on the accessibility and availability of greenspaces that can meet local needs, particularly:

- Opportunities for sustainable access and movement;
- Community health and well being;
- Quality of place.

The map clearly shows that the urban south of the Borough as the most prominent, where poor provision of green space coincides with high deprivation and high population density. Equally, with a further 4,500 dwellings expected in the SUEs at *Barwell and Earl Shilton*, the demand for green space will only increase and put further pressure on the existing insufficient resources. The provision of more green and open spaces particularly in *Hinckley town centre*, or, because of the health levels, promotion of existing spaces as a recreational resource would greatly benefit the population in this area; the *Burbage allotment site* is particularly significant, given its location and high potential to deliver against local needs for green spaces.

The coincidence of high levels of deprivation, the large amount of publicly accessible woodland in this area and the coming together of several public access routes leads to *Thornton and Bagworth* featuring strongly in the assessment – perhaps more as a result of the high levels of existing provision than current levels of need. Intervention that may be required here could simply be the promotion of the surrounding woodlands and the extensive footpath network as a recreational resource.

Newbold Verdon features as a result of deprivation levels and the opportunity created by the coming together of several access routes, yet very little publicly accessible space. Promotion of Newbold Verdon's existing access links to provide access to the sites nearer Thornton and Bagworth, and the possible creation of more accessible space nearer to Newbold Verdon are options which could be explored, possibly in collaboration with the National Forest.

The Ashby Canal and Market Bosworth area also stand out. This is because of the value of this north to south corridor and associated assets as a recreational hub. Typical intervention methods along this route could also just be a case of promoting the canal and other assets to the wider community.

d. Growth and Development (Figure 5.4)

Growth and development will have a major impact on the Borough and its green infrastructure, and this assessment particularly considers implications for:

- People: in terms of the living environment, availability of open and green spaces as a community resource;
- Place: landscapes, image and attractiveness;
- Natural resources: biodiversity, air and water quality.

Several key sites or areas within the *southern conurbation* stand out, in particular the Burbage allotment site and Hinckley town centre, as well as the canal area, the SUEs at Barwell and Earl Shilton and Burbage Common. In these areas and particularly in the SUEs, interventions or controls need to be employed to ensure the retention of and possible increase in public access between town and country. At present there are a

series of public footpaths leading through and out of the SUE areas into the rural areas and their retention must be an integral part of the new development. The importance of the area between *Barwell and Burbage Common* will increase in recreational value, and access between the two needs to be maintained, perhaps by developing a recognised greenway (access corridor) for pedestrians and cyclists.

In all urban areas interventions regarding green infrastructure in relation to growth and development should be based on the design of new buildings and layout of developments, and on reducing the reliance on private vehicles by improving access for other forms of transport including walking and cycling. Increases in the level of absorbent surfaces throughout the town will also have a positive effect.

Hinckley marina's and the *Ashby Canal's* recreation and biodiversity functions contribute to its prominence in the assessment, whilst the flooding issues around the *Harrow Brook* area provides additional weight to this area on the map. This is concentrated where the Harrow Brook corridor meets the Canal, mainly because of the climate change implications to the Brook and the recreational value of the Canal. Preventing further development in areas prone to flooding, joining the Harrow Brook corridor to the Canal corridor (providing a recreational and biodiversity corridor) and promoting the marina area as a gateway for recreation may be appropriate.

Elsewhere in the Borough the regional asset of the *National Forest* area scores highly because of its contribution to sustainable development through biodiversity provision, climate change mitigation and other environmental services. Other key functions of the woodland areas are the high recreation value and its role in pollution mitigation, which include visual, noise and particulate pollution. For growth and development, protecting this resource and where possible expanding its range and functions would be appropriate interventions. As growth continues in the East Midlands we can expect the traffic travelling along the A50, M1 and A46 to increase, bringing with it a decrease in the quality of the air, increased noise and visual pollution. For the villages of *Markfield, Ratby and Groby* the benefits arising from this regional growth are unlikely to outweigh the negative externalities of this growth without substantial interventions such as improving the recreational offer and providing space that offers respite from the transport corridors.

As mentioned above the Ashby Canal corridor is recognised as having a special significance not only in the urban area but also in the more rural parts of the Borough. Its linear nature and the other assets along its length point towards it being an increasingly important asset as growth continues. Promotion and expansion of this resource are suitable interventions, where expansion includes improving connections to and from the neighbouring town of Nuneaton.

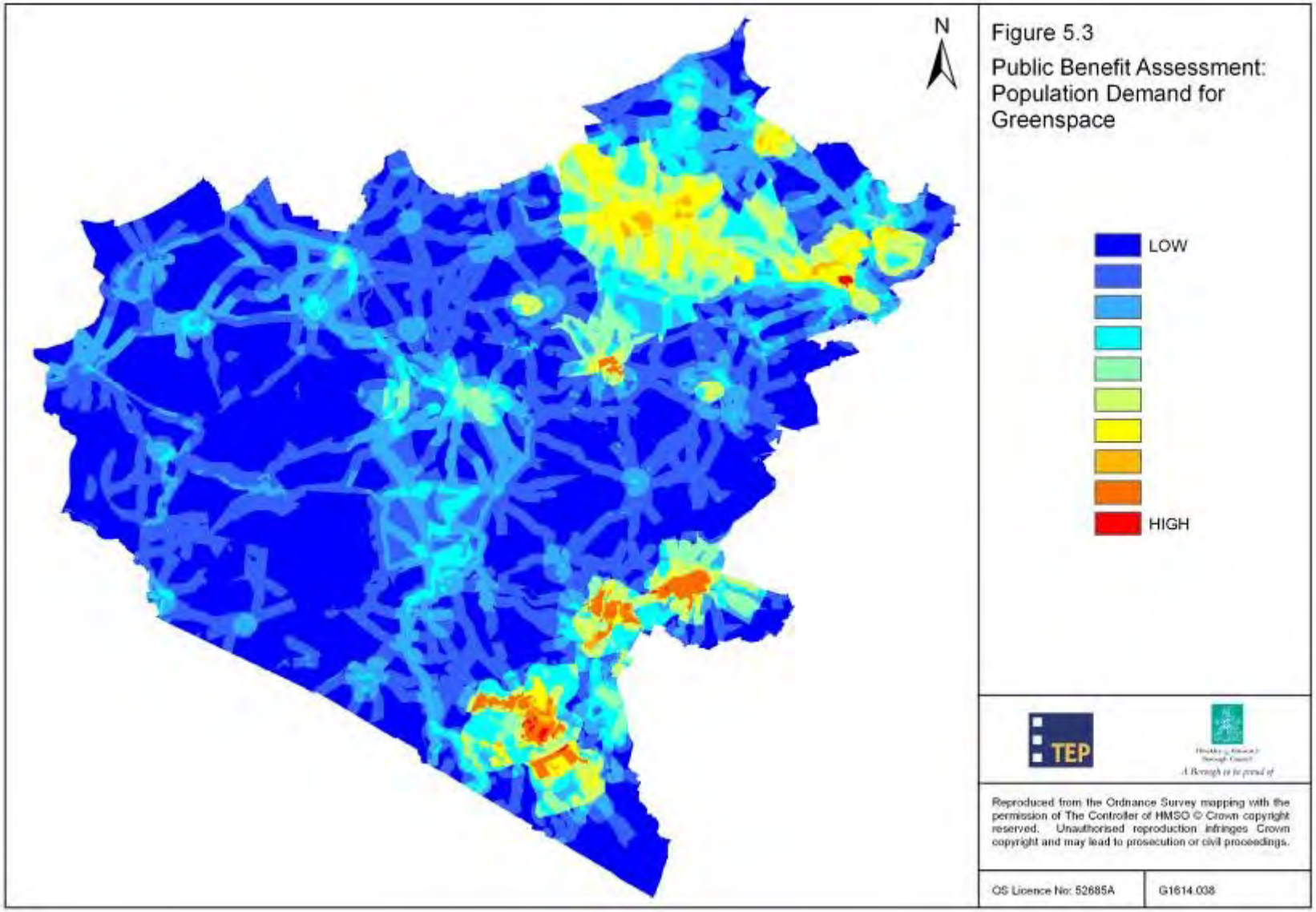
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Figure 5.3
Public Benefit Assessment: Population Demand for Greenspace
LOW
HIGH
TEP
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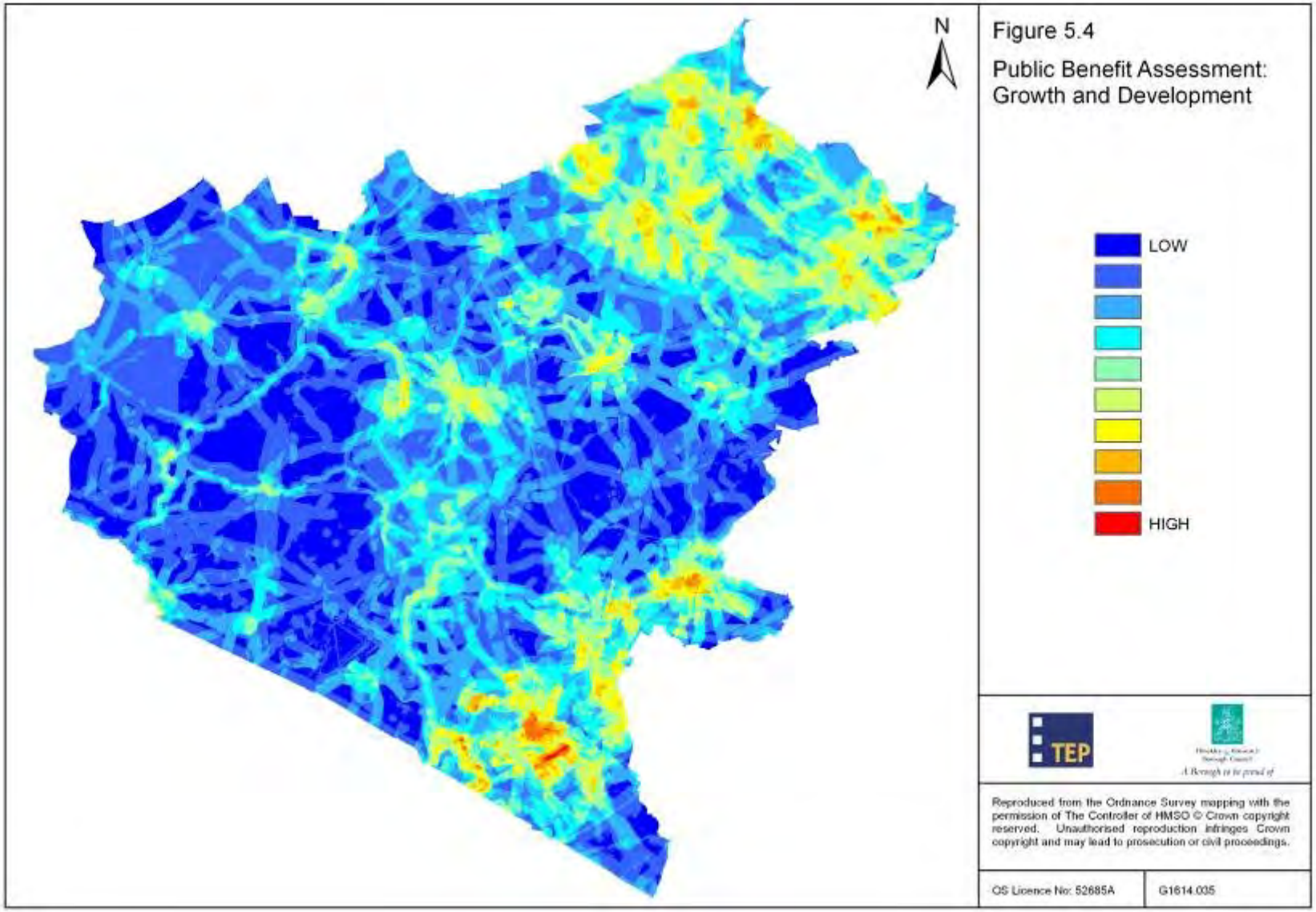
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Figure 5.4
Public Benefit Assessment:
Growth and Development
LOW
HIGH
TEP
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e. Planning System (Figure 5.5)

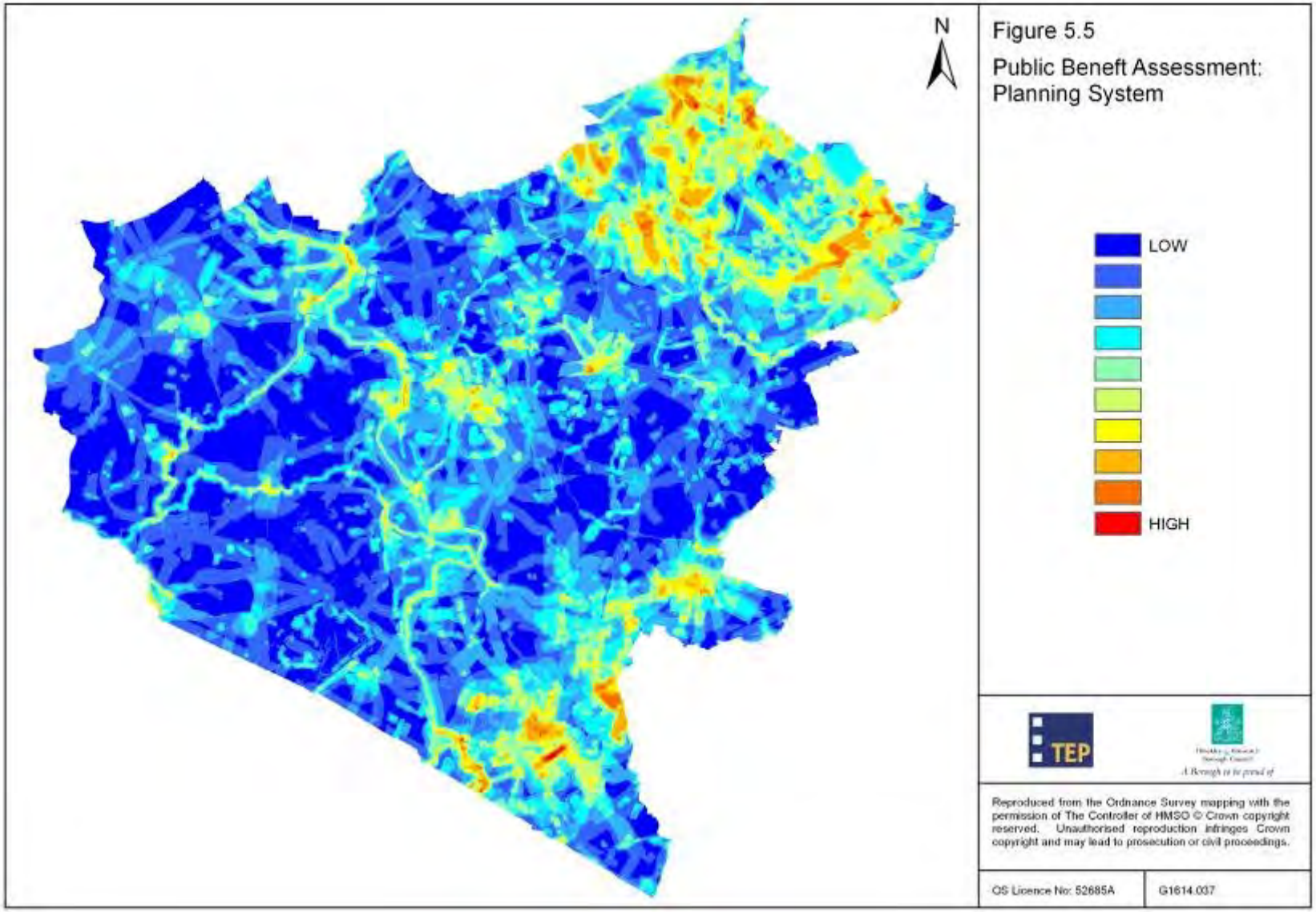
Together, the previous assessments encompass many of the issues that the planning system must address in relation to green infrastructure, so this final assessment combines the previous assessments to identify correlations across all functions.

Those sites showing the greatest combined needs and opportunities highlighted by the combined assessment are:

- Burbage Common;
- The Marina area in Hinckley town;
- Hinckley town centre;
- The allotment site adjacent to the railway at Burbage
- Market Bosworth
- The Ashby canal corridor with focal points at Shenton, Shackerstone and the Water Trust.
- Public access routes around Barwell and Earl Shilton SUEs
- The National Forest area including access and expansion
- The River Sence network of streams and tributaries

The consistent importance of these sites / areas across all of the public benefit assessments must therefore be reflected in the Borough's GI Strategy. These sites are of strategic importance and will require a variety of interventions to consolidate and improve upon their value, whether that is a change of management or specific planning controls such as design codes or simply a case of promoting specific assets.

The next chapter will consider the evidence gathered so far and the findings from the public benefit assessment to set out a strategic response to green infrastructure for Hinckley & Bosworth, considering the value and importance of these key sites and areas within the context of the entire green infrastructure resource for the Borough and considering the key issues and drivers for change.



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CHAPTER 6: A Green Infrastructure Strategy for Hinckley & Bosworth

A Green Infrastructure Strategy for Hinckley & Bosworth: Our Approach

This Strategy has been built upon three principles as outlined in Chapter 1, i.e. that it must:

- Respond to specific local needs, which differ markedly across the Borough;
- Safeguard and enhance the core environmental networks and improve human connections with their neighbourhood environments; and
- Be capable of informing development control decisions and targeting funds and activity.

With these core principles in mind, we felt that a single strategic response would be unable to adequately cater for the differing needs, threats and opportunities that exist in the Borough. We have therefore set out a strategy in three parts:

- A set of core principles which govern all green infrastructure planning and interventions across the Borough;
- A Borough-wide Strategic Plan: setting the overall spatial framework for GI in Hinckley & Bosworth;
- Green Infrastructure Zones: addressing the particular needs, characteristics and functions of three distinct parts of the Borough in detail.

Together, these form a GI Strategy for Hinckley & Bosworth that is able to respond appropriately and specifically to the particular circumstances experienced across the Borough to adequately provide the various GI functions and benefits within the context of growth and sustainable prosperity.

Core Green Infrastructure Principles for Hinckley & Bosworth

The research for this strategy has identified several green infrastructure aspirations for Hinckley & Bosworth that respond to the Borough's economic, environmental and societal drivers (see Chapter 4). These should be considered as the over-arching principles that govern the planning and delivery of green infrastructure in the Borough:

- Local planning decisions will incorporate recommendations set out in the spatial framework for green infrastructure in the design and distribution of new developments under the Growth Point proposals, minimising impacts and maximising opportunities for green infrastructure provision in the Borough as a whole.
- Green infrastructure interventions will be planned and managed to provide a series of adaptable and multifunctional networks of green spaces that can combat the impacts of a changing climate on people, places and wildlife.
- Interventions will use the evidence presented in this report to respond to specific local needs and opportunities, and so ensure delivery of the wider benefits of green infrastructure that respond to community demands now and in the future.
- Activities across the Borough will take account of the spatial framework for green infrastructure to create a network of natural/semi-natural habitats that encompasses natural, man-made and potential landscape corridors and guides the

reversal of habitat fragmentation to increase the Borough's biodiversity holding capacity.

- LAA / MAA agreements will use the findings and recommendations within this Strategy to promote the multifunctionality and wider relevance of GI to a broad, cross-sectoral audience that will then work with HBBC to produce mutually beneficial outcomes.
- Wherever practicable, landowners and managers will be encouraged to open up and improve the quality, provision and safety of access routes and to provide accessible and high quality green/natural spaces.

Hinckley & Bosworth Borough Strategic Green Infrastructure Plan

With reference to the over-arching principles, and considering the range of evidence gathered throughout this report, this Plan sets out the Borough-wide response to green infrastructure, providing a broad strategic approach of spatial policy initiatives across the Borough within which the more locally focussed GI Zones fit.

Figure 6.1 provides the spatial illustration of the Plan, with the key strategic recommendations described below.

- ***Tourism***

This takes into account the wealth of tourism assets that exist within the National Forest / Charnwood Forest / Stepping Stones area and the central Ashby Canal / Market Bosworth corridor. The aim is to enhance and protect existing assets, as well as encouraging the sustainable use of the natural tourism resource and promoting local as well as out of town use. In addition, there are several existing important access networks which should be enhanced (in terms of quality and multi-user functionality) and expanded to increase the tourism offer by widening the potential visitor market.

The Tourism element of the Strategy also recognises the considerable work already being undertaken by the HBBC Tourism Group in promoting tourism in the Borough and via several initiatives in the north east of the Borough (shown in darker orange hatching on the Plan under "Tourism Support"), and it is essential that links with the National Forest, Charnwood Forest Partnership / Regional Park and the Stepping Stones initiative are strengthened and their benefits extended into the Borough.

