



**DRAFT
CONSULTATION
DOCUMENT**

Worcestershire Green Infrastructure Strategy

2023-2028

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 **worcestershire**
county council

This Strategy has been prepared by the **Worcestershire Green Infrastructure Partnership**, which consists of the following organisations:

- Bromsgrove District Council
- Environment Agency
- Forestry Commission
- Historic England
- Malvern Hills District Council
- Natural England
- Redditch Borough Council
- Sustrans
- Woodland Trust
- Worcester City Council
- Worcestershire Biological Records Centre
- Worcestershire County Council
- Worcestershire Wildlife Trust
- Wychavon District Council
- Wyre Forest District Council

Foreword

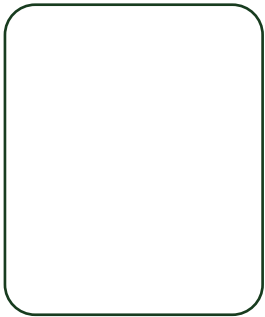
Ours is a special county. It is blessed with a diverse range of species and habitats, landscape character and topography, that together we recognise as uniquely Worcestershire. Whether it's the orchards of the Vale of Evesham, the rolling woodlands of the Wyre Forest, the serpentine rivers Severn and Avon or the iconic Malvern Hills there's a lot to treasure in our countryside. Nestled within this rural context are Worcestershire's villages, towns and city, the focus for development, commerce, housing and entertainment.

Wherever we live we all benefit from the services the natural world provides, whether it's directly, through employment in land-based industries, the food we eat or the places we visit or indirectly, through the air we breathe and the water we drink. It nourishes and inspires us, delivering a backdrop to our daily lives and the cultural and built heritage we collectively enjoy.

Sadly though, our natural world is under pressure like never before. The twin threats of climate change and biodiversity decline are undermining the Earth's capacity to deliver the essential, invariably free, services it provides. Increasing population pressure, land-use intensification and development are reducing the natural environment's ability to deliver functions such as flood control, pollution amelioration and pollination services and we are increasingly boxed into a world where costly, and often ineffectual or unsustainable, man-made solutions must be sought instead.

Taking bold steps to deliver meaningful Green Infrastructure offers a bridge to that divide, integrating the natural environment into our daily lives whilst delivering development which simultaneously allows and promotes natural processes. A Green Infrastructure approach can offer the recreational opportunities so beneficial to our health and well-being, enhance biodiversity and provide solutions that help alleviate the impacts we face from increasingly erratic weather patterns and the polluting side effects of our 21st century lifestyles.

This document sets out key principles and mechanisms by which we can make the most of Green Infrastructure in Worcestershire. It is a document of hope and one that must become a powerful tool in delivering a more sustainable future for our communities and county.



Steve Bloomfield, Chair
Worcestershire Green Infrastructure Partnership



Emily Barker, Chair
Worcestershire Local Nature Partnership

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Executive Summary

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1. Introduction

Green Infrastructure Framework in Worcestershire

- 1.1** The Worcestershire Green Infrastructure Partnership (WGIP) is a cross-disciplinary partnership of statutory agencies, voluntary organisations, local district councils and the county council. The purpose of the Partnership is to optimise planning and delivery of green infrastructure (GI) in Worcestershire. The partners represent a diverse range of interests and sectors, encompassing the natural and historic environment, sustainability, recreation and transport.
- 1.2** One of the Partnership's roles is to publish the Worcestershire Green Infrastructure Strategy. The Strategy is a non-statutory county-wide guidance document which aims to:
- direct and drive the delivery of GI in Worcestershire; and
 - inform relevant strategies and plans of partner organisations.
- 1.3** The evidence base for the Worcestershire Green Infrastructure Strategy comprises the following four documents¹.
- **GI Framework Document 1** establishes the GI concept and policy context for Worcestershire
 - **GI Framework Document 2** establishes the Environmental Character Areas based on natural environment datasets
 - **GI Framework Document 3** explores the supply, potential need and capacity of strategic recreational assets
 - **GI Framework Document 4** investigates the economic, health and climate change benefits of GI
- 1.4** The Strategy contains high-level priorities which should be explored in more detail at the local and site level.
- 1.5** More detail about the Worcestershire Green Infrastructure Partnership and about GI research in Worcestershire can be found in **Appendix A**.

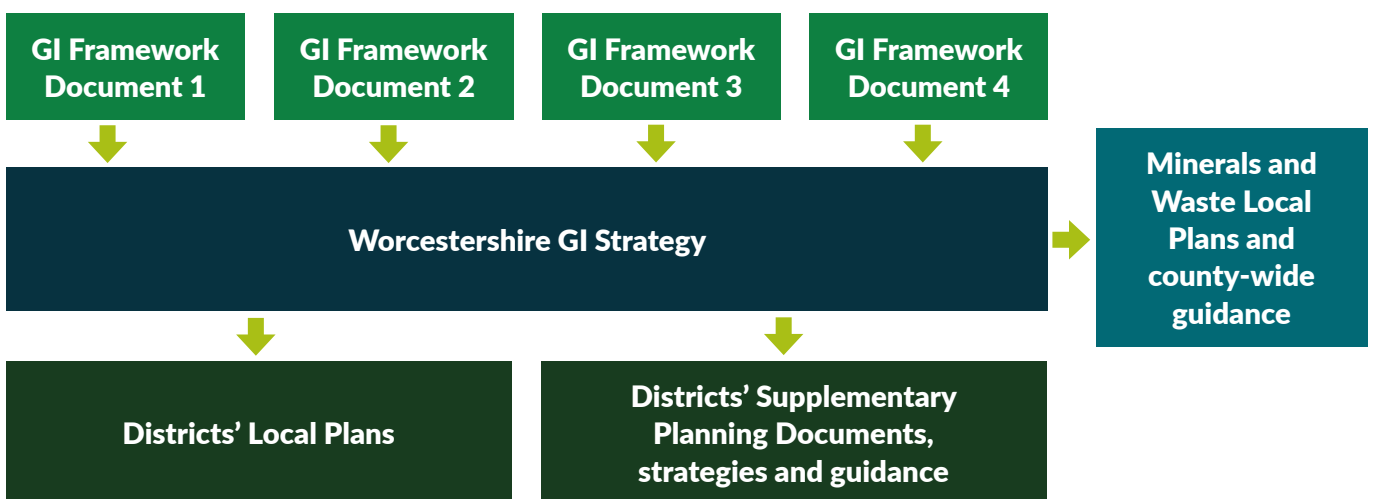


Figure 1. Relationship between the GI evidence base, GI Strategy, and other plans

¹ GI Framework Documents can all be found at: https://www.worcestershire.gov.uk/info/20015/planning_policy_and_strategy/1002/planning_for_green_infrastructure/2

Structure of the Worcestershire Green Infrastructure Strategy

1.6 The Worcestershire Green Infrastructure Partnership has developed this strategy to drive forward the delivery of the GI agenda in the County. It sets out county-scale principles to inform plans and strategies being developed by partner organisations and to enable a coherent approach to delivery across a range of initiatives.

1.7 The Strategy consists of seven sections outlined in the table below:

Document Section	Content
Section 1	Introduces GI concepts, with specific reference to Worcestershire
Section 2	Sets out the vision and objectives of the Strategy
Section 3	Outlines the context for GI in Worcestershire. More detailed evidence can be found in the GI Framework Documents section in Appendix A .
Section 4	Identifies and illustrates spatial priorities for green infrastructure in Worcestershire. The green infrastructure profiles which served in identifying the priorities are presented in Appendix C .
Section 5	Identifies key opportunities for delivery through working in partnership with developers, decision makers, land managers and other key partners. Detailed priorities for delivery are contained in Appendix D .
Section 6	Considers funding and viability, with more detail in the GI Framework Documents.
Section 7	Identifies how the strategy will be monitored.
Section 8	Outlines the next steps for the Worcestershire Green Infrastructure Partnership and its individual members.