In the broadest sense the aim in this area is to enable and promote recreational access, allowing those settlements that are situated nearby (Desford, Barlestone, Newbold Verdon, Nailstone, Groby and Ratby) to make the most of their position as gateways to the National Forest. Improvement of the actual physical connections between the settlements and the National Forest in particular is a key element: providing access routes between settlements and the Forest will improve the tourism and recreational offer around these settlements, and can improve the biodiversity of the area. Further, the settlements may be considered as 'Gateways to the National Forest' as it matures and increases in size and tourist interest

Considering such interventions at this early stage will have long lasting benefits for the communities and wildlife of the eastern half of the Borough. The various environmental improvements recreational options will also enhance quality of life for local communities, and contribute to the Borough as an attractive place to live, work, visit and invest.

• ***Access and Recreation***

As the demand for development increases competition for land use will increase, and it is essential that existing and potential green infrastructure assets are retained and enhanced to provide for population demands and community needs for green and open space. Strategically important sites such as Burbage Common must be retained, improved and where possible expanded to accommodate the needs of a growing population and wildlife. The Rights of Way Improvement Plan (ROWIP)[41] contains a range of proposals for consideration regarding new development that green infrastructure interventions should specifically account for. This includes several policies relating to the provision of new and improvements to existing access routes that maximise opportunities for linking communities, settlements and the local countryside.

Equally, the value of an open landscape should be recognised, for visual, quality of life and broader biodiversity reasons, and the planning system must continue to maintain the Green Wedges as protected open landscape features. Working partnerships with landowners / managers need to be developed to discuss and deliver the opening-up of some private sites where there is a demonstrable need for accessible green space.

Accessibility to such sites and between urban and rural areas should also be enhanced and extended (considering both the quality and distribution of access routes), particularly circular routes that incorporate various GI assets including strategic recreational routes, public transport hubs and the urban centres. This is particularly important for access in the SUE areas. Signage is also an important part of improving access, providing users with distance, name and perhaps time taken to reach an asset and / or end point.

• ***Biodiversity (Protect, Increase, Enhance)***

Throughout the Borough natural and semi-natural habitat must be given due protection within the planning system. Many areas require interventions to reconnect habitats and reduce fragmentation. In some areas this biodiversity objective can sit comfortably alongside recreation, providing added value and increased functionality.

The areas highlighted are especially valuable in terms of their existing and potential biodiversity, and HBBC should engage with landowners / managers to encourage and enable sensitive land management practices particularly along the important river and canal corridors. The expansion of the National Forest and enhancement of natural habitats within Charnwood Forest should be pursued in cooperation with partners, as appropriate and sensitive to existing valuable landscape and features.

• ***Potential Strategic Access Routes***

The wealth of green infrastructure assets in the Borough, in particular those with a tourist interest, would benefit greatly from improved access. At the Borough-wide scale the creation of a strategic access route between the Weddington Country Walk and the Ashby Canal tourism corridor would allow pedestrian and cycle access from the population centre of Nuneaton to the key tourist assets in the Borough. In addition to joining up with the canal this route would compliment and join up the Leicestershire Round and Ivanhoe Way footpath network.

Another important and strategic potential route bisects the two towns of Hinckley and Burbage. This route would enable access from the centre of town to either of the areas major recreational assets of

[41] Rights of Way Improvement Plan for Leicestershire (2006) Leicestershire County Council.

the Ashby Canal and Burbage Common. Improvements to this route would also have a beneficial effect on the wildlife in and around these towns, providing a natural corridor which compliments that already existing alongside the railway.

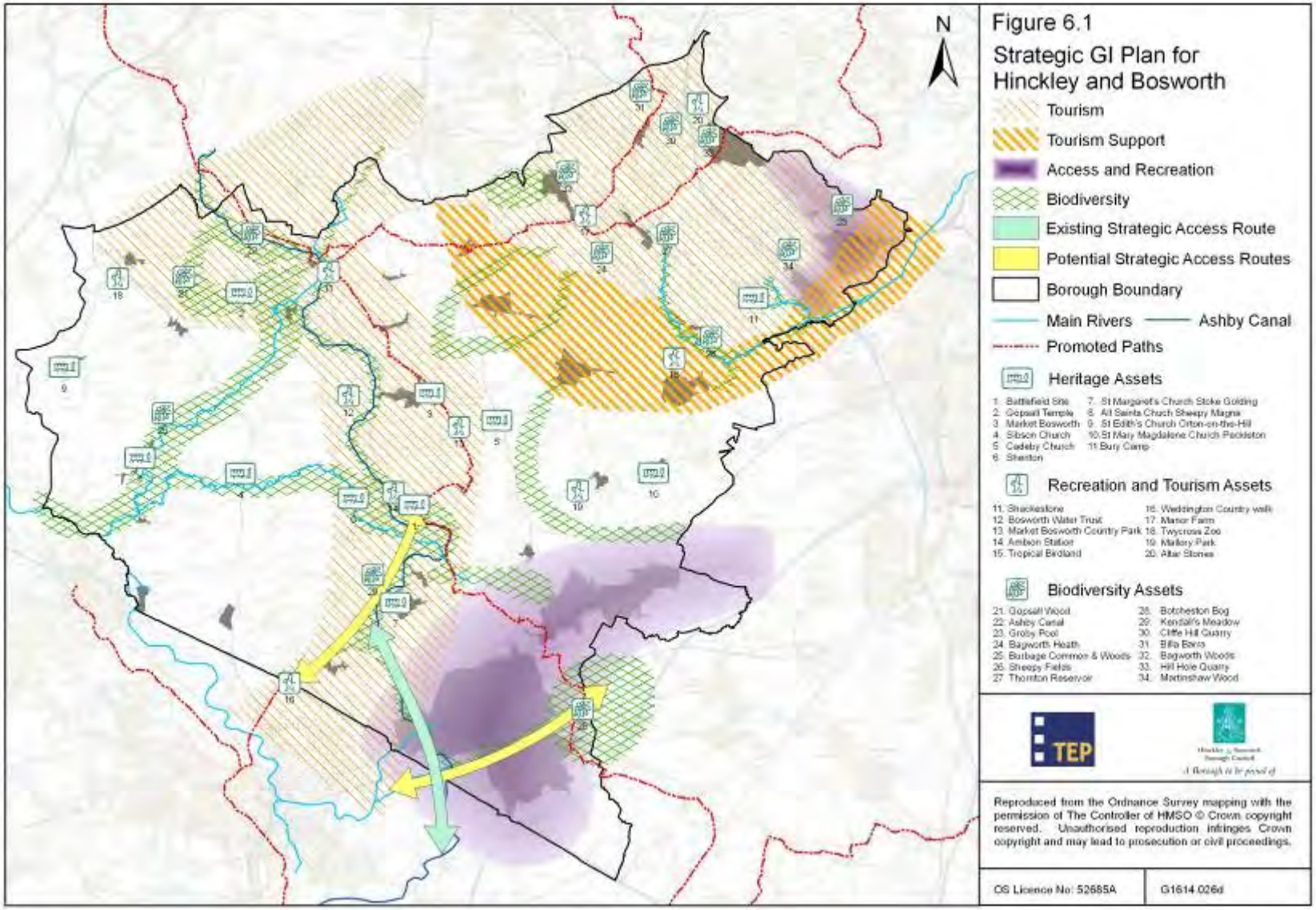
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Figure 6.1
Strategic GI Plan for Hinckley and Bosworth
Tourism
Tourism Support
Access and Recreation
Biodiversity
Existing Strategic Access Route
Potential Strategic Access Routes
Borough Boundary
Main Rivers
Ashby Canal
Promoted Paths
Heritage Assets
1. Battlefield Site
2. Gopsall Temple
3. Market Bosworth
4. Sibson Church
5. Cadeby Church
6. Shenton
7. St Margaret's Church Stoke Golding
8. All Saints Chuch Sheepy Magna
9. St Edith's Church Orton-on-the-Hill
10. St Mary Magdalene Church Peckleton
11. Bury Camp
Recreation and Tourism Assets
11. Shackestone
12. Bosworth Water Trust
13. Market Bosworth Country Park
14. Ambion Station
15. Tropical Birdland
16. Weddington Country walk
17. Manor Farm
18. Twycross Zoo
19. Mallory Park
20. Altar Stones
Biodiversity Assets
21. Gopsall Wood
22. Ashby Canal
23. Groby Pool
24. Bagworth Heath
25. Burbage Common & Woods
26. Sheepy Fields
27. Thornton Reservoir
28. Botcheston Bog
29. Kendall's Meadow
30. Cliffe Hill Quarry
31. Bilfa Banks
32. Bagworth Woods
33. Hill Hole Quarry
34. Martinshaw Wood
TEP
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Green Infrastructure Zones

The landscape, socio-economic and environmental characteristics of Hinckley and Bosworth are by no mean homogeneous but nor are they so different that each specific element requires individual attention. Groupings of features, needs and assets provide an opportunity to address various issues at a sub-borough strategic level in 3 green infrastructure "zones" (see Figure 6.2):

- Southern Zone
- Western Zone
- North Eastern Zone

This act of separating the Borough into zones is not to prioritise one over the other, but to provide a clear and relevant set of strategies and interventions appropriate to local needs, respecting the local character and protecting assets. Whilst being able to isolate each area and address their varying needs is important, much of the green infrastructure strategy such as biodiversity improvement, green space requirement and climate change remediation is certainly applicable Borough wide. Taking this into account the 3 zones should be considered within the context of the Borough wide plan.

The three zones are defined by the spatial structure of the settlements, landscape character, socio-economic character and land use, as well as the evidence and conclusions drawn from the public benefit assessment.

The spatial distribution of the settlements is perhaps the one of the most easily recognised aspects of the three zones. There is a clear difference between the smaller scattered settlements of the western area, the larger and almost circular arrangement of the north eastern settlements and of course the four larger urban areas located in the south.

There are also landscape differences that help define these areas. The southern zone's landscape is defined mainly by its urban nature and its hilltop positioning. This area is also bounded by the main transport links.

The larger agricultural field boundaries and river system help define the western zone. The topography of this area is also different to the other two zones, with a more gently rolling landscape. Within this zone there are some areas that have a very different character; Gopsall Park and Market Bosworth have park landscapes of open grassland and small regular stands of, or single, mature trees. Most of the woodland blocks in this zone are contained within these landscapes.

The northeast zone has a large amount of woodland as a result of the National Forest programme and as these new plantations mature and become a more prominent landscape feature, the character of this zone will be further reinforced. This area also has a more varied and relatively rugged topography compared with the than the western or southern zones. In this area the field boundaries tend to be smaller in size than those of the more obviously agriculture oriented western zone.

The geographical, socio-economic, biological and landscape differences that define these zones have also directed the types of intervention that are recommended.

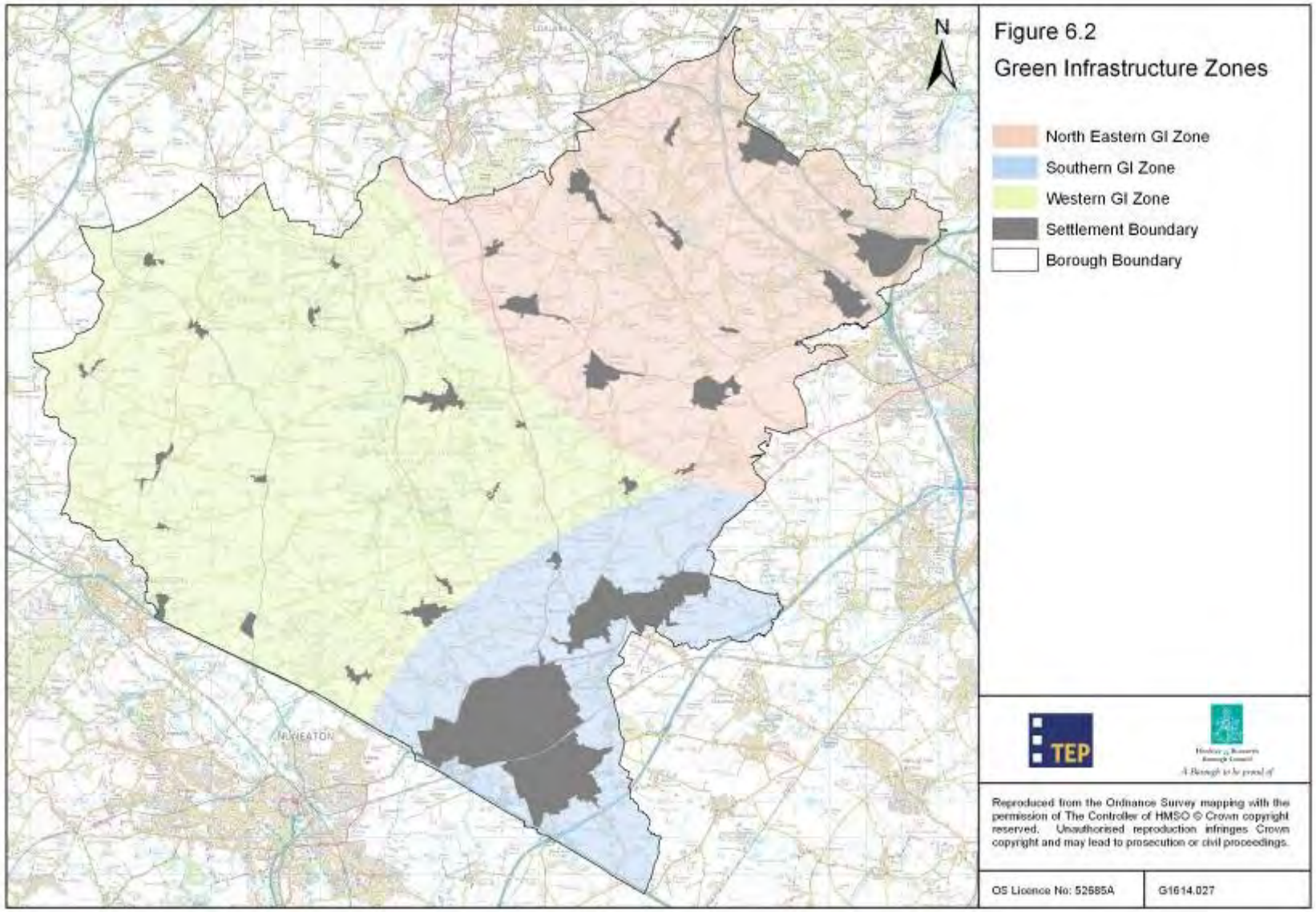
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Figure 6.2
Green Infrastructure Zones
North Eastern GI Zone
Southern GI Zone
Western GI Zone
Settlement Boundary
Borough Boundary
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- ***Southern Zone***

Characteristics

The Southern Zone has the highest population density, along with the highest levels of multiple deprivation and poor health in the Borough, and pockets of high numbers of young and / or elderly people. The need for green space in this area is higher, in part because of the recreational needs of the residents (who tend to be less mobile because of age / health) but also to combat the negative effects of climate change that will be felt most in the urban areas.

The intended development of the Sustainable Urban Extensions at Barwell and Earl Shilton means that there will be additional landscape, green and open space and socioeconomic issues specific to this part of the Borough, and the protection and provision of access and green space will have quality of life implications for these new communities and in an area where there is currently a shortfall.

Due to the high density of the population and level of development many green infrastructure issues revolve around the effects of climate change including flood prevention, urban 'heat island' effect and the provision of green space to enable both groundwater recharge and respite for the communities from increasing summer temperatures. The impact of the urban south on the neighbouring conurbations of Nuneaton and Tamworth is also an important issue: the area's topography means that the responsibility of reducing rainfall run-off and reducing the flood risk to its two neighbouring towns lies squarely with the Borough.

Figure 6.3 illustrates several key interventions which can contribute to addressing these more localised issues, alongside the broader issues and interventions described in the Borough-wide Plan.

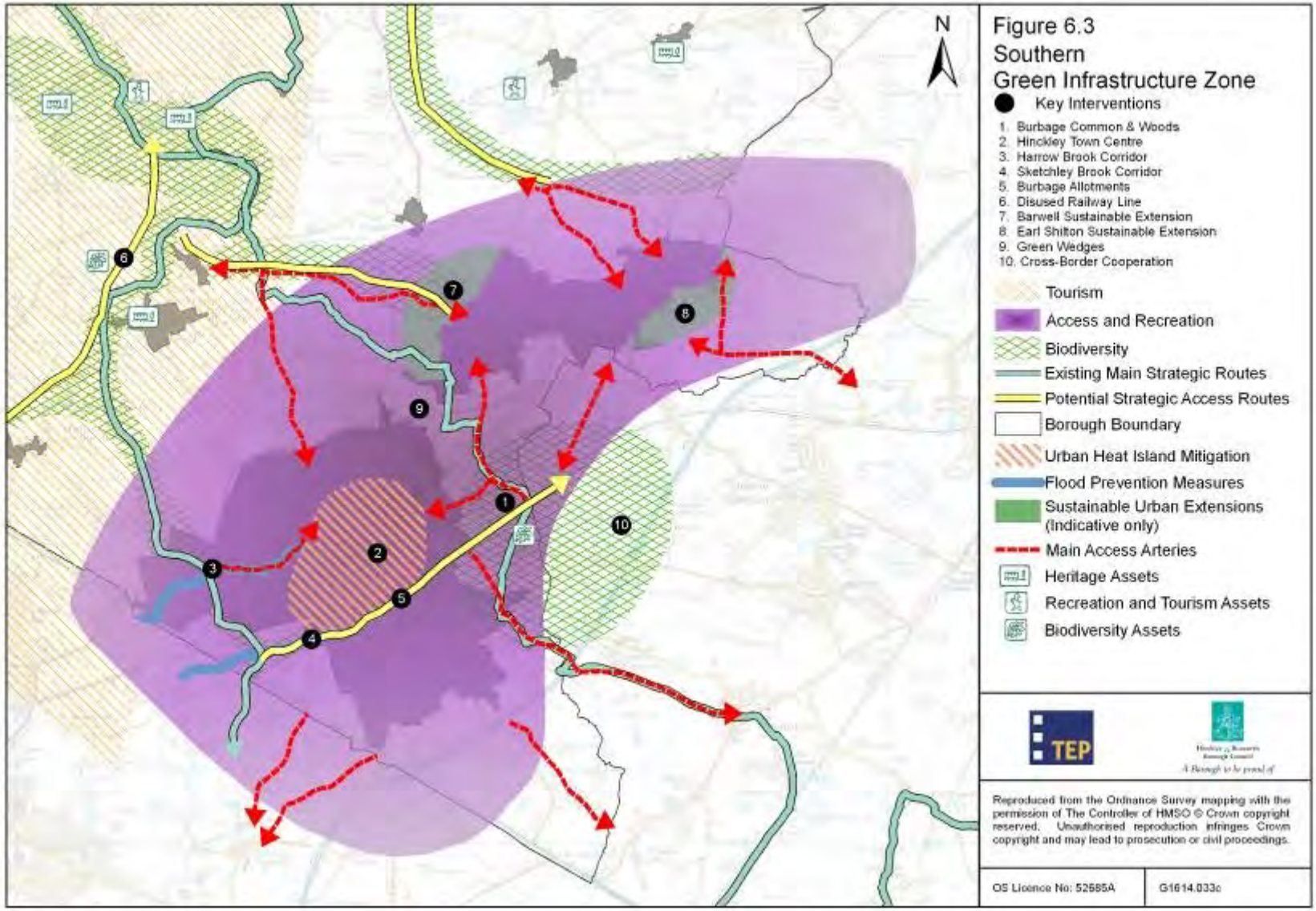
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Figure 6.3
Southern
Green Infrastructure Zone
Key Interventions
1. Burbage Common & Woods
2. Hinckley Town Centre
3. Harrow Brook Corridor
4. Sketchley Brook Corridor
5. Burbage Allotments
6. Disused Railway Line
7. Barwell Sustainable Extension
8. Earl Shilton Sustainable Extension
9. Green Wedges
10. Cross-Border Cooperation
Tourism
Access and Recreation
Biodiversity
Existing Main Strategic Routes
Potential Strategic Access Routes
Borough Boundary
Urban Heat Island Mitigation
Flood Prevention Measures
Sustainable Urban Extensions
(Indicative only)
Main Access Arteries
Heritage Assets
Recreation and Tourism Assets
Biodiversity Assets
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Strategic Interventions

1. Burbage Common & Woods: This site is possibly the most important site in the Borough in terms of its functional value to the local communities. As the population of Hinckley and Bosworth continues to expand, this site will become even more vital to those communities. Considering the strategic value of this site, the access to the common is not as comprehensive as it could or should be. In terms of intervention the two main themes would be the increase in size of the site to increase both the community value and biodiversity holding capacity and to improve access to the site, particularly for pedestrians and cyclists. At present the only cycle access is via the busy B4668 or on the south side of the Nuneaton-Leicester railway line. The Sustainable Urban Extensions to be built at Barwell and Earl Shilton will further increase the pressure on this valuable resource which also supports an increase in its size.

   The multifunctional nature and expected increase in user numbers due to population growth means that some of the Common's more vulnerable areas/habitats may suffer. To avoid any loss of function either recreational or environmental, the Common may benefit from zoning and/or the controlling of access to certain areas. Poor ground conditions due to the weather and/or disturbance to wildlife during the breeding period could direct the location of protected or reduced access areas. This zoning is also important to separate some of the user groups such as horse riders and children, special consideration may be given to providing children with areas dedicated to their own needs.

   The Friends of Burbage Common and the common itself are a resource in terms of skills and opportunities to improve rural/conservation skills. The use of the Common to train volunteers to carry out conservation/countryside management elsewhere in the Borough could be an important aspect of delivering GI in Hinckley and Bosworth.

2. Hinckley Town Centre: The urban centre of Hinckley is most likely to feel the negative effects of climate change more than other areas of the Borough. The urban 'heat island' effect will make this area less hospitable during the summer months, large amounts of sealed surface and a lack of tree cover will compound this problem. For Hinckley the most important interventions will be the mitigation of these negative effects. Suitable intervention measures would be an increase in the number of street trees to provide shade, cooling and air quality improvement. Where possible the numbers of vehicles could be reduced to improve the quality of the air in the town centre, increases in summer temperature will exacerbate this significant health risk. Other measures that will be needed to mitigate against the effects of the changing climate will include flood prevention measures. These can take several forms and could be as simple as flood storage ponds, green roofs and swales. These methods will also have a significant contribution to biodiversity and cooling.

   There are several areas where existing spaces could undergo changes in management and/or access to provide a wider recreational function. One such area could be the pond area at the junction of Ashby Road and Barwell lane near the cemetery.

3. Harrow Brook Corridor: The work already completed along this important strategic corridor is delivering a substantial public benefit through its role as recreational corridor. There are however several improvements that could be made to increase its value and function.

   In terms of its recreational function, the western end of this route has limited access to one of the Borough's most important strategic recreational corridors, the Ashby Canal. The fields situated to

the north of the marina are an ideal access point to the canal. Other measures that could be taken to increase the functionality of the corridor could include several flood storage ponds along the brook. The creation of several ponds along the length of the brook will reduce the rate of water entering the main river system during periods of high rainfall. Flood storage ponds will also increase the number of habitats along this corridor, increasing biodiversity and the level of connectivity. The position of Clarendon Park along this corridor further increases the options to improve upon the recreational and biodiversity value of this corridor. The strategic location of this corridor and its link to the canal system make this route an ideal component of a circular route connecting the Common, the canal and the urban centre.

4. Sketchley Brook Corridor: Once again this strategic corridor provides the opportunity to connect the Ashby Canal recreational resource to the residential areas in the east of Burbage. Along its route are several areas of biodiversity and recreational interest, including the two fishing lakes and adjacent scrubland. The east of Burbage is well served by Burbage Common and woodlands, but in the west of the town there is very little to offer in terms of biodiversity and recreational interest in a natural setting. There is an opportunity along this route to increase significantly the biodiversity interest of the west of Burbage. Several parcels of land exist along the brook's route that are currently in poor or unmanaged condition: bringing this land under suitable management will increase not only the biodiversity of the corridor, but also the attractiveness and value of the route to the communities which it will serve.

   In addition to the land adjacent to the brook, the industrial estate at the western end may provide further opportunities should any redevelopment take place, in particular access. The Sketchley Brook corridor could be an integral part of a wider access and green space project delivering recreational and biodiversity improvements along the east-west axis separating Hinckley and Burbage and as part of a set of circular recreational routes.

5. Burbage Allotments: The semi-abandoned allotment site that separates Burbage and Hinckley is perhaps one of the most obvious and important strategic sites that requires attention. It already has a considerable biodiversity and recreational interest as well as other environmental functions such as drainage and cooling. It lies along a potential east-west recreational corridor linking the Ashby Canal, Sketchley Brook, Burbage Allotments and the Burbage Common. The enhancement of this corridor will provide access to green and open space and a choice of recreational options to the residents of both Hinckley and Burbage, with access from the centre of the conurbation to the Ashby Canal at the western end and Burbage Common at the eastern end (where there may be an opportunity to connect this site with the footpath leading to the Common).

   There are still a few allotments that remain in use; it is not suggested that these be removed or altered, indeed the retention of some of the allotments serves only to increase the multifunctionality of the site. Those that have been abandoned for some time are overgrown and could certainly become part of a wildlife oriented part/section of the site.

   In all of the areas mentioned above, there are several possibilities for providing circular walks around parts of the Borough including the urban areas, and many of the above mentioned strategic corridors could be expanded and / or linked deliver these. The east-west corridor running between Burbage Common via the allotments and Sketchley Brook to the canal and the greenway that runs between Burnsway and Brodick Road along the Battling Brook are a good example, while the Tweed River and the Canal can also form part of circular route for Barwell and Hinckley. Any route that leads out of the urban area and picks up on the major strategic assets

such as the Common and the Canal should be a priority. Ideally these routes should accommodate a variety of user groups: for the most part these routes can provide foot access alongside cycle ways and in some places perhaps also bridleways. The inclusion of public transport nodes and associated cycle parking in combination with circular routes passing through the urban areas increases the offroad access to and from these nodes for commuters and the general public alike, so train stations and bus stops should also be considered as stages or stops on circular routes.

6. Disused Railway Line (Nuneaton - Shenton Station): Upon entering the Borough from Nuneaton along the Weddington Country Walk, the cycle path continues along the lanes of the Borough, although pedestrian access is somewhat curtailed with very limited provision for pedestrians. This disused rail line provides an important link between the population centre and potential source of tourists at Nuneaton with some of the Borough's biggest tourist assets such as the Battlefield Line, Water Park and Battlefield Site, as well as connecting with the Borough's other strategic asset of the Ashby Canal.

   There are several issues along the route such as ownership near the MIRA site and some sections, mostly those next to the roads, have issues over access due to several encampments. There is also a section where the bridge may no longer be safe, although diversions around these impassable sections can be put in place. Should this route be developed it can shorten the distance between Hinckley and Shenton Station by leaving the canal at the marina just west of Stoke Golding Grid Ref (392,973) and continuing to Shenton. This will also provide a circular recreational route of around 4.5 miles serving both Stoke Golding and visitors to Shenton Station and Ambion Wood. Essentially this intervention could take part in two phases and two sections. One section would be the link between where the Weddington Country Walk passes under the A5 and the marina at Stoke Golding. The other section would run between the marina and Shenton Station. Both sections have value and will increase both the tourist interest for the Shenton area and surrounding visitor attractions.

7. Barwell Sustainable Urban Extension: There are several green infrastructure issues to be addressed within the Barwell SUE: strategic footpath routes that pass through it will need to be retained, there is an issue with development and flooding as one of the streams that drains Hinckley passes through this area, and there is a definite lack of public accessible green space.
   All of these issues should be addressed in the planning of the development. The main strategic intervention would be the retention of the River Tweed corridor as an open watercourse – this could become a strategic route for recreation and will maintain access between the area of Barwell to the east of the SUE and the open countryside.

   The possibility of the creation of a larger green space should also be explored: the increasing pressure on, and increasing distance to, Burbage Common means a strategic large open green space to the north of the conurbation (perhaps within the green wedge that separates Barwell and Hinckley) would improve the recreational offer for the residents of the SUE and of north Hinckley.

8. Earl Shilton Urban Extension: The main issue for the Earl Shilton SUE is access, specifically the protection and provision of useful and usable recreational routes. The Burbage Common is the nearest resource and maintaining access across the landscape is important, and the provision of a recreational corridor leading to the Common and beyond would deliver multiple benefits. The construction of the bypass may give the impression of a barrier to the residents of the SUE; creative landscaping and provision of suitable crossing points is needed to maintain the visual and physical links between Earl Shilton and the surrounding countryside. Currently there is a deficit in

open space provision within both Earl Shilton and Barwell, the use of developer contributions derived from the extension could be channelled into addressing this deficiency.

9. Hinckley – Barwell Green Wedge: Maintaining the Green Wedge between Hinckley and Barwell is also an important part of protecting the green infrastructure of the Borough. In addition to its current environmental and landscape protection role, this strategic gap separating the two towns, may in the future be developed into a large scale recreational asset similar to plans for other green wedges in the County.

10. Cross Boundary Co-operation: The location of the four urban areas in the extreme south of the Borough means that many of sites or assets available to the local communities are actually across the Borough boundary in neighbouring authorities such as Blaby or Rugby. Engaging with these neighbouring authorities is vital, existing initiatives and assets across the boundary may already have a direct benefit for the residents of the Borough. Engaging with those authorities in the protection and enhancement of those assets is certainly something that Hinckley and Bosworth Borough must continue. A key boundary issue is the area between Earl Shilton and Burbage Common which passes through Blaby District, to maintain strategic access between the two and perhaps improve it, will require consultation and cooperation with this neighbouring authority.

- ***Western Zone***

Characteristics

The western zone is mainly defined by its scattered settlements and landscape character rather than any specific socio-economic needs, although the whole of this area has declined in respect of the Index of Multiple Deprivation between 2004 and 2007.

As well as its green and open landscape character (particularly in and around Market Bosworth), in terms of green infrastructure the wealth of historic and tourist assets in this area clearly sets it apart. Biodiversity interest across the area is quite low although from the natural asset perspective this zone also contains the longest landscape-scale connecting features in the form of the river and stream corridors that feed the River Anker and the Ashby Canal. There are however a few natural assets of considerable biodiversity value in this area including Gopsall Wood, Sheepy Fields SSSI and Ashby Canal SSSI.

Whilst the southern area has a population demand for green space and several climate change issues guiding its own sub-strategy, the western area must see its strategy based around its substantial tourism and heritage interests and the protection and enhancement of the important river and canal natural corridors.

Strategic Interventions

Figure 6.4 sets out the broad spatial recommendations derived from the Borough-wide Plan, alongside a number of key interventions specific to the circumstances of the area.

1. Improved connections between Market Bosworth and Bosworth Water Trust: Currently there are no pedestrian or cycle paths that connect these two important tourism resources other than those that run adjacent to main road. Improving this connectivity would benefit not only those visiting and staying in the area, but also for those who live in and around Market Bosworth, providing safe walking and possibly cycling routes to an important local recreational resource. Another resource

close to Market Bosworth that is poorly served by public footpaths and/or cycle paths is the Ashby Canal as a strategic resource connecting Hinckley and Burbage to the centre of the Borough. Improving access between the canal, the Water Park and Market Bosworth therefore should be considered. There are some routes that have restricted access that have the potential to become important pedestrian and cycle routes, particularly the gated roads that exist close to Market Bosworth such as Sutton Lane between Market Bosworth and Sutton Cheney. Ownership and access arrangements on such routes should be clarified and where possible open access provided for.

2. Shackerstone: This village has many elements that could be considered to be tourist assets: the canal marina, museum and one of the termini for the Battlefield Railway, while the planned extension of the Ashby Canal through to Measham will attract more canal users. Protecting and enhancing these existing assets and the creation of further attractions such as a multifunctional corridor / connections incorporating the Gopsall Temple and Woods and the Sence Valley Forest Park close to Ibstock will enhance the tourism pull as well as providing for local community use.

3. Bosworth Battlefield: This site is a key attraction for visitors and tourists in Hinckley & Bosworth. Providing a recreational route through to the Weddington Country Walk and Nuneaton would connect the Battlefield site, railway terminus and Ambion Wood, creating a 'tourism hub' for the Borough.

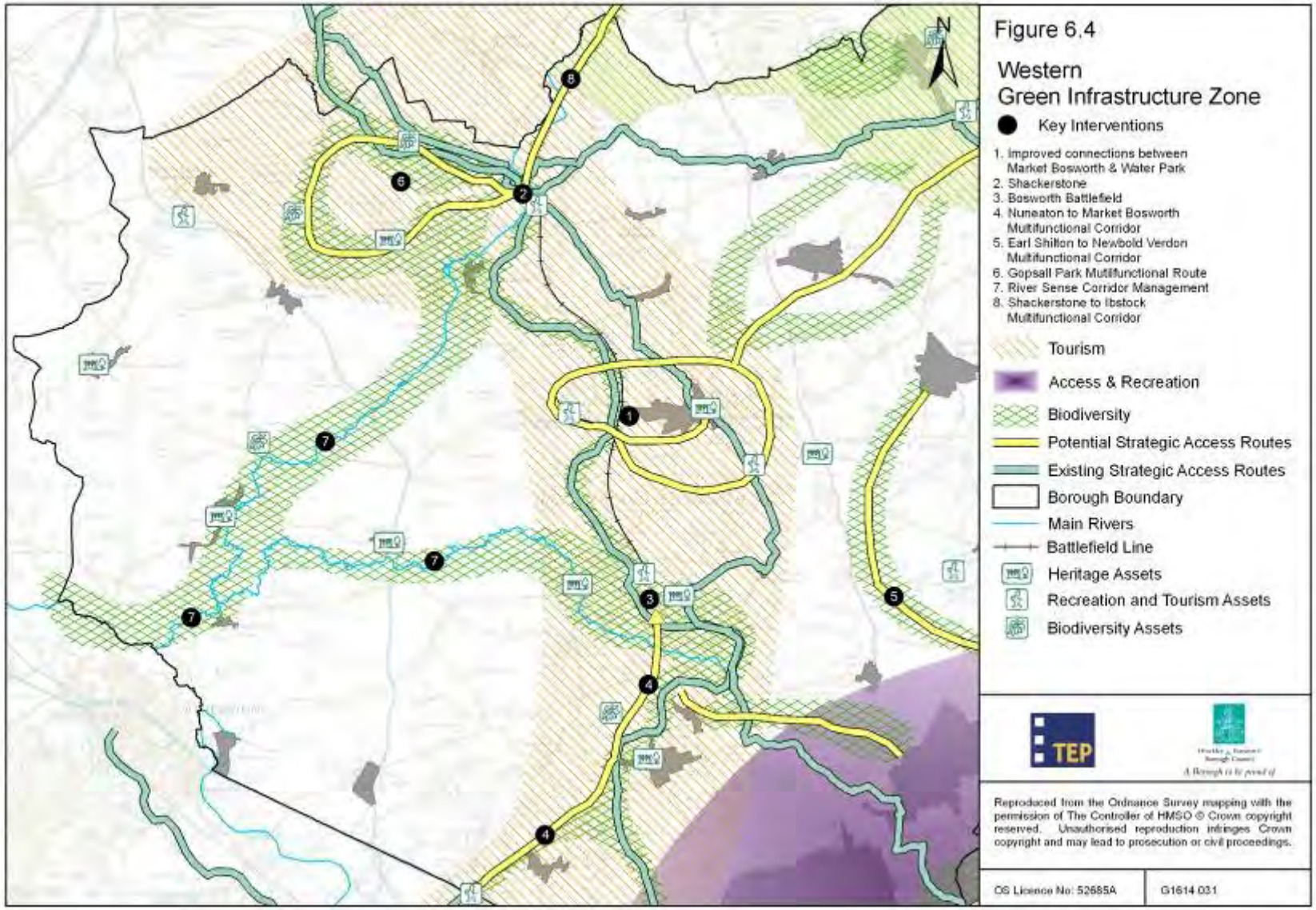

Figure 6.4

Western Green Infrastructure Zone

Key Interventions

1. Improved connections between Market Bosworth & Water Park
2. Shackerstone
3. Bosworth Battlefield
4. Nuneaton to Market Bosworth Multifunctional Corridor
5. Earl Shilton to Newbold Verdon Multifunctional Corridor
6. Gopsall Park Multifunctional Route
7. River Sense Corridor Management
8. Shackerstone to Ibstock Multifunctional Corridor

Tourism

Access & Recreation

Biodiversity

Potential Strategic Access Routes

Existing Strategic Access Routes

Borough Boundary

Main Rivers

Battlefield Line

Heritage Assets

Recreation and Tourism Assets

Biodiversity Assets

TEP

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4. Disused Railway Line- Nuneaton to Market Bosworth Multifunctional Corridor: Extending from the Southern Zone, this is one of the most important potential strategic routes in the Borough, enabling a relatively close and large population to have traffic-free walking and cycling access to the Borough's wealth of tourist and visitor assets. Developing this route into a multifunctional corridor is a key recommendation for this area and linking into the Southern Zone.

5. Earl Shilton to Newbold Verdon Multifunctional Corridor: This proposed route follows a stream corridor that passes close to the two towns and encompasses patches of semi-natural ancient woodland, a scarce habitat in the Borough and a BAP priority habitat. The creation and promotion of a multifunctional route would deliver a recreational resource for the residents of the two towns and increased biodiversity resilience, including the protection and enhancement of a nationally important habitat, whilst helping to reduce the impacts of climate change through flood mitigation and wildlife connectivity. This route can also offer a recreational alternative to Burbage Common - the nearest site providing recreational options for communities in Earl Shilton yet lying up to 4km away.

6. Gopsall Park Multifunctional Route: Starting and ending at Shackerstone and encompassing several important biodiversity assets and the Gopsall Temple, this proposed route offers high multifunctionality potential, particularly if associated with improved connectivity across several blocks of woodland habitat and wildlife in the area. A multifunctional circular trail could add to Shackerstone's visitor interest, which would be supported by increasing number of boaters using the canal extension to Measham. The circular nature of the route and possible connections to it could also provide a recreational alternative resource for the villages of Bilstone, Congerstone, Twycross, Little Twycross and Shackerstone.

7. River Sence Corridor Management: In the west of the Borough the key connecting feature at the landscape scale is the River Sence and its tributaries, and it is important to protect its connecting function and so further enable the movement of species. The land adjacent to the river has an important role in maintaining of water quality and the reduction of flood risk. Increased vegetation can slow down the rate at which flood water enters the river system whilst providing opportunities for biomass planting, biodiversity improvements and can reduce the level of sediment entering the watercourse. The large amount of land in this area currently under environmental stewardship schemes along some stretches of the river could enable a coordinated approach to managing this corridor. In those areas not currently within a scheme approaches to landowners may deliver the desirable changes in management on a voluntary basis.

8. Shackerstone to Ibstock Multifunctional Corridor: This potential route would deliver several benefits including a recreational connection between Ibstock in the neighbouring authority, several National Forest initiatives and the proposals for Shackerstone. Following the River Sence corridor and connecting to the River Sence Forest Park and Ashby Canal this route could also become an important biodiversity asset in the future.

The tourism interest of the western area is supported by an extensive existing cycle network, connecting up with many of the smaller hamlets which in themselves have plenty to offer in terms of historical interest. The promotion of these routes, along with the added interest offered by the various settlements would further increase tourism potential in this part of the Borough.

- ***North Eastern Zone***

Characteristics

The North Eastern zone has a unique topography in the Borough and a landscape character defined mainly by the National Forest, the Charnwood fringe and the main transport infrastructure routes.

Within this zone there are several areas displaying relatively high levels of socioeconomic deprivation compared with other areas in the Borough (as illustrated in the public benefit assessment). This is most likely the result of the high pollution levels arising from the M1, A50 and A46 which is a constituent part of the Index of Multiple Deprivation. These high pollution levels have consequences with regards to predicted climatic changes in the future: increases in temperature will combine with existing high pollution levels to increase potency and therefore potential harmful effects. There are also several areas with limited access to green infrastructure assets (see Figure 4.3).

This zone does however contain most of the Borough's biodiversity interest, including key sites such as Groby Pool, Thornton Reservoir, Billa Barra, Botcheston Bog, Cliffe Hill Quarry and Bagworth Heath and others. Because of the large amount of sites and variety of habitats, this area is a substantial source population for wildlife and improved habitat connectivity will have a positive effect on biodiversity for the whole of the Borough.

There are also three major initiatives at work that will contribute to air quality, biodiversity, recreation / tourism and landscapes in this part of the Borough: the National Forest, the Stepping Stones Project and Charnwood Forest. The considerable work carried out by the National Forest has increased the amounts of woodland and other natural/semi-natural habitats, with the benefit of increasing the biodiversity capital and providing a number of sites of substantial community value for recreation. Similarly, protection afforded to the distinct Charnwood Forest landscape character area recognises its value for landscape, biodiversity and recreational purposes, which would be further enhanced should current proposals for a Charnwood Forest Regional Park be successful. Although the Stepping Stones project covers only a small part of the Borough, its vision "to create a multi-functional, biodiverse and resilient network of countryside and urban green infrastructure" is particularly applicable to the particular circumstances of the area.