Table 1: Structure of the Worcestershire Green Infrastructure Strategy

What is Green Infrastructure?

- 1.8 Green Infrastructure is the planned and managed network of green spaces and natural elements² that intersperse, permeate through and connect our cities, towns and villages. GI is equally relevant and important to both urban and rural locations. GI comprises many different elements including biodiversity, the landscape, the historic environment, the water environment (also known as blue infrastructure) and publicly accessible green spaces and informal recreation sites.
- 1.9 Traditionally the focus has been on the environmental benefits of green spaces, but the underlying principle of GI is that the same area of land can frequently offer multiple benefits. The Green Infrastructure approach therefore integrates consideration of provision and enhancement of natural capital assets with economic, health and social benefits to ensure that delivery against both environmental and socio-economic objectives is central to the planning, management and delivery of these spaces.
- 1.10 Green spaces and natural elements do not exist in isolation. Considering the connectivity between GI assets in an integrated way also achieves benefits that are far greater than when individual components are considered separately. There are many advantages to be gained from a critical mass of GI that is clustered together and other benefits to be gained from pursuing different but integrated priorities across different sites.

What does good Green Infrastructure look like?

- 1.11 Natural England defines what good Green Infrastructure looks like through the following five descriptive principles³:
- **Multifunctional:** The underlying principle of GI is that the same area of land can frequently deliver multiple functions and offer multiple benefits within the same spatial area. The functions delivered can be environmental, such as conserving biodiversity or adapting to climate change; social, such as providing water drainage or greenspace; or economic, such as supplying jobs or increasing property prices⁴.
 - **Varied:** A mix of types and sizes of GI spaces will contribute to delivering multifunctional benefits that can address specific issues and needs. Variation can create more interest for users and add to the strength and connectivity of the wider GI network.
 - **Connected:** GI should function as a connected, living network at all scales, from local to strategic (county or greater) level. It should enhance ecological networks and the delivery of ecosystem services and allow users to access different parts of the network easily.
 - **Accessible:** GI provision should enable everyone to experience and connect with nature and to have access to safe, welcoming, well-managed outdoor spaces for sport, leisure and recreation.
 - **Responds to local character:** GI should reflect and respond to the character of an area, so that the spaces created contribute to the restoration, enhancement and management of high-quality landscapes to which users feel connected.

2 Natural elements include rivers, streams, canals, woodlands, street trees, parks, rock exposures and semi-natural greenspaces.

3 Natural England Green Infrastructure Principles:

<https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Principles/WhatPrinciples.aspx>

4 The Multifunctionality of Green Infrastructure; Science for Environmental Policy, EU, DG Environment News Alert Service, March 2012.

1.12 GI can be planned and delivered at different scales:

- **Strategic or county scale:** These are large-scale projects which provide functions and facilities which benefit more than one district or population within the county. An example of strategic green infrastructure would be the provision of a 100ha+ country park to attract visitors from the whole of the county, or a large-scale flood alleviation scheme to reduce the incidence of fluvial flooding (such as the Gloucester strategic flood alleviation scheme).
- **District scale:** These are green infrastructure schemes providing a range of functions at a district level which benefit the population of the district. An example is the green infrastructure corridor alongside the River Severn in Worcester, providing a range of functions including flood alleviation, off-road walking and cycling routes and enhanced biodiversity.
- **Neighbourhood or local scale:** These are small-scale green infrastructure enhancements which would typically be included within a development site. Examples could include off-road walking and cycling corridors connecting with the local centre which also incorporate sustainable drainage provision through swales and balancing ponds.

1.13 This strategy is primarily concerned with large scale green infrastructure, also known as 'strategic green infrastructure', but many of the principles will also apply to the provision of green infrastructure at district and neighbourhood scales.

Multi-functional Green Infrastructure in Worcestershire

1.14 Worcestershire has numerous GI assets, which contribute to the unique character of the county. They deliver many different functions and varied benefits. Some of these assets, such as the Malvern Hills and the Wyre Forest, are nationally recognised. Others such as the Droitwich Canal and Lickey Hills are widely appreciated by local communities.

1.15 Figure 2 shows case studies of some county GI assets and outlines some of their multi-functional benefits. These include examples of GI at strategic, district and local scales.

How will investment in Green Infrastructure benefit Worcestershire?

1.16 Worcestershire's natural and historic environment helps to define our county. It provides a strong sense of place and attracts and retains people and businesses. GI contributes a vast range of benefits to the economy and to local communities which are sometimes overlooked. Investing in multi-functional Green Infrastructure will:

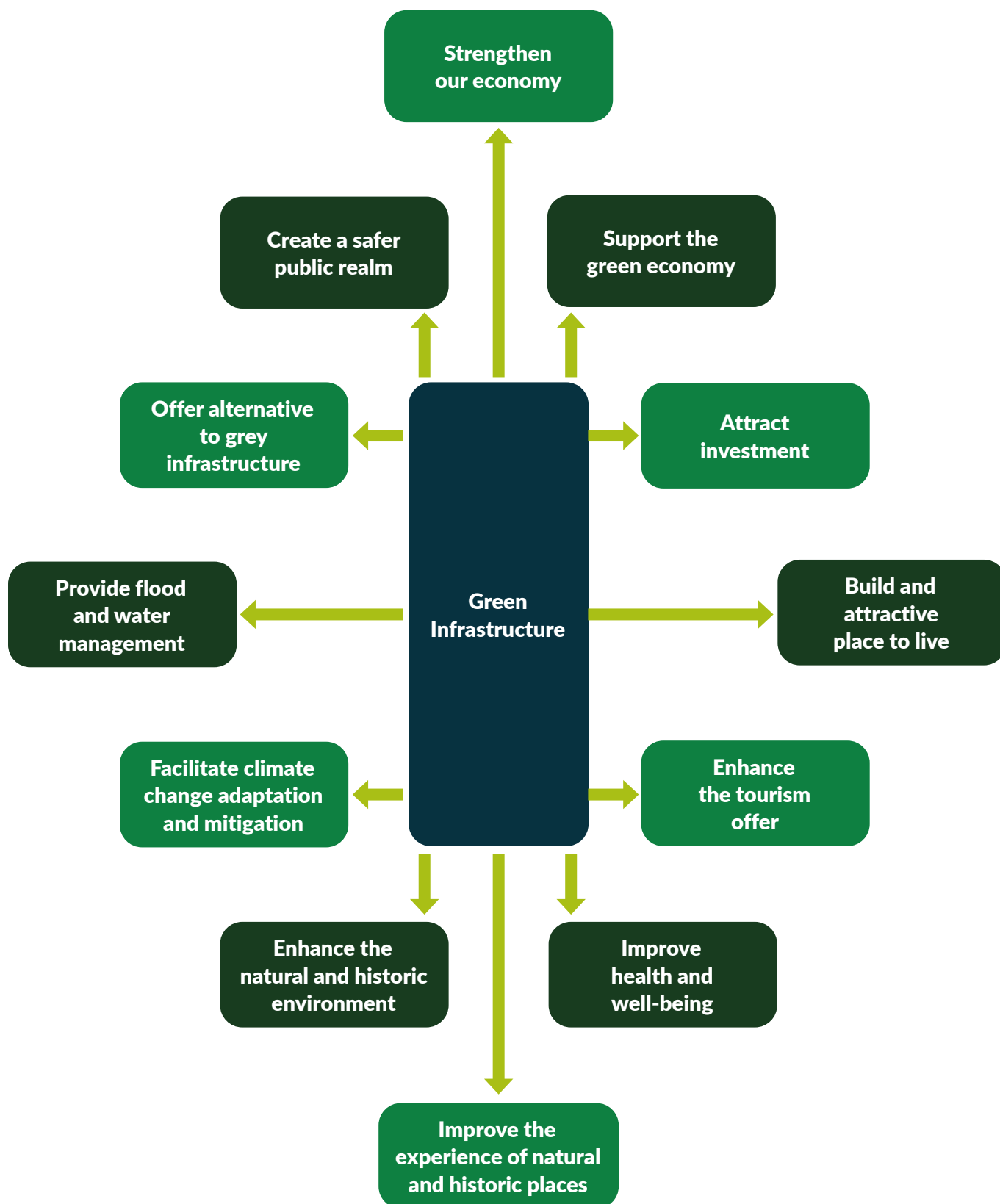


Figure 2. Benefits of multifunctional Green Infrastructure

- **Strengthen our economy:** The UK's stock of natural capital assets has been valued at £1.2 trillion, with £15 billion of this attributable to the tourism and recreation sectors⁵. Protecting natural areas can deliver economic returns that are 100 times greater than the cost of their protection and maintenance⁶. There were 21,600 full-time equivalent (FTE) employees in nature-based jobs in the UK in 2019⁷.
- **Support the green economy:** Green Infrastructure will support the green economy through the provision of goods such as biofuels, which offer renewable energy opportunities. Technological innovation in this area will enable business growth, skills development and new employment opportunities. Worcestershire's Low Carbon and Environmental Goods and Services sector was worth £1.5bn to the Worcestershire economy in 2019/20, as indicated by the value of sales in the sector. These sales were generated by over 700 businesses that employed over 11,000 people in the sector in 2019/20⁸.
- **Attract Investment:** The quality of the natural environment forms a key part of the Worcestershire 'offer' for businesses seeking to locate in the county, with many businesses citing quality of life potential as being a key factor in their choice of business location. In addition, the Worcestershire LEP energy strategy recognises that the natural environment of Worcestershire is a key USP that can support the inward investment proposition for the county⁹. There will also be future opportunities for receiving financial investment for natural capital enhancement through emerging markets around Biodiversity Net Gain, carbon etc.
- **Build on Worcestershire's reputation as an attractive place to live:** 9 out of 10 adults identify parks, playgrounds and green spaces as important in making their neighbourhood a good place to live or work¹⁰. Being located within 500 metres of publicly accessible green or blue infrastructure adds £3,146 to the average property price. Having a view of green space was estimated to have added £9.6 billion to property prices in the UK over a 12-month period (2016).¹¹

The People and Nature¹² survey in 2020 found that the vast majority of adults (89 per cent) agreed or strongly agreed that green and natural spaces should be good places for mental health and wellbeing, with 30 per cent reporting visiting local green and natural spaces more than usual during the Covid pandemic. In the Worcestershire Viewpoint Survey 2021 access to nature and parks and open spaces were 2 of the top 5 things residents thought made somewhere a good place to live. In 2020, the official ONS data showed the rating for happiness in Worcestershire was 7.34, above the national average of 7.33¹³.

- **Support and enhance Worcestershire's tourism offer:** Tourism is one of the largest industries in Worcestershire, being worth approximately £990million in 2019 (pre Covid level) with 6.7% of the population working directly in the visitor economy¹⁴. Many of Worcestershire's high quality green spaces attract visitors from outside the county, with the Lickey and Clent Hills attracting visitors from the Birmingham and Black Country conurbation and the Malvern Hills, Cotswolds and Wyre Forest attracting visitors from further afield with Worcestershire noticing an increase in reach (London, Bristol, Liverpool) since the Covid pandemic. In 2021 a Visit Worcestershire Visitor Survey highlighted that 48% of visitors were interested in cycling and 97% in walking. 57% of people also indicated they would like to visit the Malvern Hills, with utilising canals and visiting other viewpoints and landscapes high on peoples 'Worcestershire Wishlist'.

5 UK Natural Capital Accounts: 2021 (2021). Office for National Statistics.

6 Economics of Ecosystems and Biodiversity Study quoted in Natural Environment White Paper (p10)

7 "Nature jobs" using environmental goods and services sector data - Office for National Statistics (ons.gov.uk)

8 Midlands Low Carbon and Environmental Goods and Services (LCEGS) Sector Study. https://www.wlep.co.uk/wp-content/uploads/LCEGS_Worcestershire_LEP_Report_Final.pdf

9 Worcestershire LEP Energy Strategy <https://www.wlep.co.uk/wp-content/uploads/P3695-Worcestershire-Energy-Strategy-Strategy-with-glossary.pdf>

10 Ipsos Mori survey <https://www.groundwork.org.uk>

11 UK Natural Capital Accounts: 2020 (2020). Office for National Statistics.

12 <https://naturalengland.blog.gov.uk/2020/09/30/enhancing-englands-urban-green-spaces/>

13 Personal well-being in the UK - Office for National Statistics (ons.gov.uk)

14 Economic Impact of Tourism (2019). Worcestershire County Council.

- **Improve health and well-being:** Proximity to greenspace is generally associated with increased levels of physical activity, with associated benefits for both physical and mental health. People and Nature survey data show that 49% of people who had visited natural spaces during the period April 2020 to March 2021 had spent that time in areas of urban greenspace such as a park¹⁵. Increased physical activity arising from better access to high quality greenspace has the potential to save £2.1 billion a year in health costs in England¹⁶. A green social prescribing fund of nearly £6 million was recently announced by government to pilot measures that will increase levels of active engagement with and within the natural environment, in order to improve health outcomes and reduce health and social care costs¹⁷.
- **Improve the community's experience of natural and historic places:** Integrating access to green spaces and historic places into the everyday lives of communities can help to develop a connection with the local area, increase community participation and reduce anti-social behaviour.
- **Enhance the natural and historic environment:** This can include creating and enhancing biodiversity, connecting wildlife corridors and networks, protecting and enhancing landscape character, and improving the quality of our rivers and streams as well as conserving and enhancing heritage assets such as historic landscapes and archaeology, and improving the setting of historic buildings and monuments.
- **Facilitate climate change adaptation and mitigation:** To maximise the capacity of our natural environment, towns and cities to cope with climate change, we need to establish an ecological network that is as robust and resilient as possible to current conditions, and that can help to mitigate the impacts of extreme weather events, for example through shading, cooling and storm water storage. Green and blue infrastructure can help to cool urban environments and remove air pollution particulates, in addition to sequestering carbon when managed appropriately¹⁸.
- **Provide flood alleviation and water management:** GI can play a key role in sustainable drainage solutions, drought mitigation, and in flood and water stress reduction. GI can provide opportunities for attenuation or infiltration that can help to recharge aquifers as well as to maintain levels in watercourses or other blue infrastructure features. GI can influence water quality through limiting diffuse pollution and controlling water levels in watercourses.
- **Offer a cost-effective alternative to investing in traditional (or grey) infrastructure:** GI can provide alternative solutions to providing drainage, managing blue infrastructure, promoting non-vehicular transport and contributing to sources of renewable energy.
- **Create a safer public realm:** Green Infrastructure features can be designed and placed to provide separation and distance between pedestrians, cyclists and the highway. This can make streets safer and encourage walking and cycling as a means of sustainable transport. Research has shown that the use of street trees is effective as a traffic calming measure¹⁹. Trees, hedgerows and other vegetation can also mitigate the negative impacts of fine particulate air pollution within urban areas.