Strategic Interventions

Figure 6.5 suggests several interventions that address the specific characteristics of the North Eastern Zone.

1. <u>Tourism Support:</u> Central to this intervention is the continuing and developing relationships with the three major initiatives in the area (the National Forest, Stepping Stones Project and Charnwood Forest), working together to achieve common aims for protecting biodiversity, providing access and recreation, and increasing the tourism offer of the area.

   Interventions should largely follow the aims and objectives already established within the three initiatives, with HBBC providing planning and policy support to enable their implementation. Such activities are likely to include tourism objectives for farm diversification and the provision of accommodation sensitive to the landscape and other features, alongside the further provision of woodland / mosaic habitats and landscapes and the delivery of increased access and recreational opportunities.

However, a specific recommendation within this strategy is to seek to extend the influence of the three initiatives beyond their current boundaries: protecting existing access routes and creating a physical connection between settlements and the recognised National and Charnwood Forest areas in particular to increase the potential for tourism income and protect existing assets from possible overuse as a result of growth within and outside the Borough (in Leicester and Coalville in particular).

There is also potential for the settlements within (Markfield, Thornton, Stanton under Bardon and Bagworth) and on the fringe of (Groby, Ratby, Newbold Verdon, Desford, Barlestone and Nailstone) the National Forest to be considered and promoted as 'gateway' towns to the National Forest, and it is recommended that HBBC continue to work with the National Forest Company to investigate and enable such an approach.

2. Transport Corridor Disturbance Mitigation: This part of the Borough is partly defined by the transport corridors within it, with high traffic levels directly affecting the quality of life for the residents of Ratby, Groby and Markfield. Pollution is not restricted to vehicle emissions; the levels of noise and light are also a negative effect of the transport infrastructure - an issue raised in the Ratby Parish Plan. Tree planting in places along this corridor has helped to reduce the visual and physical effects of the roads, although there are several areas where further work is needed particularly alongside the A50 & A46 to the north and east of Groby and to the north and west of Markfield.

   The transport corridors also traverse the National Forest. Green infrastructure interventions such as habitat creation and varied shrub and tree planting can create a 'feel' of travelling through a woodland mosaic landscape, reinforcing the National Forest's identity in the area and to potential visitors passing through, whilst also enhancing the 'gateway town' concept mentioned above.

3. Redevelopment of Extraction Sites: There are three main working extraction sites in the area: the Ibstock Colliery site between Bagworth Heath and Grange Wood, the Cliffe Hill Quarry site to the north west of Stanton under Bardon, and Cadeby Quarry to the south west of Newbold Verdon. Their sensitive redevelopment could have a myriad of benefits, to local communities, wildlife and landscapes, including increased capacity for biodiversity through the creation of new and expansion of existing habitats and the provision of recreational resources.

   Restoration conditions for existing extraction activities are already in place, although future arrangements should take into account the surrounding green infrastructure, in particular the habitat types and the access network, to dovetail these sites into the wider green infrastructure network.

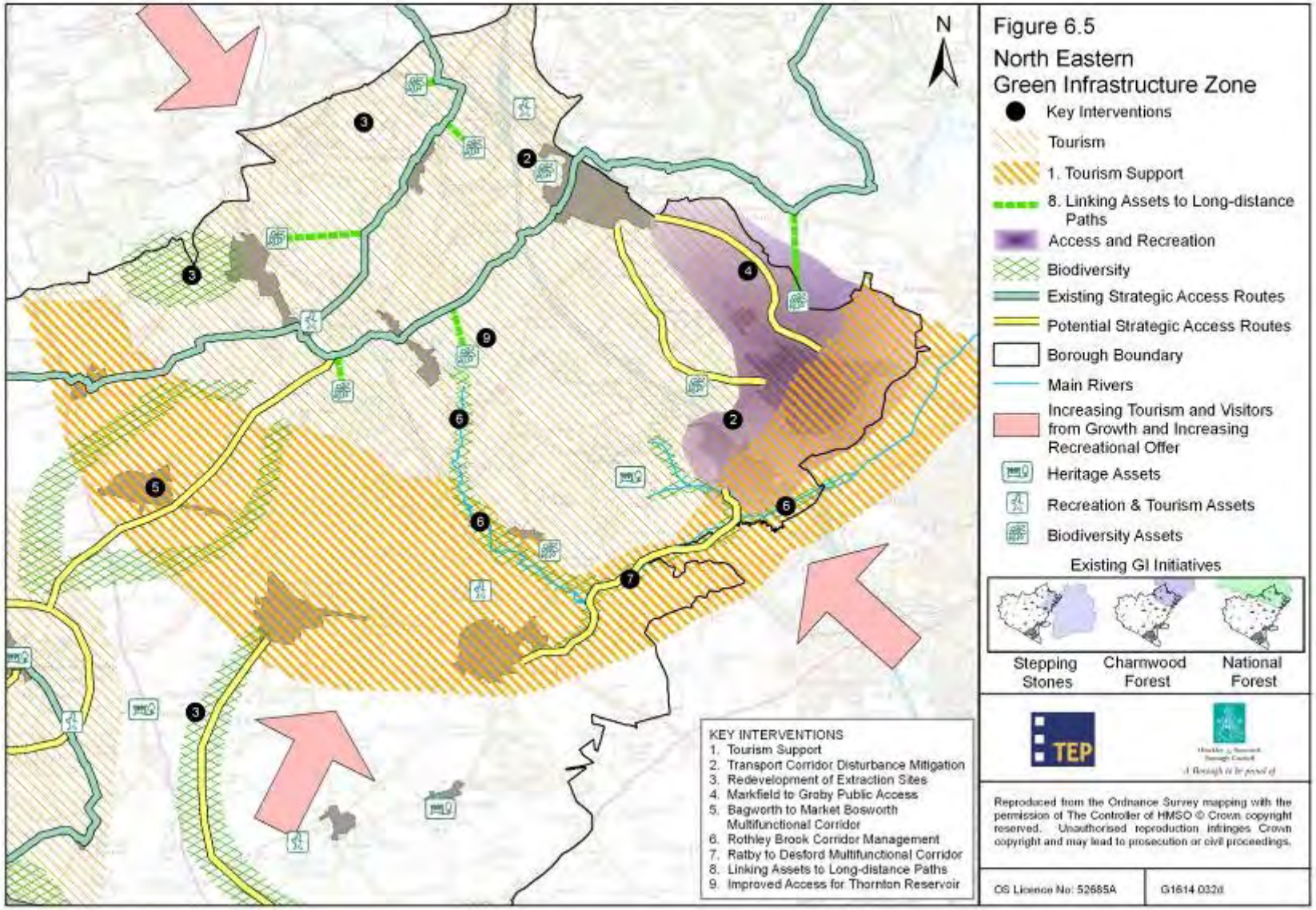
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Figure 6.5
North Eastern
Green Infrastructure Zone
Key Interventions
Tourism
1. Tourism Support
8. Linking Assets to Long-distance Paths
Access and Recreation
Biodiversity
Existing Strategic Access Routes
Potential Strategic Access Routes
Borough Boundary
Main Rivers
Increasing Tourism and Visitors from Growth and Increasing Recreational Offer
Heritage Assets
Recreation & Tourism Assets
Biodiversity Assets
Existing GI Initiatives
Stepping Stones
Charnwood Forest
National Forest
KEY INTERVENTIONS
1. Tourism Support
2. Transport Corridor Disturbance Mitigation
3. Redevelopment of Extraction Sites
4. Markfield to Groby Public Access
5. Bagworth to Market Bosworth Multifunctional Corridor
6. Rothley Brook Corridor Management
7. Ratby to Desford Multifunctional Corridor
8. Linking Assets to Long-distance Paths
9. Improved Access for Thornton Reservoir
TEP
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4. Markfield to Groby; Public Access: Access between these two towns is at best limited, and there are no public rights of way that do not at least part run alongside the busy A50. Levels of vehicle based pollution and congestion are also likely to increase in the future.

   The opportunity to provide multi-user and traffic free access between Markfield and Groby needs to be investigated; options may including routing around Groby Pool or to the south of the A50 via Little John and Martinshaw Wood. Such improvements to the access network will be vital not only for recreational and associated health/respite purposes, but also for providing sustainable transport (commuting) options in and around these towns.

5. Bagworth to Market Bosworth Multifunctional Corridor: Extending the aim of connecting the Forest edge towns to the National Forest, this corridor goes further in that it connects to the Borough's other main tourist and biodiversity asset around Market Bosworth.

   Following two stream corridors this strategic link has a considerable part to play in connecting habitats and wildlife in the outer parts of the Borough to the biodiversity source populations of the National Forest. Particular biodiversity improvement measures could be the widening of the stream corridor and increasing the patches of natural/semi-natural habitat along this route. This could be as simple as negotiating a buffer along a stream corridor with land owners, where changes in management can deliver significant benefits.

   This link could also compliment the Leicestershire Round and Ivanhoe Way, whilst Barlestone could become a stopping point en route, increasing the potential for capturing tourist revenue.

6. Rothley Brook Corridor Management: Considerable work has already been carried out along this important river corridor (part of the Rothley Brook Meadow Green Wedge) to improve its recreational and biodiversity function, including various improvements to the bank side vegetation and access downstream at Castle Hill Park. There is an existing management plan for the Brook, developed under the Steeping Stones project, although currently this extends no further upstream than the Stoneworks close to Newtown Unthank. Equally, some stretches are within the National Forest area.

   The goal here is for an unbroken natural buffered corridor that continues to the upper reaches and to the main source at Thornton Reservoir, all under a comprehensive river management programme. Extending the reach of the existing management plan and / or further involvement of the National Forest Company would help to enhance flood management capability, improve water quality and provide better connectivity for biodiversity (including otters). This could later be extended to other feeder streams along the Brook's course (for example Slate Brook, which would benefit from several measures aimed at increasing biodiversity and connectivity as well as reducing the flood risk to parts of Ratby).

   Crucially, the involvement of respected and established initiatives in Stepping Stones and the National Forest Company will be critical in engaging with land owners and gaining their support in the implementation of associated actions.

7. Ratby to Desford Multifunctional Corridor: In conjunction with extending the management plan, there are several lengths of the Rothley Brook where its functionality can be added to by the creation of a recreational corridor. One such length is between Ratby and Desford where the stream corridor provides a landscape-scale connecting feature between the two settlements. This

potential link could be extended to the neighbouring settlements of Kirby Muxloe and Leicester Forest. In extending this link beyond the Borough's boundary, access from outside of the Borough to the National Forest area is improved.

8. Linking Assets to Long-distance Trails: The Ivanhoe Way and the Leicestershire Round are established long distance walking routes that come together in this area. There are several assets that, while not sitting directly on these routes, could easily be reached with the provision of additional access 'spurs' from the main route, adding to the tourism and recreational interest of these promoted paths. Such interventions may be made in co-operation with the National Forest as part of their tourism objective.

9. Improved Access around Thornton Reservoir: This is a large natural asset and has the potential to be a major recreation and tourism feature in the north east of the Borough, although at present public access is somewhat limited. As part of the National Forest area tourism around this site can be expected to increase in the future, so the provision of additional multi-user access routes in conjunction with any recreational / tourism development would be beneficial.

CHAPTER 7: Implementation & Best Practice

This chapter presents examples of best practice that can inform green infrastructure implementation in Hinckley & Bosworth, before putting forward a range of measures that should be considered for the delivery of this Strategy, and exploring options for how interventions can be monitored against agreed quality and quantity standards.

Finally, we look at how the Green Infrastructure Strategy can be taken forward through the planning system, particularly considering the move from the Local Plan to the Local Development Framework.

Best Practice: Application to Hinckley & Bosworth

The various types of intervention recommended under the strategic plans for green infrastructure have considered successful and innovative projects from the UK and further afield, particularly in areas with similar issues and needs to those identified in Hinckley & Bosworth.

The following section briefly introduces some of these 'best practice' examples by type of intervention, with more details available in Appendix 4.

• *River Corridor Management*

The management of river corridors requires an integrated approach as laid out in the European Water Framework Directive. Working across the many agencies, landowners/managers, local authorities and users is not a simple task. There are however many examples of where this has been achieved in the UK and elsewhere in Europe, including:

- Creation of buffer strips along the banks of the Yarrow ('Friends of the Yarrow', Chorley Borough Council, EA)[42]
- Dart Catchment Project: River Dart, Devon (Devon Wildlife Trust)[43]
- River Eden conservation and management project: Fife, Scotland (SNH, Fife Council, FWAG, St Andrews University)[44]

Whilst Hinckley & Bosworth's rivers are not quite on the scale of some of these projects there are aspects of each which apply directly to the Borough, particularly the creation of working relationships with landowners and managers.

• *Circular Routes*

Circular routes are a more practical recreational resource for communities: being able to start and end the journey close to the front door makes the idea much more appealing. The same applies to tourist attractions: being able to offer alternatives to the main attractions will always make a place or site more attractive to a wider range of visitors. There are several examples from around the country of sites and areas that have improved both the existing recreational offer for the resident communities and also providing additional interest for visitors to the area, including:

[42] Water: Local Planning and Management, ENMaR, European Network of Municipalities and Rivers, 2007

[43] Dart Catchment Action Plan 2004-6, Strengthening the relationship between people, water and wildlife, Devon Wildlife Trust 2004

[44] http://www.biodiversityscotland.gov.uk

- The Salcey Forest Project: River Nene Regional Park, Northamptonshire[45]

• *Restoration of Extraction Sites*

Current and historic mineral extraction has left an unwanted legacy in some parts of the Borough. Britain's industrial past has meant that many places around the country have experienced similar circumstances, with particularly innovative and interesting solutions found at:

- Collier's Moss: St Helens, Merseyside[46]
- River Sence Forest Park: North West Leicestershire (Ibstock) [47]
- Sett Valley Multi-user Trial: New Mills to Hayfield, High Peak, Derbyshire[48]

• *Woodland Initiatives*

The National Forest area in the North East of the Borough has brought with its inception an increase in the biodiversity and recreational interest of the area, with growing direct and indirect economic benefits emerging as a result of the Forest's activities.

Examples of this type of woodland based regeneration exist elsewhere in the country and in many cases the reasons behind their creation have been to stimulate economic, social and environmental regeneration. The long-term nature of woodland regeneration is such that economic returns are often longer term results, while recreation, biodiversity and landscape visual amenity benefits appear much more quickly.

Because of the long term nature and early stage of many similar projects, case studies of actual financial and social benefits are thin on the ground. However the confidence that various agencies have in woodland's ability to stimulate regeneration and provide for local communities is reflected in the number of community forests around the country, particularly:

- Newlands: North West England (Forestry Commission, NWDA)[49]
- The Mersey Forest: Merseyside & Cheshire[50]

• *Flood Control & New Development*

There are various ways that green infrastructure can aid in reducing the effect of development on the hydrological cycle, and also ways in which the planning system can ensure adequate drainage measures in new developments, as illustrated by measures employed in:

- Lamb Drove, Cambridgeshire[51]
- Bramley Green, West Sussex[52]

[45] Planning Sustainable Communities, A Green Infrastructure Guide for Milton Keynes & the South Midlands, Jane Heaton Associates on behalf of the Milton Keynes & South Midlands Environment & Quality of Life Sub Group (2005)

[46] http://www.changingplaces.org.uk/index.asp?page=92

[47] http://www.forestry.gov.uk/website/WildWoods.nsf/LUWebDocsByKey/EnglandDerbyshireTheNationalForestSenceValleySenceValleyForestPark

[48] http://www.derbyshire.gov.uk, http://www.derbyshire-peakdistrict.co.uk/settvalleytrail.htm

[49] www.forestry.gov.uk/newlands

[50] www.merseyforest.org.uk

[51] http://www.ciria.org/suds/cs_lamb_drove.htm

[52] Bramley Green Case Study, PPS25, CLG 2008

- Sutcliffe Park, Lewisham[53]

This is particularly relevant to the intended SUEs at Barwell and Earl Shilton, although some measures can be 'retro-fitted' to existing developments and incorporated into green infrastructure planning across the Borough.

Implementation Measures

Considering the range of approaches employed in other areas, and assessing these against the particular needs of Hinckley & Bosworth, we have identified five key areas where HBBC will need to develop its approach for implementing the recommendations laid out in this Strategy. These are:

i. Partnerships and co-provision
ii. Community and voluntary sector engagement
iii. Existing programmes and initiatives
iv. Planning Conditions, Obligations and Tariffs
v. Funding

i. Partnerships & Co-Provision

Throughout the best practice examples described above, the benefits of working in close partnership with other agencies and stakeholders is apparent.

Partnerships influence delivery and can add value to projects by introducing matchfunding, joining-up initiatives and stimulating community action. These partnerships are being strongly encouraged by Government to increase their role in service delivery and project implementation. They also review their business plans on a rolling basis, so it is important to ensure appropriate levels of representation on Partnership Boards, to maintain close working relationships with them, to provide them with information and evidence to bid for funding to implement green infrastructure.

Community and Corporate strategies for Local Authorities and Local Strategic Partnerships set out aims for quality of life in the area, and the objectives for meeting socio-economic needs and managing the environment. In respect of green infrastructure, much of the government funding that Local Authorities receive for implementation depends on setting and meeting performance targets, in Local Area Agreements (LAA) and in Local Public Service Agreements (LPSA).

The majority of LAA and LPSA–related funding is dedicated to health, education, social and business support services. There is scope, particularly in the more flexible LPSAs, to set targets in respect of green infrastructure; and thus draw down government funding for capital and (sometimes) revenue projects.

It is therefore vital to demonstrate that green infrastructure investment delivers wideranging public benefit; in particular supporting healthy lifestyles, economic performance and community cohesion. This will help to advocate for "co-provision" of green infrastructure within funding programmes. A critical part of this will be engaging with the Local Strategic Partnership, so that the strategy is considered as a vehicle for Community Plans and LAA actions.

[53]http://www.greenwich.gov.uk/Greenwich/YourEnvironment/GreenSpace/ParksGardens/Eltham/HistoryofSutcliffePark.htm

Translating Strategy to Implementation at the Local Governance and Partnership level

Green Infrastructure Strategy	Shows how green infrastructure supports local social, economic and environmental objectives	**Sustainable Community Strategy**	o Incorporat o Sets GI prior
	Shows how GI can contribute to LAA Key Objectives Shows how service delivery can be improved through partnership-working	**Local Area Agreement**	o Secu (including
	Defines local needs and identifies opportunities to improve quality of life through investment in GI	**Local Public Service Agreement (LAA Stretch)**	o Secures fundin
	Defines investment priorities for sustainable growth	**Local Authority Corporate Plan**	o Sets GI invest o Commits to G activity infrastructur
	Shows how GI will contribute to neighbourhood objectives Defines green networks for the neighbourhood	**Neighbourhood Partnership**	o Encoura improvem o Builds projects

»	Defines GI deficiencies for area Defines GI investment priorities Provides evidence for environmental funding bids	**Environmental Partnership**	o Secures fu consideration c » and infrastruct with allied P
»	Shows how GI can contribute to "non-environmental" objectives of a socio-economic nature	**Allied Thematic Partnership e.g. children, health, business**	o Encourage other programm

The graphic "Translating Strategy to Implementation at the Local Governance and Partnership level" illustrates the documents and partnerships which should be influenced positively, summarising how each might be influenced, and what outcomes might be anticipated.

The upper boxes in the graphic illustrate the important governance strategies. These documents are refreshed on a 3 to 5 year rolling programme, so it is important to continue advocating the public benefits of green infrastructure, and the critical importance of the green infrastructure strategy in underpinning smart growth.

The lower boxes in the graphic illustrate the various partnerships which will secure funds and deliver green infrastructure projects. Most authorities have neighbourhood and environmental partnership groupings, as well as the statutorily-required partnerships for health, safety, the economy and children and older people.

ii. Community and Voluntary Sector Engagement

The involvement of voluntary and community sector groups is essential for the delivery of green infrastructure, particularly at the local level.

Local communities are critical to the success of any plan or project, and their views should be sought at the earliest stages of development through to long term management and maintenance of sites. Green infrastructure functions such as community cohesion, providing connections with nature, recreational choices and options for improving health will be best delivered where community needs and aspirations are considered and integrated into site designs and development. This is particularly vital in the proposed new housing areas, where HBBC has the opportunity to engage with local people (from existing and new communities) so that they can help shape their environment – building a sense of ownership and engendering community cohesion.

CASE STUDY: Neighbourhood Signposting

Kirkholt is a large interwar social housing scheme in Rochdale. It is troubled by issues of poor health, low employment and limited mobility amongst its working age population. Despite being near attractive countryside and the town centre, many residents are reluctant to use the footpaths and cycleways in the area. Using neighbourhood renewal fund monies, the Pennine Edge Forest works directly with community groups to encourage greater countryside access, using guided walks and involving community associations. This has led to greater use of the nearby Rochdale Canal, a multi-million pound regeneration initiative completed in 2003.

CABE's guidelines for delivering successful housing growth[53] set out a series of steps for working effectively with communities. These could be applied by HBBC, working with those organisations with particular expertise in facilitating community involvement (such as BTCV, Groundwork, etc) to ensure the key principles in this strategy are considered as a critical part of the planning consultation process.

[53] Actions for Housing Growth: Creating a Legacy of Great Places (2007)

Another implementation strategy is through stimulating positive action for the environment. This can be achieved at individual, corporate and societal level. At individual levels, bodies such as the Wildlife Trust, Parish Councils, and Groundwork etc are most capable of engaging with local community groups and individuals. National and local publicity campaigns can also stimulate positive green infrastructure outcomes e.g. Jamie Oliver's healthy eating campaigns have greatly increased the uptake of local food growing and procurement in schools.

Many environmental trusts and Parish Councils have aspirations to own or lease land as green infrastructure and there would be benefit in facilitating such bodies to purchase land in priority areas. Such facilitation might be through direct financial contribution and/or through assistance with legal and publicity costs. Notwithstanding the above whenever Parish Councils are involved they would have to consider the possibility of increasing the Parish Precept to support their local green space assets.

Corporate behavioural change is also possible, particularly where the corporate body is owned or influenced by a major public sector stakeholder. This can sometimes be a matter for contractual negotiation. For example PFI contracts for waste management and educational provision can incorporate "carbon-neutral" clauses which require woodland planting.

iii. Existing Programmes & Initiatives

The three initiatives at work in the North East of the Borough will be an essential component for implementing the recommendations outlined in this Strategy, and HBBC must develop strong partnerships with all three to ensure a co-ordinated, cost effective and efficient approach that delivers mutually beneficial outcomes.

The ***National Forest*** (figure 7.1) was established in 1995 with the aim of bringing multifunctional forestry into the lowlands where most people live. Intended to be multipurpose, the Forest is seen as a resource for recreation and tourism, creating rich new wildlife habitats, restoring damaged landscapes and offering an alternative, productive use of farmland. Covering some 518 square kilometres (of which 50.2 square kilometres is within Hinckley & Bosworth) its goal is to improve on the average of 6% woodland cover in the area to around a third. Within its first 10 years woodland cover increased to 14%.

Within its 2004 -2014 Strategy the National Forest has several themes and actions relating to improving the tourism potential of the Forest, each of which has substantial social, economic and environmental returns. Several areas have been identified as tourism clusters within the National Forest Strategy; one such cluster is the Charnwood Forest and includes the settlements of Ratby, Groby and Markfield. To support tourism and improve upon the tourism offer within the Forest the strategy recognises the need for further infrastructure and developing local initiatives. This includes increasing accommodation provisions, promoting and enabling farm diversification to support leisure, catering, accommodation and retail services, and developing opportunities for local sourcing of food and drink to further support the farming industry.

The ***Stepping Stones Project*** (figure 7.2) originally began as a product of the Leicester Urban Fringe Countryside Management Project in 1992. Following a successful proposal in 2005 for funding under the Countryside Agency's (now Natural England) 'Countryside In and Around Towns' programme, the Project began investigating the potential for delivering a community forest in Central Leicestershire.

Following consultation into the practicalities and the suitability for intense woodland planting in the areas concerned, this aim has now evolved to include the delivery of other types of green space. The Stepping Stones Project acts as an enabling and signposting service, as well as directly providing assistance with grant applications and funding for various schemes and projects.

The Stepping Stones Project covers an area of 294 square kilometres in total; within Hinckley & Bosworth it covers 31.24 square kilometres encompassing the settlements of Ratby, Groby, Desford, Botcheston. The Growth Agenda within the East Midlands and the view of green infrastructure as a key principle of sustainable growth means that Stepping Stones is well positioned to take green infrastructure forward in the Leicestershire area.

The historically important and cherished landscape of the ***Charnwood Forest*** (figure 7.3) has recently been identified as a potential Regional Park for the East Midlands, based on a need to protect its high biodiversity and highly distinctive landscape against the pressures of an expanding population and to develop protective land management regimes.

The final boundaries of the proposed Regional Park will relate strongly to the high quality and distinctiveness of the landscape, although the Regional Park's specific role has yet to be finalised. Several themes have been suggested for the Park, including tourism, biodiversity, forestry, recreation, climate change adaptation and access to 'wilderness' – all of which are applicable to Hinckley & Bosworth's green infrastructure.

A Charnwood Forest Regional Park would undoubtedly be key asset for the Borough, and surrounding areas are likely to benefit economically from any increase in popularity, with the effect and benefits of the increase in visitor numbers likely to reach beyond the finalised boundary.

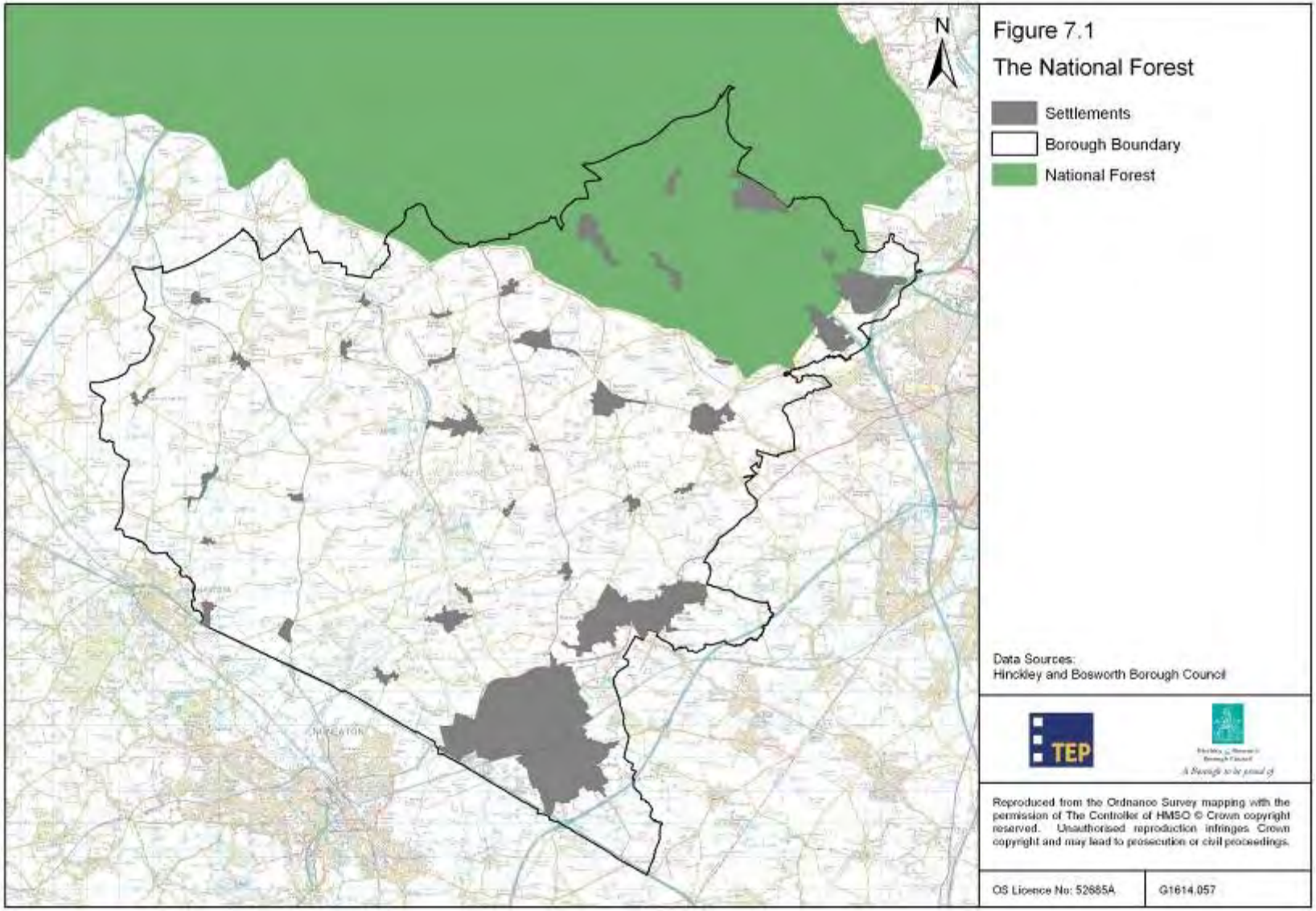
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Figure 7.1
The National Forest
Settlements
Borough Boundary
National Forest
Data Sources:
Hinckley and Bosworth Borough Council
TEP
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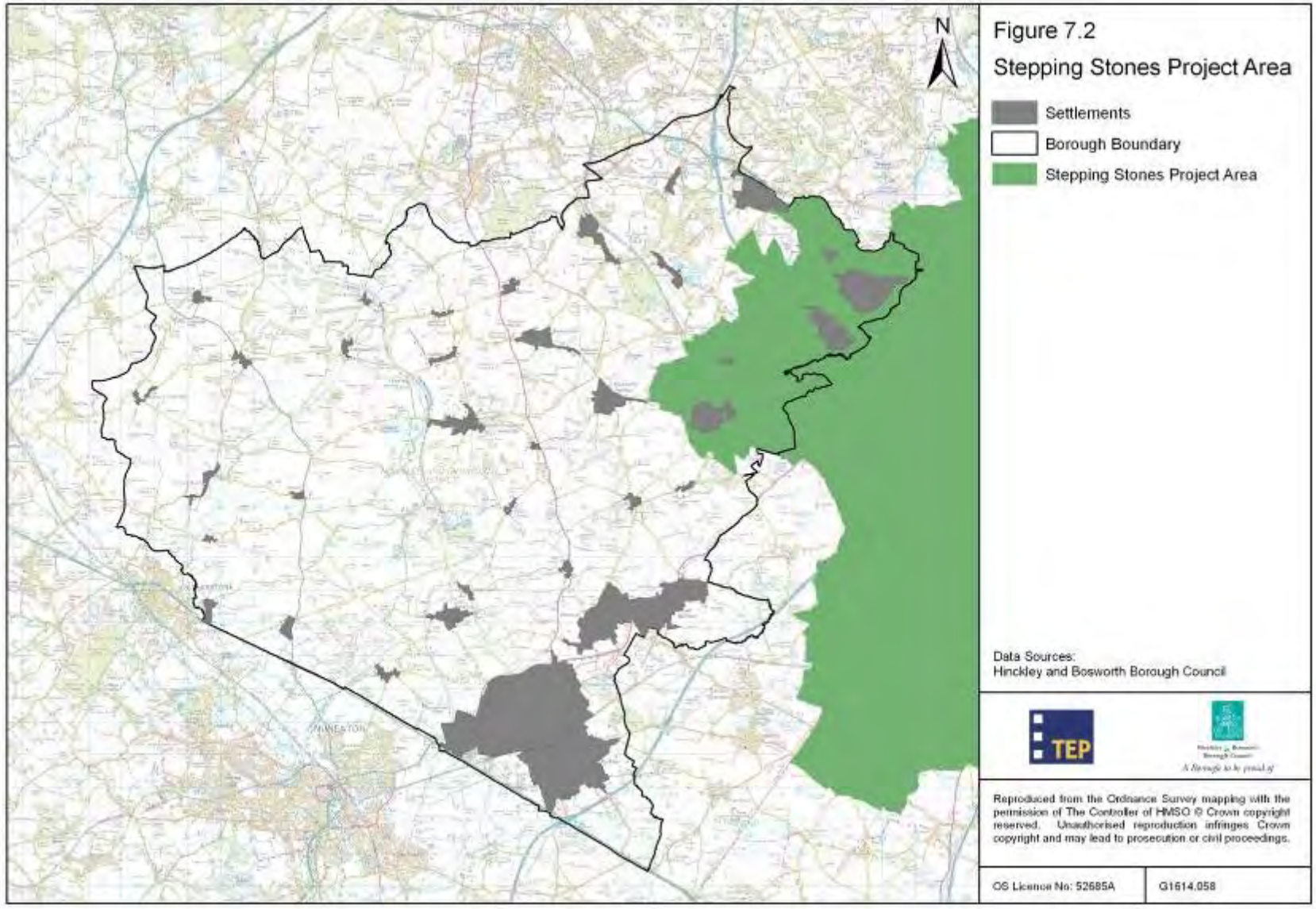
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Figure 7.2
Stepping Stones Project Area
Settlements
Borough Boundary
Stepping Stones Project Area
Data Sources:
Hinckley and Bosworth Borough Council
TEP
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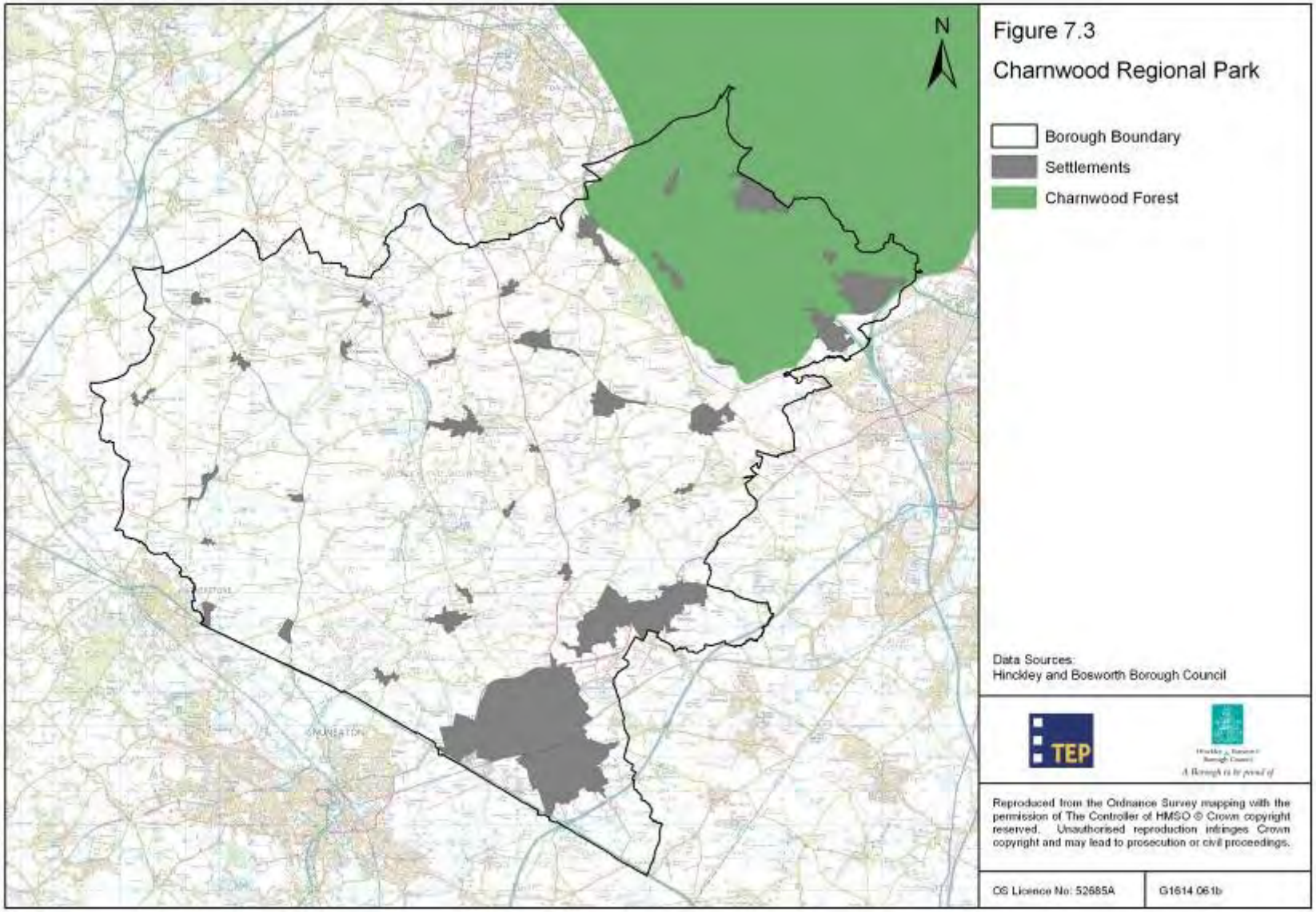
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Figure 7.3
Charnwood Regional Park
Borough Boundary
Settlements
Charnwood Forest
Data Sources:
Hinckley and Bosworth Borough Council
TEP
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iv. Planning Conditions, Obligations and Tariffs

CABE Space has produced many documents[54] that demonstrate the value of parks, open spaces and the natural environment to residents and businesses, whilst central government now recognises that a quality environment accessible to all contributes strongly towards the establishment of sustainable communities and can contribute towards many local indicators relating to health improvement, biodiversity targets, community safety and wider environmental sustainability.

Green Infrastructure can be delivered as a co-product of any investment in new or refurbished infrastructure. Such development provides potential additional users of existing green space assets and potential environmental threats to biodiversity and other environmental indicators. This therefore justifies seeking contributions from developers of both housing and employment land to assist in the continuing management of existing GI assets and the establishment of new GI assets where deficiencies have been identified.

The use of obligations defined in Section 106 Agreements is likely to continue as a means of supporting green infrastructure. These can generate the finance and land for not only the implementation of new green space assets, or improvements to existing greenspace assets, but also endowments for long term management. The possible emergence of a planning tariff to provide community infrastructure, either on a statutory national basis or on an adopted local or sub-regional basis, will also generate funds. Green infrastructure will of course be one of many competing interests so during negotiations on tariff-setting, a realistic level of support for green infrastructure must be advocated.

Hinckley and Bosworth Borough need to show the political will and policy direction to encourage the flexible use of financial contributions to be applied to priority areas across the Borough, and not be restricted to the particular locality of the development.

v. General Funding Sources

In addition to funding secured from the planning process or Parish Precepts, the following organisations and programmes may provide funding for the establishment and management of existing and new green space assets as part of a Green Infrastructure Strategy.

New Growth Point Funding

The success of the National Forest, many of the designated Community Forests and several Regional Park Boards in delivering green infrastructure over sustained periods is an example of how a compact between central and local government can achieve cost effective landscape transformation.

As a designated New Growth Point, Hinckley and Bosworth will benefit from increased funding from central government to put into place the infrastructural requirements associated with growth point housing development. Infrastructural funding is essential, particularly because of the “front-loaded” need for investment ahead of development – both for major capital projects and continued revenues support for the planning and organisation of green infrastructure delivery

Land Fill Tax Credit & Aggregates Levy

The Landfill Tax Credit System and the Aggregates Levy were created as a means to reduce the environmental impact of these activities and promote a shift to more environmentally friendly ways of waste management and minerals extraction.

[54] Including: A Sense of Place (2007), The Cost of Bad Design (2006), Start With the Park (2005)

Site specific green infrastructure projects may be able to apply to the Aggregates Levy Sustainability Fund, whose third objective is "to address the environmental impacts of post aggregates extraction". It is delivered through Natural England and English Heritage via the ALSF Partnerships Grant Scheme. It can fund landscapes, biodiversity, access and site enhancement work, but only in or around areas where there has been extraction activity.

The Landfill Communities Fund aims to create significant environmental benefits and to undertake projects which improve the lives of communities near landfill sites. Physical works at a specific site within 10 miles of a landfill site can be awarded funding, including species or habitat conservation / restoration and public amenity provision. Recipients of LCF must be registered as Environmental Bodies and should be independent of Local Authority control.

CASE STUDY: Forward with Leicestershire Aggregate Grants (FLAG)

FLAG is administered by the Rural Community Council (Leicestershire and Rutland). It is designed to offer communities and private landowners the opportunity to plan and implement a range of projects that will compensate local communities for the environmental impacts of mineral extraction. At present FLAG operates in the parishes of Cadeby, Groby, Markfield and Stanton under Bardon.

National Forest Funding Schemes

The National Forest has several funding schemes that can be used to improve existing and / or create new green infrastructure resources. Grants are available for projects from the landscape to the local scale, and include:

- Woodland creation grants: 'Changing Landscapes Scheme' for sites over 1 hectare, the 'One Acre Woods Scheme' which is designed to create one hundred one-acre woods within the National Forest, and the '500 – 2000 Trees Scheme' for land of less than one hectare in size.

- Programme Development Fund, for owners and managers strategic sites including charities, local authorities, companies or individuals. Funding is available for projects that directly benefit the National Forest including aspects of access, conservation, heritage, communities, partnerships and management.
- Arts in the Forest, 50% funding for projects that help create focal points, such as signage, benches or sculptures.