15 The People and Nature Survey for England. [https://www.gov.uk/government/collections/people-and-nature-survey-for-england#monthly-interim-indicators-year-1-\(april-2020-%E2%80%93-march-2021\)](https://www.gov.uk/government/collections/people-and-nature-survey-for-england#monthly-interim-indicators-year-1-(april-2020-%E2%80%93-march-2021))

16 Improving access to greenspace: A new review for 2020 (2020). Public Health England.

17 NHS UK website - Green social prescribing <https://www.england.nhs.uk/personalisedcare/social-prescribing/green-social-prescribing/>. Accessed 29/10/2021.

18 UK Natural Capital Accounts: 2020 (2020). Office for National Statistics.

19 Trees in Hard Landscapes: A Guide for Delivery. Trees and Design Action Group [tdag_tihl.pdf](#)

2. Vision and Objectives

Vision

2.1 The Worcestershire Green Infrastructure Partnership has developed the following vision for GI in the county:

Worcestershire's high quality natural and historic environment will fulfil a multi-functional role. It will underpin and enable sustainable growth of the economy, significantly improve our communities' experience of natural and historic places, deliver meaningful benefits to health and well-being and underpin and act as the foundation for the county's resilience to climate change.

2.2 The Green Infrastructure Strategy aims to deliver the GI Partnership's vision through the objectives specified below.

2.3 GI will be planned and managed to form a network of integrated spaces. GI will be delivered both as part of new development and through changes to the management and maintenance of existing areas. Future development in Worcestershire should ensure the sustainable delivery of GI.

2.4 The key to success will be working together. The GI approach requires joined-up, partnership working, which uses available resources to secure the greatest gains for both the environment and the sustainable economy. This is something we are good at in Worcestershire, but to succeed we need continued commitment to a shared direction.

2.5 To deliver this strategy, the Green Infrastructure Partnership will work with a wide range of stakeholders across the public and private sectors, within and outside the county, to seek alignment between the Green Infrastructure Strategy and the plans, strategies and delivery proposals of other stakeholders.

Objectives

2.6 The **Strategic Objectives** of the **Green Infrastructure Strategy** are to:

- Establish a framework of principles and priorities for Green Infrastructure in Worcestershire to meet the multiple integrated needs of business, the environment and communities, and manage transition in response to the impacts of climate change.
- Embed the benefits of Green Infrastructure and the services the environment provides in supporting the successful growth of Worcestershire's economy and the health and well-being of its communities.
- Synthesise existing evidence to identify needs and opportunities to inform the future planning and management of Green Infrastructure in Worcestershire which complements wider networks beyond Worcestershire.
- Drive the implementation, delivery and long-term maintenance of high-quality Green Infrastructure in the county and ensure that measures are in place to deliver the vision.
- Assist Partners in aligning future delivery projects and their funding streams.

2.7 There is the potential to deliver green infrastructure through a wide range of activities including new development and effective land management practices. The development industry and planning system will have a key role to play, but other sectors also have the potential to make a significant contribution.

2.8 Key stakeholders and strategies relating to GI in the county include those set out in Figure 4.

Key Partners



Figure 3: Key Partners in the delivery of Green Infrastructure in Worcestershire

2.9 Please note that the above list of partners is indicative and focuses on only key workstreams and documents prepared by these organisations and groups. A more comprehensive list of relevant documents can be found in **Appendix E**.

3. Green Infrastructure Context

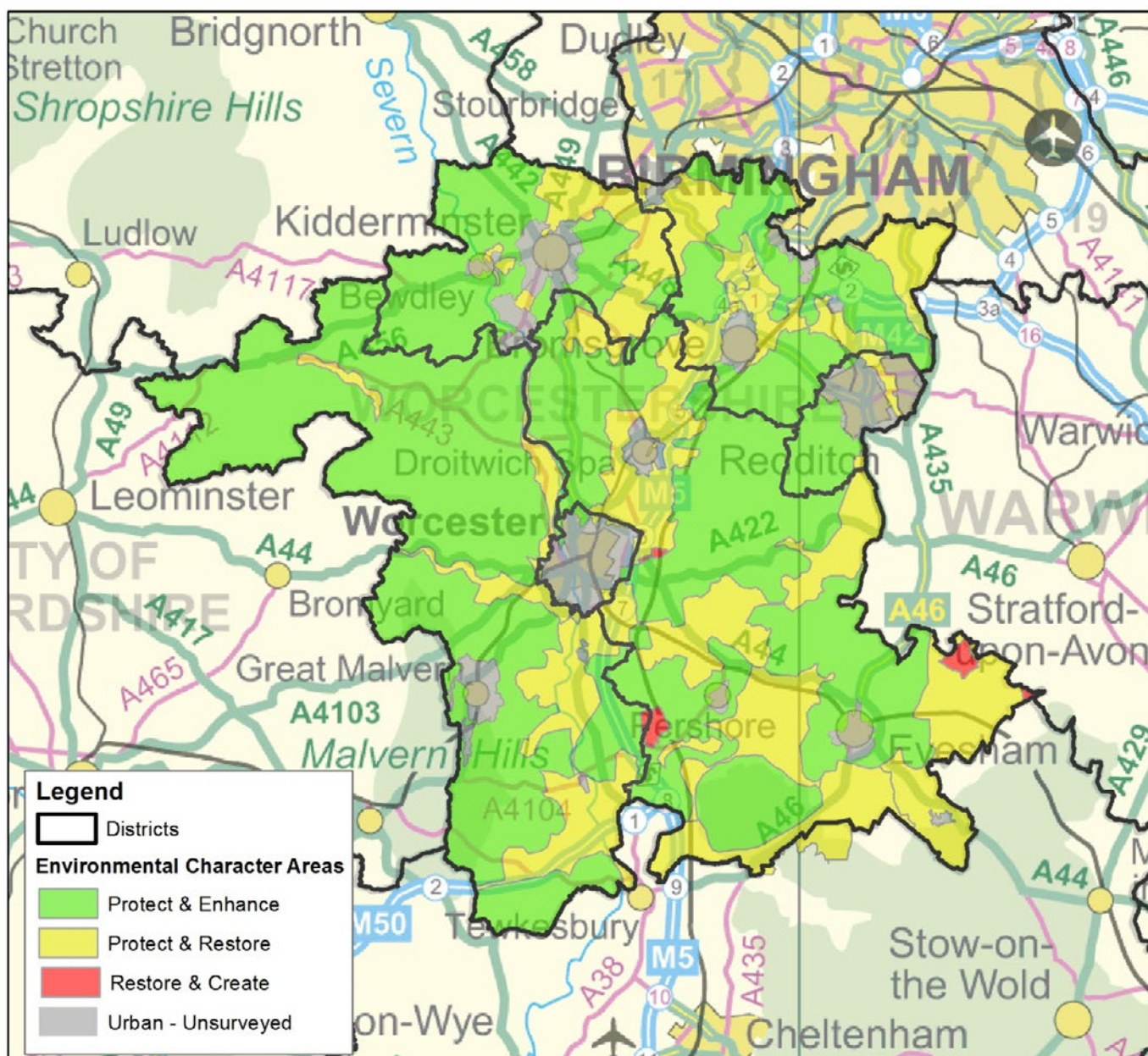
- 3.1 A new National Framework of Green Infrastructure Standards²⁰ is currently in development by Natural England. The emerging principles for these new standards have informed this GI Strategy document.
- 3.2 The rest of this section outlines the local GI context in Worcestershire. The information in this section is derived from the evidence base set out in the Worcestershire Green Infrastructure Partnership Framework Documents, available on Worcestershire County Council's [Planning for Green Infrastructure webpages](#).