Lottery Funding

The 'good cause' funding generated by the National Lottery in England offers several opportunities for funding green infrastructure interventions from the local to sub regional scale. Each fund has its own rules on the type of projects and bodies it can support, as well as variances in the amount of funding available; such strict eligibility criteria mean that each fund should be investigated thoroughly for appropriateness (web links provided).

- *Heritage Lottery Fund* www.hlf.org.uk

  Heritage Lottery Fund (HLF) concentrates on the conservation and enhancement of heritage assets, including parks and nature reserves, and increasing access to and involvement in heritage issues. It has a range of funding programmes from small grants of £3,000 to major awards of up to £5million.

  Of particular relevance is the Landscape Partnerships Programme that is HLF's primary vehicle for promoting heritage conservation as an integral part of rural regeneration, delivered by partnerships representing a range of heritage and community interests to tackle the needs of landscape areas that may be in different ownerships. Each scheme would be based around a portfolio of smaller projects, which together provide a varied package of benefits to an area, its communities and visitors.

- *BIG Lottery Fund* www.biglotteryfund.org.uk

  The Big Lottery Fund (BIG) aims to improve the lives of people in need, with a remit covering several green infrastructure functions including the environment, education and health. Across a range of funding programmes, Big funds projects up to £1m, and can cover revenue as well as capital costs.

- *Natural England Lottery Fund*

  Natural England's 'Access to Nature' grant scheme is funded by the Big Lottery Fund's Changing Spaces Programme and is designed to encourage people from all backgrounds to have access to, enjoy and understand the natural environment. The priority funding will be directed at schemes that will make a lasting change in areas of high social, economic and environmental deprivation. Grants available through this funding stream are between £50,000 and £500,000 for local projects, although grants above the £500,000 will be awarded to projects expected to have national significance. The total funding available is £25 million. Natural England has three key themes which guide eligibility of projects, they are; Community awareness and participation, Education, learning and volunteering, and welcoming, well managed and wildlife rich places. Key outcomes are expected to be greater access for a more diverse range of people, greater sense of ownership and meeting the needs of communities.

Woodland Grant Scheme

The Forestry Commission's English Woodland Grant Scheme (EWGS) aims to sustain and increase the public benefits delivered by existing woodlands and to help create new woodlands deliver additional public benefit. There are six grants, five of which apply to the stewardship of existing woodlands and one to the creation of new woodlands.

Several of these grants relate directly to increasing the public benefit, which green infrastructure is primarily expected to deliver. The woodland regeneration grant is also useful in that it enables existing woods to be enhanced, thus improving the biodiversity of those woodlands. Finally for those areas where fragmented woodlands exist the Woodland Creation Grant may offer a solution to this need whilst also supporting farmers who may suffer a loss of income as a result of changing the use of the land.

Green Infrastructure Standards & Monitoring

Whilst there are no set national standards for the provision of green infrastructure, standards do exist for the many elements that combine to create a green infrastructure network. Natural England's (NE) ANGSt Model (Accessible Natural Greenspace Standards)[55] offers a sound structure and standards with which to start. ANGSt refers to natural greenspace and the level of access that communities have to these spaces, starting with that no person should live further than 300m from 2ha of natural space. For the more densely populated urban areas where natural greenspace is at a premium, provision will most likely be supplemented by parks and gardens many of which have adopted the Civic Trust's Green Flag Standard. Using ANGSt quickly identifies areas deficient in green and open space allowing targeting of resources and priority areas. Natural England also recommends that for every 1000 people there should be at least 1ha of local nature reserve.

The varied nature of the elements that combine to create a green infrastructure network provide the opportunity to adopt other standards for access and provision. The National Playing Fields Association (NFPA) recommends that 6 Acres (2.4ha) of recreational space is available for every 1000 people, though there are no set standards for quality or types of space, whilst the Woodland Trust advocates that everyone should be within 500m of a 2ha woodland site and no less than 4km from a 20ha site[56].

These recommendations for greenspace provision present Hinckley & Bosworth with a structured, spatially organised and supported set of standards that can begin to direct the creation of green infrastructure networks in relation to quantity of green space provision. However, the design and layout of development is just as important a consideration, since any development that doesn't consider a community's need to move around or access a green infrastructure network will ultimately counteract the benefits of such a network.

Led by CABE and the Home Builders Federation, the 'Building for Life'[57] standards seek to promote sustainable design within new development by setting out a list of 20 criteria including access, pedestrian and cycle friendliness and public transport; each of which have implications for green infrastructure. Other building design codes include green infrastructure elements such as green roofs and Sustainable Urban Drainage Systems, most significantly the Code for Sustainable Homes[58] which has standards for a variety of themes; two of which green infrastructure can make a direct contribution (ecology and surface water run-off). An example of ecology and drainage issues creating a green infrastructure element can be found in Upton an urban extension to Northampton.

The Water Cycle Worksheet produced by the TCPA, CLG and Environment Agency recommends that flood risk in new developments should be alleviated by incorporating green roofs, rainwater harvesting, permeable pavements, natural watercourse corridors, wetlands and ponds as part of the layout and design. This type of water management is easily transferable to the urban extensions and the Upton Design Code in use by Northampton Borough Council is an ideal example of directing this type of green infrastructure planning through Development Control into new development.

[55] State of the Natural Environment, 6.7 Spatial Planning and Development, Natural England, 2008
[56] Spaces for People- Targeting action for woodland access, Woodland Trust, 2004
[57] Building for Life, CABE and Home Builders Federation, 2007
[58] The Code for Sustainable Homes, CLG, 2008

Case Study – Upton, Northampton

Upton is an extension to Northampton, granted outline planning permission in 1997 this extension is for 1020 homes, a primary school and up 700m^2 of retail floor space. Upton is an excellent example of considering environmental and biodiversity within development design; it was designed to achieve the BREEAM Eco-Homes 'excellent' standard. The use of Sustainable Urban Drainage System (SUDS) within the development has created wildlife corridors or 'green fingers' to permeate throughout the site, connecting it with the wider countryside. In order for the development to follow specific principles The Upton Design Code was adopted for the development by Northampton Borough Council, English Partnerships and the Prince's Foundation. Design codes can be adopted into the Local Development Framework (LDF) through a Supplementary Planning Document. This code set the standard for development within the extension and has key sustainable development principles as its core including SUDS, long-term biodiversity and well connected open space networks. Upton's SUDS system will become part of an ecological network linking Upton with the Upper Nene Valley and the surrounding areas. The consideration of other green infrastructure, such as grass verges and pedestrian routes in the layout of Upton has also shaped the final design. Other environmental principles have been included in the building design such as photovoltaic solar panels and extra room for recycling bins within the buildings.
(Photo TCPA)

Indicators

To measure the progress of Hinckley & Bosworth's Green Infrastructure Strategy, the Borough will need to develop a set of indicators against which the success of policies, plans and programmes can be monitored. These indicators could simply be a reflection of the standards described in ANGSt or the 6 Acre Standard, although to show how green infrastructure is aiding the delivery of Local Development Framework a set of indicators should be developed around these broad objectives for green infrastructure:

- For all residents to have access to green space and the rural hinterland;
- Network of foot and cycle paths to allow movement between rural centres;
- To reverse biodiversity decline;
- To decrease the environmental impact of existing and new development;
- To ensure a 'decent' quality of life for the Borough's residents;
- To provide a wide range of social, environmental and economic benefits;
- To provide safe routes for walking and cycling between rural villages and hamlets and key rural centres.

Potential indicators that could be employed to measure progress against objectives could include health levels, usage of greenspace, resident satisfaction, number of projects completed, amount of funding secured, Index of Multiple Deprivation Score, length of new foot/cycle paths created, air quality, travel plans for schools and employment areas.
Given the variety of data required to measure these indicators and the broad spectrum of agencies that hold, collate or have access to this information, partnership working will prove essential in developing a thorough set of indicators and for ensuring adequate monitoring of outputs.

Taking Forward Green Infrastructure Policy

The planning system has a critical role to play in implementation of green infrastructure, aiming to maximise design quality and environmental sustainability of development, while still enabling the developer to achieve his objectives.

PPS12 (published 2008) sets out government policy on Local Development Frameworks (LDFs): a 'portfolio' of local development documents which present the spatial planning strategy for an area. Crucially, the guidance notes state that LDFs must create a strong relationship between service delivery and planning for the built and natural environment in order to create strong and prosperous communities.

HBBC's LDF needs to adopt this Strategy to ensure a strong positive promotional policy for green infrastructure that clearly advocates the need to safeguard and uplift green infrastructure functions during the course of all developments. HBBC's Core Strategy Preferred Options paper clearly sets out the importance of green infrastructure, and has stated that the key recommendations of this Strategy will feature in the forthcoming Core Strategy Submission Document.

Detailed development and management policies in the LDF should ensure that green infrastructure assets are assessed during any development and that each development:

- creates new green infrastructure assets within its own footprint, and;
- safeguards any assets that might be affected by development, and;
- contributes to overall functioning of the green infrastructure network.

Supplementary Planning Documents (SPDs) should be used to give guidance to developers and planners as to how the impact of development on green infrastructure can be assessed. SPDs should also provide developers with a menu of options for safeguarding and increasing green infrastructure in and around the development footprint.

Robust planning policy will enable refusal of development which does not deliver high standards of green infrastructure both on and off-plot. This will require commitments in Core Strategy and other LDF and associated policies, while supplementary guidance can provide HBBC with the flexibility needed to guide and control delivery across a broad range of development locations, footprints and types.

Case Studies on Supplementary Planning Documents

Manchester City Council has adopted Supplementary Planning Document (SPD) entitled "Guide to Development". This requires most developers to produce an Environmental Standards Statement (ESS) in addition to the statutory Design and Access statement. The ESS includes expectations relating to

biodiversity and green space. This could logically be extended to encompass other aspects of green infrastructure such as favourable social and health outcomes.

The Mayor of London has drafted (in August 2007) SPD relating to the East London Green Grid. This suggests topics in which Local Authorities should develop ambitious policy for safeguarding and (re)building green infrastructure functions.

The box below suggests a four stage process that could be used within the LDF process to ensure the integration of green infrastructure principles within Hinckley & Bosworth (stage 1 and 2 are already largely covered by this work on a Borough wide basis, but may need more work at the site specific level).

Embedding GI in the LDF Process

Step 1 Audit o identify green infrastructure assets (on and off site) which may be affected. This includes vegetation, biodiversity, access, soil porosity, distinctive landscape and heritage.

Step 2 Plan o have regard to the Hinckley & Bosworth Core Strategy, Landscape Character Assessments, Green Space Strategy, Stepping Stones Green Infrastructure Delivery & Action Plans, National Forest Strategy, and the Leicester, Leicestershire and Rutland Landscape and Woodland Strategy; o consider design and sustainability codes that apply to the development type and location;

- o consult local planners, environmental bodies and community to understand neighbourhood priorities;
- o assess how the development might impact on areas of opportunity and/or deficiency in green infrastructure.

Step 3 Site Design o safeguard green infrastructure assets on site;

- o if asset loss is inevitable: recreate green infrastructure to ensure “no net loss” of the functions provided by the lost assets;
- o create new assets on site in line with local and strategic priorities.

Step 4 Reinforce strategic green infrastructure functions o Address deficiencies (both pre-existing in the neighbourhood and those caused by the new development);

- o ensure linkages to the green access network; o contribute to the strategic green infrastructure network;
- o ensure long term management and governance arrangements are in place for green infrastructure on site and (where relevant) off site.

The graphic at the end of the chapter also shows the different documents and processes associated with development planning, indicating how green infrastructure might be promoted as a policy objective, and delivered through planning decisions.

However, it will be important that this Green Infrastructure Strategy does not stand alone and remain just the responsibility of HBBC as the Local Planning Authority to implement. It needs to be integrated with other LDF documents and with other Borough wide strategies and research findings and progressed in tandem. For example the first housing development to receive planning approval should be a 'best practice' example of how the implementation of enhancing or creating new green space assets can be achieved, whether or not it is located in a high priority area. That would set the standard and demonstrate that the Council is determined to encourage and if necessary push forward the creation of an improved green infrastructure for the Borough.

Recognising the scale of the opportunity

Given the level of support for and interest in green infrastructure at both the national and regional level and the funding available, it is important that Hinckley & Bosworth makes the most of this opportunity to consolidate and improve the Borough's green resources. With the manifold benefits of green infrastructure such as halting the loss of and increasing biodiversity, adapting to and mitigating against climate change, health and recreation and inward investment, Hinckley & Bosworth finds itself presented with a once in a generation chance to make real positive changes for the Borough's residents.

To make the most out of this chance, the Borough must be bold and have high aspirations. The scope of projects and programmes should not be too narrow or too small a scale. In time this scope may need to be changed, but it is certainly better to start with a 'big idea' and if necessary make alterations or reductions at a later date, than to start small and miss the opportunity to take advantage of the available support and funding.

Embedding Green Infrastructure into Local Development Frameworks and Planning Decisions

Core Strategy	o Defines and promotes GI concept for the area, referring to sub-regional strategy and national/regional planning context o Illustrates broad areas of GI priority in the area » o Commits to considering GI during planning decisions, describing how this will be done, and evidence base to be used » o Includes a reference to GI functions and assets in the area in over-arching "sustainable development" policy	**GreenInfrastructureImplementation**
Development Plan Documents	o Allocates and maps sites, initiative areas, corridors which collectively make up the Green Network (at an appropriate level of detail) o Identifies and maps areas of GI deficiency; probably on a functional basis e.g. ANGSt deficiency, rivers of low quality, impermeable catchments, areas of fragmented biodiversity. » o Identifies relevant strategies and plans which will inform planning decisions e.g. the sub-regional green infrastructure » strategy, local greenspace strategy, biodiversity plans, landscape character assessment o Includes development-related policy for all GI functions relevant to the area. This could be achieved through policies on biodiversity, landscape, open space, heritage etc (rather than as bespoke GI policy) o Refers to SPD for detailed guidance on how developers and planners can assess GI and design for its enhancement	
Supplementary Planning Documents	o Provide guidance on which design and sustainability codes are to be used for different types and locations of development o Provide guidance on how to assess the impact of development on GI, and how to (re)build GI in conjunction with development proposals » o Provide guidance to developers on how to present the GI assessment in supporting statements. » o Describe how planning conditions can be used for GI, and details how financial contributions (by obligation or tariff) for green infrastructure provision and management will be calculated	
Supporting Statements	» o Produced by developers to demonstrate how they have considered green infrastructure, their impact on it, and their proposals to (re)build it in the area affected by their proposal. This could be presented through the medium of established design and access statements, supporting planning or sustainability statements, or a bespoke "Environmental Standards » Statement"	

Design & Sustainability Codes	o Produced at national/regional level by external specialist bodies, or may be locally written and adopted » o Set standards and guidelines for layout, design quality, biodiversity impact offsetting, sustainable drainage etc » o Planning conditions can require compliance with all or part of codes and ensure design meets guideline standards
Environmental Impact Assessment	o EIA considers development impacts on a set of topics required by statute (human beings, flora and fauna, air, water, soil, landscape, material assets and the cultural heritage; and interactions between these). The EIA process seeks to optimise design and minimise effects. By thorough scoping and » holistic EIA, better outcomes for green infrastructure associated » with the locale in which the development occurs can be achieved. Guidance to developers and planners on how to achieve favourable GI outcomes through the EIA process is needed.
Habitats Regulation Assessment	o Habitats Regulations require planners to consider development effects on the Natura 2000 network of European nature » conservation sites and the species therein. Guidance to developers and planners on how and when contributions to » creating and maintaining the Green Network (which includes Natura 2000 sites) can offset negative effects is needed.

APPENDIX 1:

Workshop Report

Hinckley & Bosworth Green Infrastructure Strategy

Stakeholders Workshop, 9th July 2008

Workshop Report & Feedback

1. Background to & aims of the event

Stakeholder consultation is an important part of developing a Green Infrastructure Strategy, as it allows us to test ideas and gain local, on the ground knowledge from those who will be involved in the implementation of the Strategy's recommendations. With this in mind, the aims of the day were:

- To explore the concept of green infrastructure, and what it means to Hinckley & Bosworth
- To present and discuss the evidence gathered in support of the Strategy
- To share ideas and recommendations for green infrastructure provision in the Borough
- To get feedback form delegates on Strategic plans for green infrastructure in the Borough.

A list of invited and attending organisations is included in Appendix A.

2. Presentations

Richard Palmer (HBBC Planning Policy) introduced the event, and explained the importance of the project to the Borough and in its emerging Local Development Framework.

The remaining presentations were delivered by TEP.

Francis Hesketh began by describing what green infrastructure is, as well as the values attributed to it in policy and legislation, and why a green infrastructure strategy is needed in Hinckley & Bosworth. This was followed by a presentation by Christopher Marrs on the evidence gathering phase of the work, showing maps that have been developed to show green infrastructure resources and assets in the Borough, and the socio-economic context within which they sit.

Tina Shilleto then described the issues that may impact on green infrastructure in the Borough, and from these identified a number of 'drivers for change' that offer the best opportunities for driving forward the green infrastructure agenda and its implementation in the borough. These issues and drivers formed the basis of the public benefit assessment, which Tina briefly reviewed.

The maps from both Chris's and Tina's presentations were made available to delegates for comment during the break.

Chris then went on to introduce the draft green infrastructure strategy for the Borough, in the form of a map with spatial recommendations, before introducing the group session.

Following the group session, Francis gave a short presentation on implementation of green infrastructure actions, and Katanya Barlow (HBBC) finished the event by describing 'next steps' in the Strategy's development and incorporation into Planning policy.
All of TEP's presentations from the event are available to view at www.hinckleybosworth.gov.uk

3. Group Session

The purpose of the group session was to give delegates the opportunity to comment on draft recommendations for three 'GI Strategy Zones': the Urban South, the Western Zone and the North Eastern Zone.

Delegates were asked to first sit within the discussion group for the GI Zone most appropriate to 'their' part of the Borough / area of interest, and spent 25 minutes discussing the recommendations for that area before spending 10 minutes on each of the other two zones.

Comments were recorded by facilitators, but due to time restrictions were not fed back to the delegate group. All feedback will be considered in the production of the Strategy.

4. Key Points Emerging from Group Discussions

Several issues emerged that were common to all three GI Strategy Zones. These issues had Borough-wide significance / relevance, and should be considered within the overall strategic recommendations for the Borough:

- There is a need to protect and enhance access to GI assets and between settlements, particularly in the face of development;
- Many towns and villages have an unequal distribution of green space assets, in particular publicly accessible green space;
- The canal and the National Forest area are the two key strategic assets in the Borough, although there is little in the way of biodiversity assets;
- The Borough has much to offer visitors, yet this isn't fully exploited as the Borough does not generally sell itself well as a tourist destination;
- Cooperation with adjoining Boroughs is essential to maximise the potential of existing assets and cater for increased demands as a result of Growth proposals;
- A list of contacts or a local network of the various stakeholders and providers would aid in the delivery of green infrastructure projects.

5. Local Issues Emerging from Group Discussions

The narrower geographic interest and knowledge of the majority of delegates was extremely useful in responding to the draft recommendations laid out in the 3 GI Strategy Zones.

Discussions on the Southern Zone tended to focus on the demands on green infrastructure from urban populations both within and outside the Borough, and particularly the provision of appropriate (quality and accessible) green spaces for different geographical areas, including the proposed Sustainable Urban Extensions (SUEs). Sustainable transport also featured strongly, particularly the need to provide for safe recreational and commuter routes within and across the area.

In contrast, the Western Zone discussions concentrated on making the most of the various assets that already exist, particularly the multifunctionality of the Ashby Canal, the many options at Market Bosworth and the nationally significant Battlefield site. Access to these assets was also a major concern, particularly cycling and walking options. Opportunities to promote the tourism offer within this area also featured. In the North Eastern Zone many of the issues raised revolved around the effect of the National Forest and Stepping Stones in the area, and maximising the potential these two initiatives

offer. The role of green infrastructure in minimising the effects on communities and natural resources of the transport infrastructure routes passing through the area was also discussed.

A full list of comments is included as Appendix B.

6. Comments on Feedback and Resultant Actions

The group sessions provided a large amount of on the ground knowledge about the Borough, although much of what was raised had already been considered and addressed within the Strategy. There were however several issues that were unknown to the consultants and many of these have since been researched and where appropriate reflected in the Strategy. There were also many points raised within these discussions that a Green Infrastructure Strategy cannot address, such as the marketing of the Borough as a tourist destination or recommending development control for the provision of tourist accommodation in various parts of the Borough.

The Strategy itself was generally well supported, and the issues it raised were felt to be relevant to the current and future development of the Borough, its communities and its natural assets. Key concerns that existed among the delegates (e.g. the implications of growth, potential for tourism, need for and value of quality and accessible greenspaces) had been reflected in the Strategy, and there was a lot of interest in how the Strategy would be taken forward within the Borough's LDF and wider Planning (and other) policy within the Borough.

Appendix A: List of Invited / Attending Organisations (organisations attending the workshop are highlighted in ***bold italics***)

Age Concern - Hinckley & Bosworth	Forestry Commission	Nailstone Parish Council
Ashby Canal Association	GOEM	National Farmers Union
Bagworth & Thornton Parish Council	GOEM and Sport England	***National Forest***
Barlestone Parish Council	***Groby Parish Council***	National Urban Forestry Unit
Barwell Parish Council	***HBBC Councillors***	***Natural England***
British Waterways	***HBBC Culture***	Newbold Verdon Parish Council
BTCV	***HBBC Environment***	Older Voices Partnership
Burbage Parish Council	HBBC Green Spaces	Osbaston Parish Council
CABESpace	***HBBC Planning***	Peckleton Parish Council
Cadeby Parish Council	HBBC Youth Council	***Ramblers Association***
Carlton Parish Council	Higham on the Hill Parish Council	***Ratby Parish Council***
CPRE	Hinckley & Bosworth Disability Action Group	Shackerstone Parish Council
Cyclists Touring Club	***Hinckley & Bosworth Pensioners Action Group***	Sheepy Parish Council
Desford Parish Council	Home Builders Federation	Sport England
Earl Shilton Town Council	Leicester and Leicestershire Groundwork Trust	Stanton Under Bardon Parish Council
East Midlands Development Agency	***Leicestershire County Council***	Stoke Golding Parish Council

East Midlands Environment Link	Leicestershire Economic Partnership	Sustrans East Midlands Limited
East Midlands Regional Assembly	Leicester Environment Partnership	Sutton Cheney Parish Council
East Midlands Rural Affairs Forum (EMRAF)	Leicestershire & Rutland Wildlife Trust	The National Trust
English Heritage	Leicestershire Orienteering Club	The Woodland Trust
Environment Agency	***Local Access Forum***	Twycross Parish Council
Farming & Wildlife Advisory Group	***Market Bosworth Parish Council***	Witherley Parish Council
Federation of East Midlands Bridleways Association	Markfield Parish Council	

Appendix B: Notes taken during Group Session on the GI Strategy Zones

Southern Zone

- Many of the green space assets available to the four southern towns were located in neighbouring boroughs. This included access routes such as those between Earl Shilton and Burbage Common.
- Because of the numbers of user groups frequenting Burbage Common there may be a need for controlling access and/or creating zones for incompatible users such as horse riders and children.
- Burbage Common should have facilities for smaller children such as designated play areas.
- The west of Hinckley could benefit from the provision of circular routes to widen the recreation potential.
- Burbage Common was a resource that could be used for rural skills training, which in a borough with a large amount of land under agricultural management may provide the skills for rural employment.
- Barwell has few 'green links' and those assets that do exist are insufficient for the current population.
- Earl Shilton was thought to have too few green spaces and access was also poor.
- The effect of the proposed extension to Mallory Park should be considered and any possible negative or positive effects on the communities of Barwell and Earl Shilton should also be understood and addressed within the strategy.
- The communities of Earl Shilton would benefit from more circular routes around the town.
- Within Hinckley there were spaces that are currently under-used such as the lagoon off Ashby Road and some of the fishing lakes.
- That there was a possibility to create a linear park alongside the railway and passing through the allotments site in Burbage.
- That access between and across settlements is critical.
- That any access network must link-up with public transport routes and hubs, helping to support commuter journeys.
- Within the southern area signposting was seen as insufficient and improving interpretation and signage would help increase the usability of the existing and any potential access routes.
- The Ashby Canal could be promoted as a cycle route and could deliver biodiversity improvements.

Western Area

- The Battlefield Line is a strategic asset and could it be possible to install a footpath and cycle path running alongside it, creating a north to south recreational corridor linking many of the assets.
- The canal extension to Measham will have an influence on tourism, generating further tourist interest in the Borough through increased numbers of boaters visiting this new length of waterway.

- Around Market Bosworth there are issues regarding public access due to the amount of land under private ownership.
- The problem of private ownership of the land meant there was no access to the Hercules Monument near Market Bosworth.
- The western part of the Borough has a substantial number of rural cycle routes that are perhaps not being promoted as much as they could be.
- Cycling and walking access between Cadeby and Carlton and Market Bosworth was poor.

- It was possible that the 'Lost Ways Project' from Natural England would increase the number of publicly accessible routes in the area, in particular around Gopsall Park. (Lost Ways has since been cancelled following a review in 2007)
- That the Ashby Canal should be included in the Strategy as a biodiversity corridor.
- The Borough could improve its position as a tourist resource through better promotion and 'selling' itself and raising awareness of this potential within the Borough.

- In the Borough there was a need for lower priced/budget accommodation to support any move towards increasing the tourism interest, as currently only high-end accommodation was available, thus reducing the numbers and variety of visitors to the area.

- Circular cycle routes could be developed to include the many smaller settlements that have a historical interest, and those routes could be promoted as historical routes.

- In the western area there are several 'gated' roads that could provide an off-road pedestrian and cycle route.
- There may be a greater demand for narrow boat mooring berths and an expansion of the marina at Shenton due to an expected rise in the number of boaters due to the extension to Measham.

- Several key assets were thought to have been missed during the development of the Strategy including, Sutton Cheney Wharf, St Martins Church Desford and Kirkby Mallory Church.

<u>North Eastern Area</u>

- The development of the National Forest as a tourist destination should take into account the possible effect of the Growth Areas to the north on the Forest's resources and not just the Leicester Growth Areas.
- Within the National Forest there is a need for 'Fine Grained' habitat links.
- In the north east, Stepping Stones and the Green Wedges are an important part of the green infrastructure resource and should be considered more within the Strategy.

- The Rothley Brook corridor is an important initiative within the area and should be included as part of the Strategy.
- Those long-distance trails (Leicestershire Round & Ivanhoe Way) that pass though the Forest area could be supported through the development of spurs/branches that connect these routes to the various assets that exist within the Forest area (although this an approach that could apply to the southern and western areas where the promoted paths pass through).

- Accommodation is needed to support tourism in the Forest and this could be in the form of log cabins, caravans and hotels.
- Further publicity and marketing will be needed to make the most of the tourism potential of the National Forest area.
- That public open space in Groby, Markfield, Desford and Ratby should be more distinct, green and diverse.
- Within Groby, Markfield, Desford and Ratby, neighbourhood participation is needed to aid their improvement and a there's a recognition that the communities themselves are a partly untapped resource.
- The work Stepping Stones is carrying out in the area is already making positive changes to the landscape including hedgerow and farm improvement schemes.
- Perhaps the area surrounded by the transport corridors of the A46, M1 and A50 should be considered as a separate strategy area.
- That in the north east there were several large water bodies that could, through improvement to access and promotion, provide both visitors and local communities with an improved recreational resource.
- Both tourists and the local communities would benefit from more circular routes in the area.

- Slate Brook near Ratby has flooding issues and these could be addressed through a specific management plan similar to that of the Rothley Brook.
- Movement in and out of the Forest is something that will need to be improved.
- That there is a perception that the HBBC part of the National Forest is more of a local interest.

- Some assets are not as widely used as they could be, in particularly Hill Hole Quarry which has limited access due to valid health and safety concerns.
- The railway line that runs through the Forest could be promoted as the National Forest Line and a station, possibly Desford, could be promoted as a 'Gateway to the Forest'.

- During the widening of the M1 would it be possible to pursue the option of incorporating a crossing to provide public rights of way between to Martinshaw Wood and Grey Lodge Wood.

- Many walks and routes should incorporate areas outside of the Borough boundary such as Bardon Hill near Coalville and Grange Wood near Ibstock.
- Safe cycle access is a problem between Leicester, Desford and Newbold Verdon.
- One of the area's key strategic assets of Groby Pool has problems with car parking, pedestrian links and signage.

APPENDIX 2:

Policy Review

Policy Context for Green Infrastructure in Hinckley & Bosworth

Regional Strategies

East Midlands Regional Spatial Strategy (2005)[59]

In the East Midlands, green infrastructure is now firmly recognised as being an important component of the Regional Spatial Strategy (RSS8). Although there are no specific Green Infrastructure policies within the RSS, there are several policies that relate directly to GI provision.

Policy 16: *A Sub-Regional Spatial Strategy for the Three Cities Sub-area.* With direct relevance to this work, this policy specifically calls for an improvement to the quality of the environment, including the provision of semi-natural green space in urban areas. The improvement of such areas adds value and usability to any GI network.

Policy 27: *Enhancing the Region's Natural and Cultural Assets* calls for the LDFs to protect and enhance the Region's natural and cultural assets. It states that there should be no net *loss* and opportunities should be sought to achieve a net *gain* across the region.

Policy 28: *Priorities for Enhancing the Region's Biodiversity* includes several elements that will help direct GI provision, particularly its requirement for Local Authorities, developers, environmental agencies and businesses to take a key role and work together to promote a major step change in the in the level of the Region's biodiversity. Other elements of the policy which have a direct bearing on GI are:

- Establishment of large scale habitat creation projects in the priority areas of Lincolnshire, the region's Strategic River Corridors and heathland areas. Both Bagworth and Bardon Hill in Hinckley & Bosworth are important heathland habitats. The Trent and the Soar have tributaries that rise within the Borough;
- Establishment of a regional project to promote the recreation of key wildlife habitats in each Natural Area in the East Midlands. Much of Hinckley & Bosworth lies within the Trent Valley and Rises Natural Area. In the north west of the Borough two other areas occur, the Coal Measures and Charnwood Natural Areas;
- Establishment of a network of semi-natural green spaces in urban areas;
- Management of features of the landscape which act as corridors and "stepping stones", essential for the migration and dispersal of wildlife;
- Development and implementation of mechanisms to ensure that development results in no net loss of BAP habitats and species and that net gain is achieved.

Policy 29: *A Regional Target for Increasing Woodland Cover* considers the roles of Local Authorities, developers, environmental agencies and businesses as vital in promoting and providing the increase in tree cover for the region. For Hinckley and Bosworth in the Trent Valley and Rises Natural Area, priority BAP Habitats include; Wet Woodland, Wood Pasture and Veteran Trees. This policy also recognises the potential for woodland in the urban fringe and its contribution in the flood plain.

Policy 34: *Regional Priorities for Strategic River Corridors* requires that development plans, LDFs and other local authority strategies should seek to protect and enhance the natural and cultural environment of the region's strategic river corridors, which includes the Trent and the Soar. It calls

[59] East Midlands Regional Spatial Strategy, 2005, EMRA

for coordinated action between agencies, bodies and adjoining regions to maintain and enhance the multifunctional importance of strategic river corridors for wildlife, landscape & townscape regeneration and economic diversification, education, recreation, the historic environment including archaeology, and flood risk management.

There are other policies within the Regional Spatial Strategy that may have an influence on the provision and / or protection of green infrastructure assets:

- *Policy 4*: *Promoting Better Design*: whilst this policy is more development oriented it requires that the opportunity to cycle and/or walk to local facilities be considered in the design of new developments. It also reminds planning authorities to consider the effects of the development on biodiversity in its layout, construction and design and if possible to enable an increase in biodiversity.

- *Policy 20*: *A Regional Target for Re-using Previously Developed Land and Buildings for Housing*: this policy may have a direct effect on the provision of new green and/or open space within urban areas. Areas that already display low levels of green/open space would perhaps benefit from more soft-end uses of some brownfield sites.

RSS will be superseded by the East Midlands Regional Plan once adopted: at the time of writing it is in draft format and open for consultation until October 2008. The Draft East Midlands Regional Plan illustrates the continued support for green infrastructure which forms part of the Regional Vision. Furthermore, the Plan's Regional Core Priorities (that all strategies, plans and programmes should meet) contain several references to various elements of green infrastructure as well as an explicit reference to GI in relation to the protection and enhancement of environmental quality for those living, working and investing in the region (Regional Priority C).

Several of the revised Policies include GI-related measures, particularly those grouped under "Regional Priorities for Natural & Cultural Resources". As well as Policy 28 which deals directly with Regional Priorities for Environmental and Green Infrastructure, this policy set includes GI related measures for:

- Protecting and enhancing the Region's natural and cultural heritage (Policy 26)
- Priorities for the historic environment (Policy 27)
- Enhancing the Region's biodiversity (Policy 29)
- Managing and increasing woodland cover (Policy 30)
- Managing and enhancing the Region's landscapes (Policy 31)
- A Regional approach to managing flood risk (Policy 35)
- Regional priorities for tourism (Policy 41)

With particular importance for Hinckley & Bosworth, Policy Three Cities SRS 5 also relates the provision of enhanced and new green infrastructure specifically in relation to New Growth Point proposals, with strategic priorities for the National Forest, the proposed Charnwood Forest Regional Park, Green Wedges, and community forest proposals and 'greenways' around Leicester.

Other Policies with relevance / reference to GI include:

Policy 2: Promoting Better Design – accounting for local natural character, providing for SUDS, and specifically "*taking account of the need to develop…'green infrastructure' networks and provide for access to open space and the enhancement of biodiversity and landscape quality".*

Policy 12: Development in the Three Cities Sub-area – with a specific requirement for the provision of "*the protection, development and enhancement of green infrastructure to address past environmental degradation and contribute to the development of sustainable communities".*

Policy 43: Sub-area Transport Objectives (Three Cities) – including requirements for the development of sustainable transport options and promoting / providing facilities to encourage walking and cycling.

6Cs: 3 Cities, 3 Counties Programme[60]

The 6Cs programme areas is one of 29 growth point areas in England, consisting of Leicestershire, Derby and Nottingham ('3 Cities') and the corresponding '3 Counties' of Leicestershire, Derbyshire and Nottinghamshire. It covers 17 local planning authorities, with Hinckley & Bosworth identified as one of the key areas for housing development.

Over the period between 2006 and 2026 some 163,000 dwellings are expected to be built: 19% of the national total for the same period. However, the programme is more than simply providing housing; it is expected through regeneration to provide employment, community facilities and associated services, and green and environmental infrastructure, with 10% of the National Growth Point (NGP) funding some £5.4 million is allocated for green infrastructure.

The 6Cs Programme sees public interventions as being integral in attracting private investors into the area, in delivering a sound and attractive environment in which investors can have confidence. Provision of services such as schools, health centres and safe and attractive neighbourhoods and public areas is intended to attract families back into the city centres and halt and reverse *city flight*[61] which can result in housing market failure and lower economic growth due to skill shortages.

The Programme also acknowledges the contribution various projects within the 6Cs area will make to green infrastructure. In Hinckley & Bosworth, these specifically include Strategic River Corridors, the Stepping Stones Project and the National Forest. With funding available and in promoting a thorough and inclusive approach to green space provision it is clear that the 6Cs programme can have a significant influence on the successful delivery of green infrastructure for Hinckley & Bosworth.

East Midlands Regional Environment Strategy (2002) & Sub-Strategy 'A Biodiversity Strategy for the East Midlands' (2006)[62]

The Regional Environment Strategy contains several key policies which have a direct relationship with the provision of Green Infrastructure within Hinckley and Bosworth Borough, specifically:

ENV3: *to equip people with the skills and knowledge so that they value the environment and can contribute to its enhancement.* Green Infrastructure assets can offer many opportunities for this policy to deliver, nature reserves and outdoor classrooms are positive examples of how green spaces can achieve the objective of this policy.

ENV4: *to work in suitable partnerships in the region to ensure that all East Midlands people have safe access to a diverse, well managed environment of which they can be proud*. Networks developed around green infrastructure assets and existing or potential corridors such as dismantled railways and canal towpaths offer long distance access for the people of the East Midlands.

[60] 3 Cities, 3 Counties 6Cs Programme (2007) EMDA & partners

[61] City Flight Migration Patterns in the East Midlands: Final Report (2007) Centre for Urban and Regional Studies (CURBS), University of Newcastle

[62] East Midlands Regional Environment Strategy, 2002, East Midlands Regional Assembly

Doorstep green spaces within a GI network can offer improved access for those unable to travel far families with young children or the elderly.

ENV5: *to encourage the use of environmentally friendly methods of travel (air quality and emissions are also covered by policies ENV6 and ENV7, both call for a reduction in greenhouse gas emissions and pollutants).* Sustainable transport networks are certainly an important part of GI. In combination with natural corridors they can offer pleasant and safe transport alternatives to the car and the busy roads.

ENV13: *to protect and appropriately manage all ancient and semi-natural woodland and increase the extent of multi-purpose forests and woods that deliver environmental, as well as social and economic benefits*. Recognising the need to increase the Region's woodland cover this policy validates and supports GI actions such as community woodlands. These types of woodland deliver benefits beyond those of increasing biodiversity and offer increased opportunities for recreation and in some cases employment.

ENV19: to protect rivers and their floodplains as a natural resource and to increase floodplain capacity wherever possible. With a predicted increase in the frequency and magnitude of flooding events as a result of climate change, ENV19 allows for greater protection against development on the floodplains. With these areas surrounding and following the courses of the rivers they are an asset both as a biodiversity corridor and as a recreational area.

ENV21: *to conserve and dramatically enhance biodiversity according to regional BAP priorities.* Green infrastructure will deliver biodiversity benefits through an increase in habitat patch size and connectivity. Other policies within the Regional Environmental
Strategy that will have an influence or are at least relevant to GI provision include;

As a more contemporary document, the East Midlands Biodiversity Strategy[63] specifically references green infrastructure in four objectives, including a prioritised spatial framework for GI (objective 15), biodiversity and multifunctionality of GI (objective 16), reliable funding and data provision to support green infrastructure delivery (objective 17), and ensuring the integration of GI with economic regeneration initiatives and biodiversity projects.

Biodiversity Action Plans & Priorities

There are two area based Local Biodiversity Action Plans (LBAPs) in effect in Hinckley & Bosworth (the Leicester, Leicestershire and Rutland BAP[64] and the National Forest BAP[65]), as well as thematic LBAPs 'owned' by organisations such as British Waterways, Severn Trent Water and the British Association for Shooting and Conservation.

LBAPs take their lead from the UK BAP but refine or focus on those habitats within its sphere of influence (spatially or thematically). LBAPs seek to identify priority habitats and species, setting targets for their conservation and outlining mechanisms for achieving these. Geographically or thematically focused, the LBAPs present an overview of the broad habitat types which occur, the threats to them, recent and current conservation action, and conservation priorities – drawing attention to the key issues requiring action in order to prevent further loss of biodiversity.

Leicestershire Together: Local Area Agreement (LAA)[66]

The Leicestershire Together LAA aims to improve quality of life for all Leicestershire people through better co-ordination of service delivery on the ground, better identification and targeting of assistance

[63] East Midlands Biodiversity Strategy, 2006, East Midlands Regional Assembly and East Midlands Regional Assembly

[64] Leicester, Leicestershire and Rutland BAP, 2002, Leicestershire and Rutland Wildlife Trust

[65] National Forest BAP 2nd Edition, 2004, National Forest

[66] Leicester Together: Local Area Agreement, 2006, Leicester Together and Leicestershire County Council

to vulnerable people and more integrated strategic planning and priority setting between agencies across seven key themes:

- Healthier Communities,
- Older People,
- Children and Young People,
- Safer Communities,
- Stronger Communities,
- Cleaner and Greener Communities and
- Economic Development and Enterprise.

There is some relevance to green infrastructure in all of these key themes, although the most obvious is the 'Cleaner and Greener' theme with key outcomes cutting across the other themes (particularly 'Healthier Communities' and 'Children and Young People') including:

- Improving the quality of town and village centre environments;
- Increasing the quality and use of Green Spaces;
- Increasing walking, cycling and level of outdoor physical activity;
- Improving biodiversity and nature habitats.

The LAA has identified several Priority Neighbourhoods which contain relatively large numbers of vulnerable people as identified by data and information from the Index of Multiple Deprivation, Poverty and Social Exclusion Index and District Local Strategic Partnerships. Four of these Priority Neighbourhoods are in Hinckley & Bosworth: Hinckley, Burbage & St Catherine's, Earl Shilton & Barwell and Bagworth. Neighbourhood management approaches will be developed to address problems across all seven key themes in a holistic and joined up way – the multiple functions and benefits of green infrastructure should be strongly considered.