Environmental Character in Worcestershire

- 3.3 The character of the environment in Worcestershire varies across the county. Lowland agricultural areas in the Vale of Evesham, for example, have a different character to the North Worcestershire Hills or the wooded landscapes of the Wyre Forest. The Worcestershire Green Infrastructure Partnership has considered the way in which landscape character, biodiversity and historic environment contribute towards character across the county and has identified 30 distinctive Green Infrastructure Environmental Character Areas (ECA).
- 3.4 The quality of these areas has been assessed against each of the considerations (landscape character, biodiversity including blue infrastructure and historic environment) to arrive at a score for each ECA. Each ECA has been placed into one of three categories according to its score. See GI Framework Document 2 for further explanation of this process. The categories are:
 - 1. Protect and enhance (greatest existing green infrastructure value)
 - 2. Protect and restore (medium existing green infrastructure value)
 - 3. Restore and create (lowest existing green infrastructure value)
- 3.5 These categories have been mapped in Figure 5 to provide an indication of the quality of existing strategic GI in the county.
- 3.6 The majority of the county is of high GI quality. This is particularly the case in the north and west, which are characterised by the Malvern Hills and Commons and the Teme Valley. Significant areas of high-quality GI also exist to the east in the Forest of Feckenham and on Bredon Hill.
- 3.7 There is a significant corridor of green infrastructure categorised as protect and restore linking the principal residential areas of Redditch, Bromsgrove, Droitwich and Worcester and following the Severn Valley in the south of the county. A further area of medium quality green infrastructure also exists in and around the Vale of Evesham in the southeast of the county.
- 3.8 There are only four small areas in the restore and create category. These are areas which have low scores for at least two of the three categories they were assessed against. They represent opportunities to restore degraded characteristics and to create new green infrastructure opportunities where none exist currently. However, it should be noted that in some cases areas have a low score only because the level of information is limited, and this may not necessarily reflect a low quality of GI.

20 <https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Home.aspx>

3.9 The ECAs defined exclude all of the large urban settlements in the county, as data was not available for these areas in all or some of the categories. On the map they are shown as “Urban - Unsurveyed”.



Environmental Character Areas

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Figure 4. Green Infrastructure Environmental Character Areas

3.10 More detail regarding the landscape character, biodiversity and historic environment of the county is set out in the **GI Framework 2** evidence base document.

Socio-economic Analysis

- 3.11 The analysis of the socio-economic situation in Worcestershire in this strategy considers the economy and health & well-being at a high level, focusing on the indicators which are of most relevance to green infrastructure:
- **Economy:** employment deprivation measures the proportion of the working age population in an area involuntarily excluded from the labour market.
 - **Health and well-being:** health deprivation measures the risk of premature death and the impairment of quality of life through poor physical or mental health.
 - **Access to sites for informal recreation:** considers links between informal recreation opportunities and mental and physical well-being.
- 3.12 This analysis has identified the linkages between socio-economic factors and green infrastructure. Its findings, however, need to be treated with caution; elements such as the quality of the natural environment, distinctiveness of places or accessibility of natural open spaces can potentially help to attract investment and improve the health of residents, but the natural environment is only one of many factors which influence people's lifestyle decisions and behaviour.
- 3.13 The socio-economic performance of Worcestershire is generally good. Notwithstanding this, some particularly highly- and poorly performing areas can be identified, as illustrated in Figure 6. It is important to note that most of the areas indicated as 'poor' in Figure 6 actually perform relatively well on a national scale. The comparisons are therefore only relevant when used to identify patterns at a county-scale.
- 3.14 Generally, areas of poorer health are found where there are lower employment levels. Most areas that are more deprived in relation to employment and health are in urban areas of the county with rural areas much more likely to be less deprived in relation to employment and health.

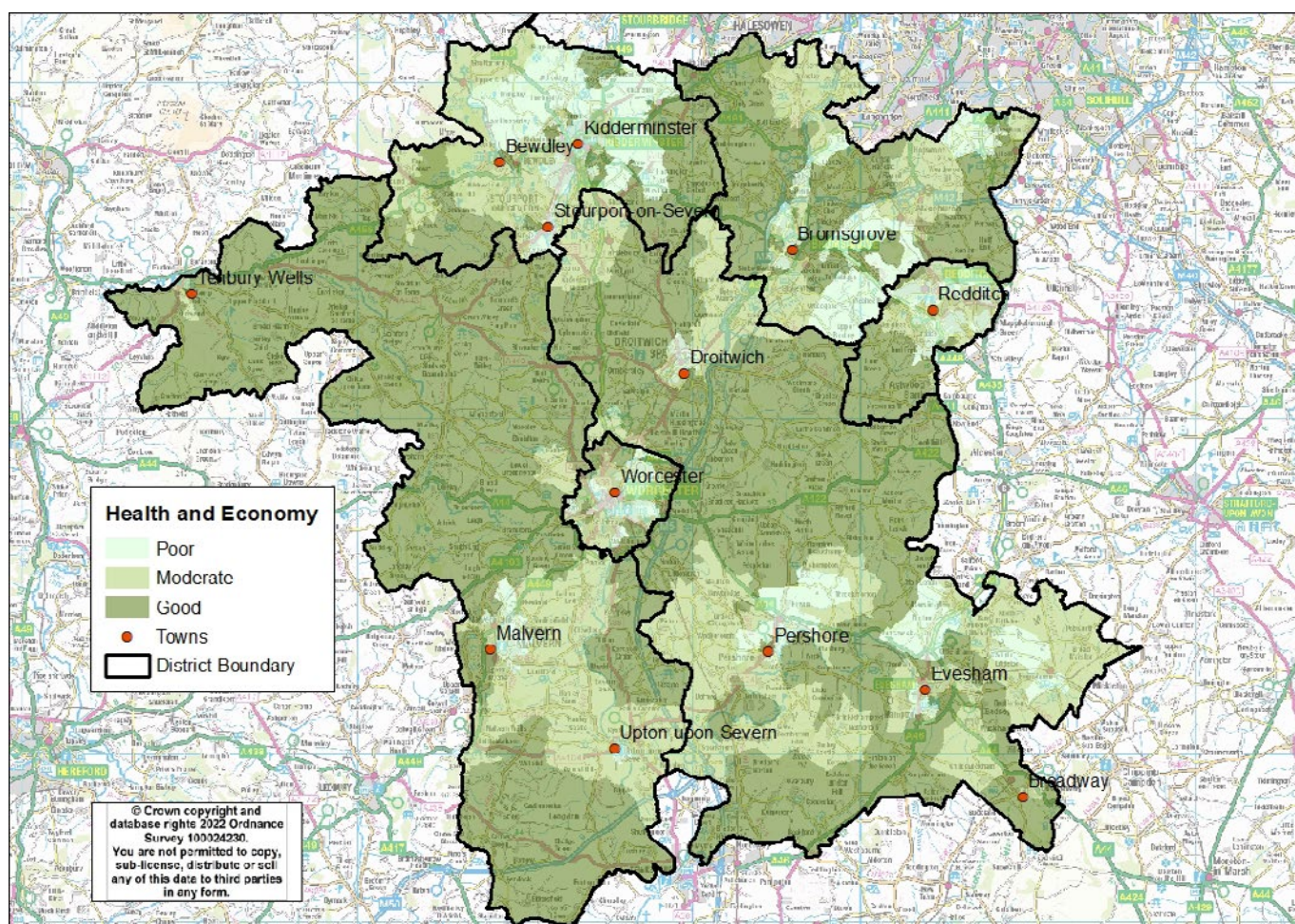


Figure 5. Socio-economic profile of Worcestershire (map produced April 2022) - Analysis of Green Infrastructure indicators

- 3.15 The analysis also considered the provision of strategic recreation assets in the county, the current level of demand for facilities and anticipated future demand based on predicted population growth in the county and in neighbouring counties.
- 3.16 The majority of the existing facilities are currently experiencing a high level of demand and are unlikely to be able to absorb an increase in visitor numbers without having a detrimental impact on the habitats, visitor experience or the quality of the site. To overcome this, a new country park or similar facility will be required in the county, to accommodate the informal recreational needs arising from predicted population growth.
- 3.17 We have identified a series of broad areas of search for a new facility which will need further investigation to determine the most suitable location for a new facility.
- 3.18 More detail of the health and economic indicators and capacity of recreation assets is set out in **GI Framework Documents 4 and 3** respectively.

Climate Change

- 3.19 Worcestershire's CO2 emissions and Air Quality Management Areas are concentrated along the main transport routes, as well as in and around the main urban centres. Between 2005 and 2019 there was a 34% overall reduction in the county's CO2 emissions²¹.
- 3.20 The predicted long-term climatic trends in the UK are for warmer, wetter weather and it is expected that Worcestershire will experience significant changes in weather conditions in the future. UK summer temperatures in 2022 were 0.9oC above the 1991-2020 seasonal average and the annual mean temperature in 2021 was 0.1oC above the average for the same period, and 1oC above the average for 1961-1990²². The decade from 2011 to 2020 was on average 9% wetter than the period 1961-1990²³. Climate change is likely to have a detrimental impact on Worcestershire's habitats, species and residents. Worcestershire has suffered from extreme weather events including flooding, drought, heatwaves and storms and the risk of these events is likely to increase.

Blue Infrastructure

- 3.21 The types of flooding that arise in Worcestershire include fluvial flooding (from main rivers and watercourses), rising groundwater, and pluvial flooding (from surface run-off). Whilst pluvial flooding can occur anywhere in the county, the areas particularly prone to fluvial flooding are located in proximity to main rivers and watercourses and include the following:
- River Teme (e.g. Tenbury Wells)
 - River Severn (e.g. Worcester, Bewdley, Upton-on-Severn, Kempsey)
 - River Avon (e.g. Evesham).

21 Worcestershire County Carbon Emissions report. Worcestershire County Council. https://www.worcestershire.gov.uk/download/downloads/id/15270/worcestershire_carbon_emissions.pdf

22 <https://www.ons.gov.uk/economy/environmentalaccounts/articles/climatechangeinsightsuk/august2022#current-state-of-the-climate-in-the-uk>

23 <https://climate-change.data.gov.uk/climate-weather>

- 3.22** Groundwater availability from aquifers is significantly restricted in parts of Worcestershire, largely as a result of existing high levels of abstraction. For example, no new abstraction licenses are currently available for aquifers at Kidderminster, Stourport and Bromsgrove as existing levels of licensed abstraction exceeds the predicted long-term rate of recharge.²⁴
- 3.23** In addition, Worcestershire suffers from significant water quality issues. The majority of watercourses in Worcestershire are polluted with phosphates and nitrates from agricultural land. The Water Framework Directive (WFD) sets an overall target that all surface water bodies and groundwater bodies should achieve good ecological status by 2027, whilst aiming to achieve good by 2021. Exceptions to this deadline are where it is impossible for individual elements to achieve good status due to technical infeasibility, disproportionate costs or natural conditions do not allow timely improvement. Detailed objectives relating to a particular water body can be viewed on the Catchment Data Explorer²⁵. Currently, most of Worcestershire's watercourses have a moderate or poor ecological status classification and most are at risk of not meeting the 'good status' target²⁶.
- 3.24** Many blue infrastructure issues, such as water supply or water quality and flooding, will become more prevalent as a result of extreme weather events linked to climate change.
- 3.25** There are multiple interactions between blue and green infrastructure which are explored more fully in the GI Framework Document 4 evidence base.

24 Worcestershire Middle Severn Abstraction Licensing Strategy (2022). Environment Agency [Worcestershire-Middle-Severn-abstraction-licensing-strategy.pdf](#) ([publishing.service.gov.uk](#))

25 <https://environment.data.gov.uk/catchment-planning/>

26 <https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3075> Draft River Basin Management Plan: maps (accessed 24/03/2022)

4. Spatial Priorities for Green Infrastructure in Worcestershire

4.1 This section outlines the spatial priorities for GI in Worcestershire. The quality of the natural and historic environment and the socio-economic status has been considered to identify high-level priorities to inform the Partnership's approach to green infrastructure in different areas of the county. This is intended to be a high-level approach that balances environmental and socio-economic considerations.

4.2 The following broad categories have been identified. More information on the methodology can be found in GI Framework Document 2.

Classification	Environmental quality	Socio-economic status	Overall approach
Premium	High	High	Protect and enhance environmental quality / maintain socio-economic status
Good a)	High	Medium	Protect and enhance environmental quality / support socio-economic enhancements
Good b)	Medium	High	Restore environmental quality / maintain socio-economic status
Average a)	High	Low	Protect and enhance environmental quality / invest in socio-economic enhancements
Average b)	Medium	Medium	Restore environmental quality / support socio economic enhancements
Average c)	Medium	Low	Restore environmental quality / invest in socio-economic enhancements
Other a)	Low	Any	Low environmental quality – Further investigation required
Other b)	?	?	Urban unsurveyed – Further investigation required.

Table 2: Broad categories and overall approach to GI

4.3 Figure 7 sets out these categories across the county and identifies opportunity areas for informal recreation sites.

4.4 The spatial priorities presented in Figure 7 is intended to guide the work of the Partnership. When considering specific proposals, they should be read in conjunction with the strategic priorities for each ECA, as identified in Appendix D and the more detailed assessment of green infrastructure priorities in GI Framework Document 2. It is also important to remember that although the priorities provide a starting point, individual site considerations will be key in choosing an appropriate approach. More details about how to do this are set out in Section 5 below.