Leicester and Leicestershire Multi-Area Agreement (MAA)[67]

In line with the sub regional economic strategy, the Leicester and Leicestershire MAA focuses on improving the economy across three core economic development themes: Business and Enterprise; People, Employment & Skills; and Infrastructure. It has a Vision for the City of Leicester to be the most sustainable city in Britain by 2020, with the City and Council sharing a prosperous and dynamic economy, characterised by innovative businesses, enterprising and creative people, building attractive and sustainable communities – elements of which green infrastructure clearly can contribute towards. Although the draft MAA has no direct environmental objectives, green infrastructure interventions could play an important part in delivering against the MAA's business creation and inward investment objectives (Local Indicator: Employment Land and Premises) by providing a green and pleasant environment that will be attractive to potential investors. Further, improvements to local neighbourhoods and local open spaces can contribute to quality of place – and important factor when trying to attract the quality (qualified and experienced) workforce that will help address the skills gap and thus encourage greater business investment (objectives NI 163 / NI 165 Working age population qualified to at least Level 2 / level 4 or higher).

[67] Draft Proposal for a Multi-Area Agreement in Leicester and Leicestershire (2008) Leicestershire Together

Leicester, Leicestershire and Rutland Landscape and Woodland Strategy[68] The Strategy has three main objectives:

- To conserve and enhance the character, diversity and local distinctiveness of Leicester, Leicestershire and Rutland's landscapes
- To identify appropriate opportunities for new woodland planting to increase the woodland cover of the Strategy area
- To encourage the sustainable management of Leicester, Leicestershire and Rutland's existing woodland resources to produce timber and provide environmental and social benefits.

These objectives sit comfortably with the multifunctional nature of green infrastructure, particularly the encouragement to use the existing resources to deliver social as well as environmental benefits. There is also recognition that the county has a deficit of woodland and that new woodlands will have to be planted within the context of existing landscape character, which would become part of the green infrastructure resource for the future. The strategy also recognises the need for partnership building, particularly since much of the land within the area is under private ownership.

The National Forest Strategy[69]

The National Forest Strategy has several key objectives that will have a direct influence on the success of a green infrastructure strategy for Hinckley & Bosworth, and particularly its multifunctional benefits. Objectives include actions to promote, encourage and enable:

- The promotion of land acquisition to develop Forest sites that provide access in perpetuity;
- access to Forest schemes developed on restored mineral and derelict land and linked with built developments;
- the continued development of a systematic programme to improve, maintain, way-mark and promote Rights of Way; and encourage the dedication of new Rights of Way;
- working with partners to develop a Forest-wide network of short walks, and to complete and promote the medium distance trails network;
- the development of multi-use trails;
- interpretation and public access to heritage sites through its own grant schemes and the work of other organisations;
- local authorities to bid for funding to renovate public parks;
- the expansion of the 'Walking the Way to Health' Scheme;
- sustainable growth in educational visits to Forest-related education centres and woodlands offering educational access;
- maximising the economic development potential of the Forest through joint working, especially at regional, sub-regional and county levels;
- town centre improvement and management programmes which support tourism development and offer opportunities to promote and market the Forest;

[68] Leicester, Leicestershire and Rutland Landscape and Woodland Strategy, Leicestershire County Council, 2001

[69] The National Forest, Concise Strategy & Delivering the Strategy, The National Forest 2004 – 2014, The National Forest Company 2004

- regular site maintenance audits for woodlands with public access to maintain high standards of visitor welcome;
- the inclusion within Local Development Plans of policies to encourage smallscale tourism enterprises in villages and rural areas;

Each of these clearly has significance for Hinckley & Bosworth's GI Strategy, with some aspects such as town centre improvements and the inclusion of Local Development policies that support tourism enterprises are easily transferable to areas outside of the National Forest itself, with HBBC and its partners able to learn from the National Forest's experience.

The East Midlands Regional Forestry Framework[70]

The Regional Forestry Framework recognises as a regional priority the need to plan for and provide an appropriate mix of natural green spaces, habitats and associated features that will support the development of sustainable communities and meet access needs.

Space4Trees has an aim (under the 'Trees and People' Priority Area) "*to provide and promote more opportunities for everyone to enjoy the social, health and educational benefits of trees and woodlands*", under which green infrastructure is included as a guiding principle. The role of trees and woodlands as part of a wider green infrastructure approach is also evident within objectives for "Trees and the Economy" and actions under "Trees and People" aims.

Stepping Stones Green Infrastructure Delivery and Action Plans[71]

Stepping Stones is a green infrastructure project operating across Central Leicestershire, with an aim of delivering a multi-functional, bio-diverse and resilient network of countryside and urban green infrastructure. The Delivery and Action Plans were developed following extensive consultation with stakeholders and are based on the findings of a detailed feasibility study undertaken in 2005.

The Delivery Plan sets out the strategic approach and objectives for the project across a series of aims, including two that relate specifically to the inclusion of green infrastructure principles and actions in Local Development Framework documents:

> Aim1: Opportunities for Community Action and Participation in Green Infrastructure Issues.
>
> LDFs should look to support Stepping Stones and the wider delivery of green infrastructure interventions by:
>
> - Promoting the importance of community involvement, with planning, creation and management of green spaces;
> - Champion community stewardship of local greenspace with focus on existing community forums and parish councils
> - Identify target groups for community involvement to meet targets set within the Leicestershire LAA

[70] Space4Trees: The Regional Forestry Framework for the East Midlands (2005) Forestry Commission on behalf of the Regional Forestry Framework Steering Group

[71] Creating a Green and Prosperous Future: A Green Infrastructure Delivery Plan for the Stepping Stones Project (2008) TEP and The Mersey Forest

Aim 3. Vibrant and competitive rural and urban economies

LDFs should look to support Stepping Stones and the wider delivery of green infrastructure interventions by;

- Supporting the development of visitor facilities which encourage greater use of the GI network for sport, leisure and recreation linked to urban areas
- Acknowledging the contribution that green infrastructure resources make to the tourism sector within Central Leicestershire

The Plans demonstrate the need for engaging with local communities and landowners / managers to achieve the sustainable use and management of green infrastructure assets, whilst the involvement of stakeholders who can contribute to the delivery and management of GI is also important in that it enables the sharing of skills, resources, ideas and knowledge across the various groups.

There are many other recommendations within the Stepping Stones Plans that have an equal relevance to Hinckley & Bosworth's GI Strategy, and issues of protecting Rights of Way, promotion of the GI network as a sports and health venue, securing 'green' features within new development and ensuring that new development makes a positive contribution to the existing/planned GI network all need to be considered.

Local Policy Context

At the local level green infrastructure is well represented and recognised as part of the future development of the Borough within its planning documents and strategies.

Hinckley & Bosworth Borough Local Development Framework Core Strategy Preferred Options (2007)[72]

Green infrastructure is well represented with HBBC's LDF Core Strategy, in particular its necessary role in ensuring that the planned Sustainable Urban Extensions do not create excessive pressure on the existing GI resources. The document refers to GI being integral in making these new developments sustainable and successful.

The LDF also sees the GI network as being an important element in connecting the rural centres to each other and to the larger conurbations of the four main towns of Hinckley, Barwell, Burbage and Earl Shilton. Within the LDF these connections are considered as possible alternatives to car travel, important in helping to reduce congestion and emission problems.

Hinckley & Bosworth Community Plan (2007)[73]

The Community Plan does not make reference to green infrastructure directly but recognises the value of the environment to the local population. In its Vision the plan expects the local population to have a higher regard for its environment and expects this to be achieved by improvements such as better management of the assets, improved access and sense of place. The Vision also expects that new developments will have provided an environment where people want to remain. Providing not only a healthy environment but one that is well connected allowing employment opportunities to be reached easily on foot or by bicycle.

[72] Hinckley & Bosworth Borough Local Development Framework Core Strategy Preferred Options, 2007, HBBC

[73] Hinckley & Bosworth Borough Community Plan, 2007, HBBC

The Community Plan makes reference to the quality of the Borough's green spaces and its natural environment, citing that within the Borough biodiversity is not particularly high and the Borough's SSSIs are also in poor condition.

As with many of the policies at regional and national level, climate change is an ever present issue, and the Community Plan sees climate change as being addressed is through the reduction of greenhouse gases in particular the reduction of vehicle emissions.

Hinckley & Bosworth Green Space Strategy (2005)[74]

The Green Space Strategy sets the baseline for the quality of the Borough's parks, gardens and greenspace. It acknowledges the need for working in partnership with a variety of landowners to create a network of high quality and accessible green spaces. This Strategy will inform the Local Development Framework and policy formation, and the audit and surveys will help define the priorities and help in targeting the types of green space that the community expect to see, and perhaps more importantly, use.

Hinckley & Bosworth Play Strategy (2007)[75]

The Play Strategy's policies support green infrastructure in that many of the policies are intended to add value and interest to the Borough's play spaces. Play spaces are of course only one typology of green space but well maintained well frequented play spaces within a GI network add value and legitimacy to green infrastructure, not only as a concept but as a functioning network.

Hinckley and Bosworth Borough Council Corporate Plan (2008)[76]

In its Corporate Plan, Hinckley & Bosworth Borough Council sets out five aims that it hopes to achieve in the five year period between 2008 and 2013;

1. Cleaner and Greener Neighbourhoods
2. Thriving Economy
3. Safer and Healthier Borough
4. Strong and Distinctive Communities
5. Decent, Well Managed and Affordable Housing

Each has a set of targets by which the Borough can measure its success in accomplishing these five aims. Many of these aims are applicable to the green infrastructure programme and the benefits of a well connected series of green and open spaces will go a long way in helping the Borough meeting its targets. Health and recreation are two areas where there is a distinct correlation between the Borough's aim and green infrastructure.

[74] Hinckley & Bosworth Green Space Strategy, 2005, HBBC

[75] Hinckley and Bosworth Play Strategy, 2007, HBBC

[76] Hinckley and Bosworth Corporate Plan 2008-2013, 2008, HBBC

APPENDIX 3:

Public Benefit Assessment:
Indicators & Datasets

Where: identifying opportunities (positive assessment)

identifying needs (negative assessment)

Benefits of Green Infrastructure	Data	Growth& Development / Climate Change	Population Demandfor Greenspace		Protection& Enhancement ofNatural Resources / Planning System
Combats the urban 'heat island' effect'	Population density, Age Structure, Car ownership (Census 2001) Poor health (IMD 2007)				
Provides opportunities to reduce urban run-off and risk of flooding	GLUD surface cover (CLG) Floodzones (HBBC)				
Provides space for wildlife to adapt to climate change reducing vulnerability to local extinction	National Habitat Inventory, SSSIs (Natural England, 2008) National Inventory of Woodland & Trees (Forestry Commission) Leicestershire Alert Sites (LCC) ECO-Sites, National & non-main rivers, Ancient Woodlands, Ashby Canal (HBBC) Lakes & ponds (TEP)				
Improves air quality, through reducing CO2 and other greenhouse gases and pollution	Air quality (combined) (Census 2001) Main roads (HBBC) Earl Shilton bypass (TEP)				

Provides natural corridors and networks to enhance, expand and connect a variety of habitats	Open spaces, Main rivers, Flood Zone 3, Recreation Sites (HBBC) Land under Environmental Stewardship Agreements, Agricultural Land Class 4 (Natural England) Accessible woodland (Woodland Trust 2008) National Inventory of Woodland & Trees (Forestry Commission) GLUD (CLG) Other woodland (TEP)					

Benefits of Green Infrastructure	**Data**	**Growth& Development**	**Climate Change**	**Population Demandfor Greenspace**		**Protection& Enhancement ofNatural Resources**	**Planning System**
Reverses habitat fragmentation and decline	National Habitat Inventory, SSSIs (Natural England) National Inventory of Woodland & Trees (Forestry Commission) Leicestershire Alert Sites (LCC) ECO-Sites, National & non-main rivers, Ancient woodlands, Ashby Canal (HBBC) Lakes & ponds (TEP)						
Safeguards and protects biodiversity increasing the numbers and distribution of species	SSSIs, Local Nature Reserves (Natural England)						
Protects soils and watercourses through reducing erosion, siltingup and nitrification	Land under Environmental Stewardship agreements (Natural England) Rivers, Urban & key settlements, Flood zones (HBBC)						

Provides safe cycling and walking routes to school, work and for recreation	Footpath network, bridleways, cycle routes, rural routes, Ashby Canal, schools, Key rural settlements (HBBC) Promoted paths, urban areas (TEP)							
Improves access within and between settlements	Footpath network, bridleways, cycle routes, rural routes, Ashby Canal, settlement boundaries (HBBC) Promoted paths, ideal rural connections (TEP)							
Increases access to a range of high quality green and open spaces and facilities	Recreation facilities, open spaces (HBBC) Accessible woodlands (Woodland Trust 2008) Local Nature Reserves (Natural England)							

Benefits of Green Infrastructure	**Data**	**Growth& Development**	**Climate Change**	**Population Demandfor Greenspace**		**Protection& Enhancement ofNatural Resources**	**Planning System**
Provides opportunities for social and community cohesion and interaction	IMD 2007 (CLG) Population Density (Census 2001) Recreation facilities, Open spaces (HBBC) Accessible woodlands (Woodland Trust) Local Nature Reserves (Natural England)						

Improves access to quality green spaces that deliver a range of functions to meet local needs	Open spaces, Footpath network, Bridleways, Cycle routes, Rural routes, Ashby Canal, ECO-Sites, National & non-main rivers, Ancient woodlands, Battlefield Site, Conservation areas, OSASCS, Recreation facilities Battlefield Line (HBBC) Leicestershire Alert Sites (LCC) National Habitat Inventory, SSSIs, Local Nature Reserves (Natural England) National Inventory of Woodland & Trees (Forestry Commission) Scheduled Ancient Monuments (English Heritage) Promoted paths, Lakes & ponds (TEP)						
Provides opportunities for improving health and wellbeing	Recreation facilities, Bridleways, Footpath network, Cycle routes, Rural routes, Ashby Canal, Open Spaces, Areas of Particularly Attractive Countryside, Settlement boundaries (HBBC) Accessible Woodlands (Woodland Trust) Local Nature Reserves (Natural England) IMD (CLG) Promoted Paths (TEP)						
Provides a local environment resource for education, learning and skills development	IMD: Skills & employment domains (CLG) Schools (HBBC)						
Benefits of Green Infrastructure	**Data**	**Growth& Development**	**Climate Change**	**Population Demandfor Greenspace**		**Protection& Enhancement ofNatural Resources**	**Planning System**
Protects and enhances landscape features	Areas of Particularly Attractive Countryside, Main rivers (HBBC) National Inventory of Woodland & Trees (Forestry Commission) Market Bosworth Country Park, Burbage Common (TEP)						

Safeguards historic and cultural assets	Battlefield Site, Conservation areas, Ashby Canal (HBBC) Scheduled Ancient Monuments (English Heritage)	
Provides a setting for tourism and visitor assets	Ashby Canal, Sustrans Routes (HBBC) Tourism assets, Promoted paths (TEP)	
Provides an attractive setting for existing and new communities	Major roads, Settlement boundaries, Employment Land, Employment Sites, Railways, Urban Housing Potential (HBBC) SUEs (TEP)	
Improves the image of the Borough attracting investment and funding		

Where: identifying opportunities (positive assessment)

identifying needs (negative assessment)

APPENDIX 4:

Best Practice Examples

Best Practice Examples Appropriate to Hinckley & Bosworth

- **River Corridor Management**

Project	Action	Results
Creation of buffer strips along the banks of the Yarrow 'Friends of the Yarrow', Chorley Borough Council. EA[77]	Installation of 13km of stock-proof fencing Water troughs installed for stock	Improved water quality through lower sediment and nutrients levels in the rivers. Increase in biodiversity through habitat creation Otters, water voles and salmon returning to the river
Dart Catchment Project River Dart, Devon Devon Wildlife Trust[79]	Local wildlife trust provided advice and sourced funding for local landowners and managers. Worked with local community and volunteer groups to improve catchment area	Improvement to 8km of river bank, benefiting water quality and wildlife. 3km of salmon spawning habitat restored Over £25,000 of funding sourced to help local farmers and other landowners deliver the changes. Improved communication between farmers and the wildlife trusts and other users of the Dart Developed the Dart as a education and teaching resource

[77] Water: Local Planning and Management, ENMaR, European Network of Municipalities and Rivers, 2007 [79] Dart Catchment Action Plan 2004-6, Strengthening the relationship between people, water and wildlife, Devon Wildlife Trust 2004 [80] http://www.biodiversityscotland.gov.uk/library/River%20Eden%20Conservation%20and%20Management%20project.pdf

River Eden conservation and management project Fife, Scotland SNH, Fife Council FWAG, St Andrews University[80]	Created buffer strips along sections of the river. Reduced stock access to the riverbank Secured funding from various sources, public and private. Worked with partners including anglers, farmers and SNH	Increased riparian vegetation strip along river Water quality improvement Regeneration of river as functioning biodiversity corridor improving habitat for BAP species including kingfisher, otter, water vole, brown trout and grey partridge amongst others Established relationships with various agencies and groups to enable more effective partnership working in the future

- ***Circular Routes***

Project	Action	Results
The Salcey Forest Project River Nene Regional Park Northamptonshire[81]	Recognised as a key GI strategic site Private and Public investment attracted further funding Increase tourism offer through provision of more types of activities for a wider range of visitors Engaged with local community	Several circular routes created Walking, cycling and horse riding routes created to increase the tourism offer Wardens from the local community recruited to safeguard site Community volunteer programme initiated

- *Restoration of Extraction Sites*

Project	Action	Results

Collier's Moss St Helens Merseyside St Helens Merseyside[82]	Reclamation of colliery spoil tip and land Restoration of surrounding biotypes Wide Range of uses and activities considered in the design	Multifunctional spaces created including focal points, wildlife areas and an amphitheatre Increase in biodiversity including expansion of old mossland areas, common lizards and many species of insect Multifunctional use providing spaces for walkers, cyclists, horse riders, anglers and wildlife enthusiasts
River Sence Forest Park Ibstock North West Leicestershire[83]	Restoration of open cast coal mine Multi-partnership working to secure land and funding for improvements Consideration of the variety of user groups Provide a variety of habitat types	150 acres of Landscape visual amenity improved Land secured and future management also secured Room for walkers, cyclists, horse riders, anglers and disabled access, hosts other activities throughout the year Woodland, Meadows, wetlands and lakes created supporting over 150 species of bird, otters and water vole

81 Planning Sustainable Communities, A Green Infrastructure Guide for Milton Keynes & the South Midlands, Jane Heaton Associates on behalf of the Milton Keynes & South Midlands Environment & Quality of Life Sub Group (2005) 82 http://www.changingplaces.org.uk/index.asp?page=92 83 http://www.forestry.gov.uk/website/WildWoods.nsf/LUWebDocsByKey/EnglandDerbyshireTheNationalForestSenceValleySenceValleyForestPark

Sett Valley Trail (Ex-railway line) Multi-user Trial New Mills to Hayfield High Peak Derbyshire[78]	Opportunity arises in late 1970's to provide an recreational access route Connects tourist, recreation and biodiversity assets together Improved visitor interest	Walkers, Cyclists horse riders use the trail all year round Connects tourist centre with Torrs Riverside Park in New Mills and joins the Midshires Way Investment forthcoming for improvements to trail and the development of the Torrs as an important tourist attraction and creation of several LNRs along the route

- *Woodland Initiatives*

Project	**Action**	**Results**

78 http://www.derbyshire.gov.uk, http://www.derbyshire-peakdistrict.co.uk/settvalleytrail.htm

Newlands Scheme Northwest Regional Development Agency, Forestry Commission, Community Forests Northwest and Groundwork	Investment of more than £50 million in Newlands, creating new community woodlands on derelict sites across the Northwest. With the aim to improve the region's image and enhance the natural resources	Encourage partnership working across various agencies. Created a focus for local communities Enhanced not only the natural resources of the various site but also increased the recreational offer on previously derelict sites
The Mersey Community Forest	Installed hundreds of kilometres of cycle and pathways and several visitor centres	The Mersey Forest has become a major recreational asset in the Northwest and has the infrastructure in place to receive further increases in visitor numbers

- *Flood Control & New Development*

Project	**Action**	**Results**
Lamb Drove, Cambridgeshire	Incorporated swales, permeable paving, water butts and wetland basins into new development	Reduced risk of local flooding in the area Provided opportunities for biodiversity increases Reduced expenditure by developers

Bramley Green[79], West Sussex 600 Unit Development Several developers were involved Reduced cost of	Formed consortium of developers to address issues of hydrology and impact of development	Maximised efficiency More spatial approach taken across the site to minimise impact Reduction of flood risk mitigation More effective use of resources

[79] Bramley Green Case Study, PPS25, CLG 2008 86
http://www.greenwich.gov.uk/Greenwich/YourEnvironment/GreenSpace/ParksGardens/Eltham/HistoryofSutcliffePark.htm

Sutcliffe Park[86], Lewisham, Greater London	Flood basins created Local Nature Reserve Declared De-culverting of River Quaggy Local Action Group Formed	Reduced risk to people and property Increase in biodiversity of the area and the re-wilding of the river corridor Stimulated local community involvement in management of the resource and other watercourses nearby

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