Worcestershire Green Infrastructure Strategy

Overall spatial approach

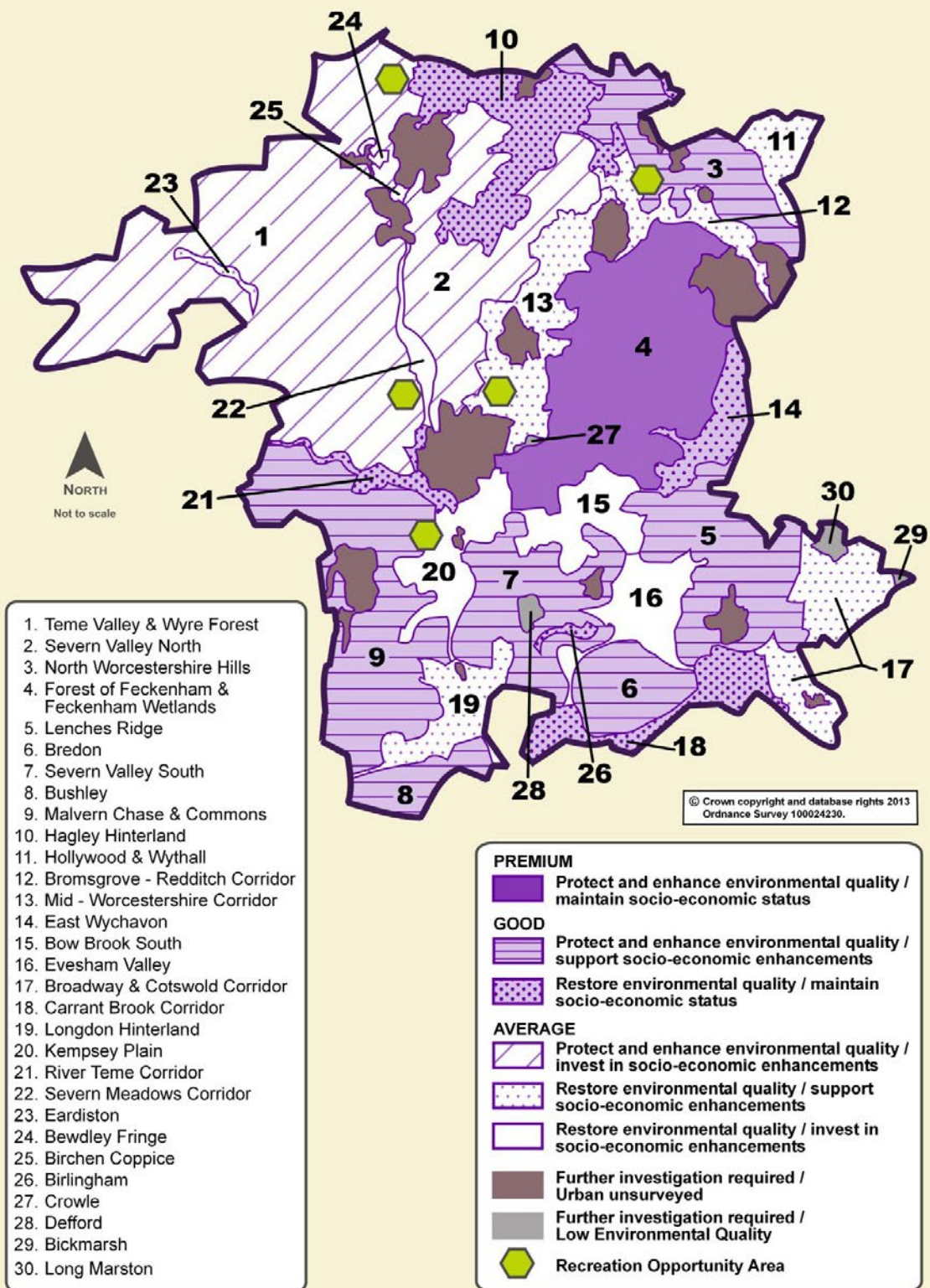


Figure 6. Spatial priorities for green infrastructure in Worcestershire

5. Delivering Good Green Infrastructure

Process of delivering good GI

- 5.1 Natural England defines a set of five key 'process' principles which describe how to deliver good Green Infrastructure:
- **Partnership and vision:** Working in partnership and collaboration with a wide range of stakeholders to plan, develop and deliver a vision.
 - **Evidence:** Use of scientific evidence and data to understand environmental, social and economic challenges and needs.
 - **Plan strategically:** Secure green infrastructure as a key asset in local strategy and policy at all scales.
 - **Design:** Practice good placemaking by understanding an area's landscape, townscape and historic character.
 - **Managed, valued and evaluated:** Establish mechanisms for good governance, funding, management, monitoring and evaluation of GI.

Cross-cutting principles

- 5.2 The delivery of green infrastructure also encompasses the following cross-cutting principles:

Sustainable development

- 5.3 Many of the key delivery mechanisms identified relate to land-uses which are controlled to varying degrees by the planning system. According to the National Planning Policy Framework (NPPF), achieving sustainable development requires the planning system to pursue net gains across three interdependent and mutually supportive overarching objectives: economic, social and environmental²⁷. Adopted local plans, the county Minerals Local Plan and emerging district-level plans are also seeking to drive forward the delivery of sustainable development.
- 5.4 GI has a clear role to play in this regard and closely reflects the principles of sustainable development identified in the NPPF. The delivery of GI should therefore be an important consideration when assessing the extent to which proposals for housing, employment, mineral working and infrastructure projects constitute sustainable development.

27 Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework

Multi-functionality

5.5 Multi-functionality underpins the GI approach. It seeks to ensure that areas of land can deliver multiple functions through good design, management and layout. For example, a new route for walking and cycling can be aligned to a wildlife corridor connecting fragmented habitats. Sustainable Drainage Systems (SuDS) can contribute to biodiversity and landscape enhancement and offer opportunities for informal recreation²⁸. The key priorities for each of the environmental aspects of green infrastructure are set out below. In combination these interventions can also deliver multiple socio-economic benefits.

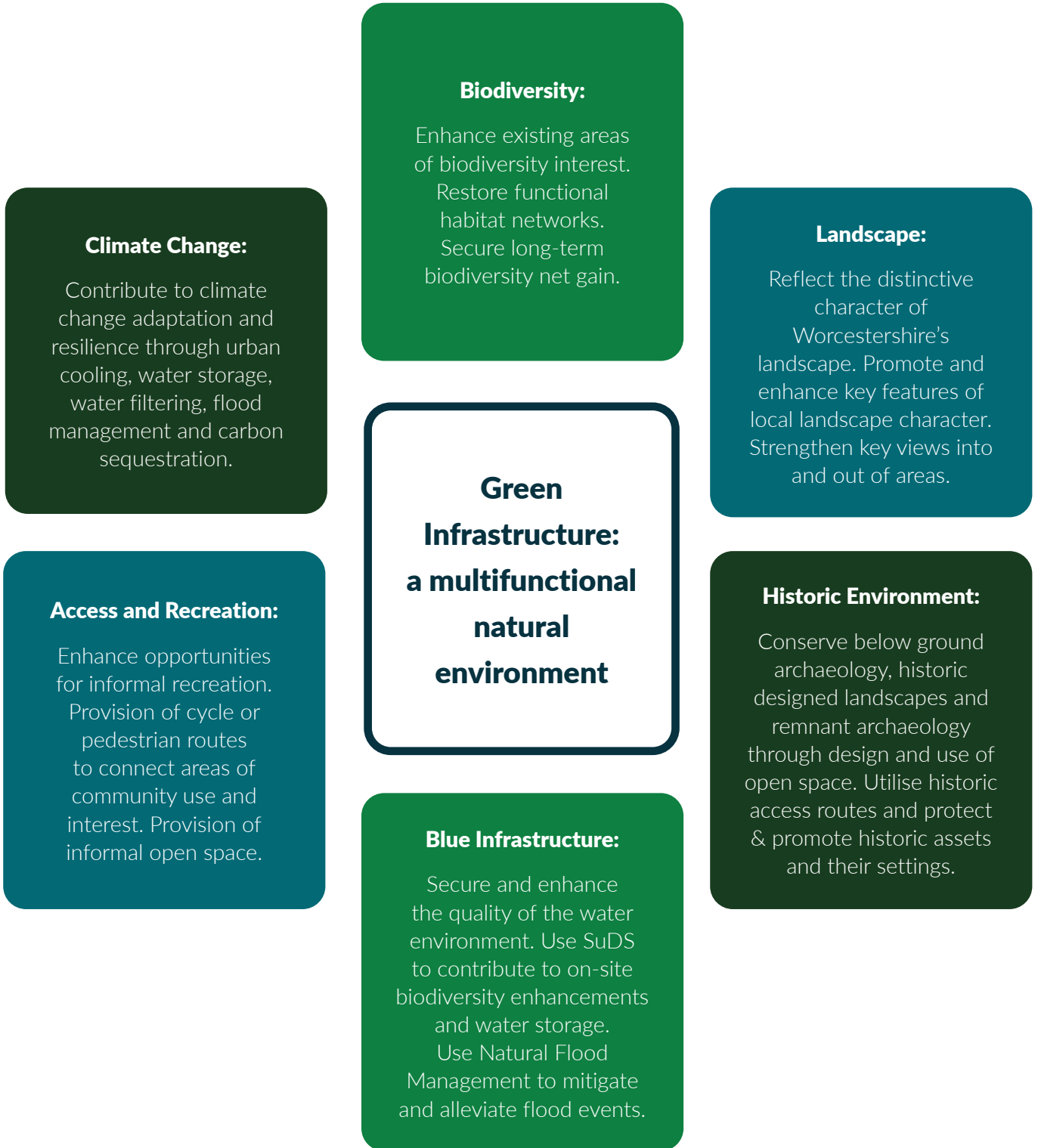


Figure 7. Elements of multi-functional green infrastructure

28 Sustainable Drainage Design & Evaluation Guide (2018). McCloy Consulting & Robert Bray Associates.

Key delivery opportunities

- 5.6 The main opportunities to deliver green infrastructure in the county will be from integrating green infrastructure priorities and principles into other plans, proposals and decision-making processes. These include:
- A. **New development** such as housing and employment
 - B. **Land management** initiatives such as agri-environment schemes and carbon sequestration projects
 - C. **Minerals extraction and restoration**
 - D. **Infrastructure developments** such as transport, renewable energy and water-related projects
 - E. **Retrofitting** green infrastructure into existing development
- 5.7 This is not an exhaustive list. Other opportunities will arise during the lifetime of the strategy. However, this strategy focuses on these five key opportunities and sets out:
- The rationale for delivering green infrastructure through each of these opportunities
 - The principles that should be applied and the priorities to take into account
 - The mechanisms that exist to assist with delivery.

A: Delivering Green Infrastructure through new development

Why deliver Green Infrastructure through new development?

- 5.8 Integrating green infrastructure into new development delivers a range of benefits for the developer, future residents and occupants of the site and the wider community. Figure 9 illustrates some of these short- and long-term benefits.

BENEFITS OF INTEGRATING GI INTO NEW DEVELOPMENT



Delivery of Biodiversity Net Gain

Investing in quality Green Infrastructure including the creation or enhancement of natural habitats to deliver biodiversity outcomes can contribute to the on-site delivery of mandatory Biodiversity Net Gain as required by the Environment Act 2021.

Higher Returns on Properties

The value of cultural services provided by publicly accessible green and blue spaces capitalised into property prices was calculated as £2,813.80 in 2016, or 1.19% of the average UK property price. In Worcestershire these figures were £3,085.30 and 1.53% respectively.

Office for National Statistics www.ons.gov.uk/economy/environmentalaccounts/articles/valuinggreenspacesinurbanareas/ahedonicpriceapproachusingmachinelearningtechniques

Health and Well-being

There is now a sizable body of research demonstrating that access to nature and green spaces near to where people live and work has significant benefits for physical and mental health and well-being.

A rapid scoping review of health and wellbeing evidence for the Framework of Green Infrastructure Standards (2020). Natural England. <http://publications.naturalengland.org.uk/publication/4799558023643136>

Climate Resilience

Well-designed green infrastructure can contribute to making new development more resilient to the impacts of climate change. This could include natural open spaces with the ability to absorb water and provide flood storage or the positioning of vegetation, particularly trees and woodland, to offer shading and cooling.

UK Green Building Council <https://www.ukgbc.org/ukgbc-work/the-value-of-urban-nature-based-solutions>

Town and Country Planning Association https://tcpa.org.uk/wp-content/uploads/2021/11/gcg_cc-adaptation_final.pdf

Increase occupancy rates and rents

Case Study: Investment in green infrastructure which included planting of over 1800 new trees created a setting for stimulating business growth at the Riverside Park Industrial Estate in Middlesbrough. It resulted in: 38% occupancy growth, £1m of investment, 28 new businesses starting up and 60 new jobs being created.

https://www.gensler.com/uploads/document/220/file/Open_Space_03_08_2011.pdf

Figure 8. Reasons to integrate green infrastructure into new development

- 5.9** In addition, good quality green infrastructure will contribute to the value and desirability of a development. It can provide spaces for relaxation and opportunities for healthier lifestyles, contribute to community cohesion, and make the settlement comfortable and liveable through cooling and shading which offset the impacts of climate change. Green infrastructure can also contribute to water storage and management to ameliorate the impact of flooding, incorporate renewable energy use and passive solar gain through building orientation and design.
- 5.10** Even modest developments can contribute towards and benefit from the provision of green infrastructure at a local scale. However, the benefits arising from larger sites, such as linking biodiversity corridors or provision of a Country Park, can contribute to strategic green infrastructure which brings wider benefits to the county and beyond.

Business parks and industrial development

- 5.11** Quality green infrastructure, including areas of natural habitats, pedestrian routes and cycle routes, can contribute to the attractiveness of business park and industrial development, encouraging inward investment. Sustainable transport routes also make these developments more desirable, as they improve accessibility. Sustainable drainage, rainwater collection and use of on-site wastewater cleaning can reduce maintenance costs and reduce flood risk on site, meaning that business operations are more resilient to the increasing risk of extreme weather events.
- 5.12** In many cases green infrastructure can be used as a more cost-effective alternative to traditional 'grey' infrastructure; sustainable drainage, for example, can be used as an alternative to traditional methods of disposing of storm water. Biomass energy generation²⁹ could also be used as an alternative to traditional centralised energy supplies.

²⁹ Biomass energy generation in relation to GI means utilising the green waste produced as a result of maintenance of green infrastructure on sites to generate energy and heat. Larger sites may also be able to accommodate sustainably managed woodland for biomass.

5.13 Additional sustainable design features, such as green roofs, can also be incorporated into developments.



Local case study: Kanes Foods, a leading UK supplier of fresh chilled vegetables based in the Vale of Evesham, constructed a new sustainable salad factory in 2012 covered with what was at the time Europe's largest green roof. The curved roof supports a range of grasses and wildflower species. The roof maximises the thermal efficiency of the building whilst providing a habitat for wildlife which blends almost seamlessly into the contours of the surrounding Cotswold Hills.

5.14 The long-term management and sustainability of GI should be considered when incorporating these features into a development. Where the long-term management of the business park or industrial development would typically be undertaken by a management company, it would normally be possible to integrate GI maintenance with standard arrangements.

Residential development

5.15 GI provision in residential developments can be varied and can include informal space, footpaths, bridleways, cycleways, SuDS, natural habitats and street trees. GI can also include gardens which are the responsibility of individual owners but can contribute to ecological networks if managed appropriately.

5.16 Well-planned pedestrian and cycle routes contribute to the attractiveness of residential development and contribute to healthier lifestyles, particularly where routes are well linked to wider walking or cycle networks. They provide alternatives to using motorised transport and support a reduction in localised car journeys, contributing to a lower community carbon footprint. Walking and cycling routes should link to community assets and local centres. If off-road, these networks can link corridors of biodiversity importance and form a part of facilities such as SuDS corridors. Informal recreation areas such as parks, playgrounds and other green spaces are identified by 9 out of 10 adults as important in making somewhere a good place to live or work³⁰. Proximity to good quality green infrastructure can also increase house prices. There is potential to incorporate natural habitats into the provision of both sustainable transport routes and informal recreation spaces.

30 Ipsos Mori survey <https://www.groundwork.org.uk>

5.17 An assessment of the capacity of nearby recreational sites to absorb additional use without causing detriment to the environment should be completed for new residential development sites. Access into these areas and buffering of the nearby sites should be incorporated into the design of new developments.

5.18 The quantum of green infrastructure within any new development needs to be sufficient to meet the needs of the new community, deliver multi-functionality, fulfil the sustainable development objectives of the NPPF, and support delivery of any minimum biodiversity net gain obligation. In Worcestershire, the Wyre Forest District Local Plan, adopted April 2022, requires 40% GI, excluding private gardens, for greenfield development sites exceeding 1ha, and 20% on sites between 0.2-1ha. The South Worcestershire Development Plan Review has also consulted on the same quantum requirement.



Legend

- Main green infrastructure corridors
- Secondary green infrastructure linkages
- Area of potential historic environment interest
- Important features off-site
- Linkages with wider setting
- Views in and out

ABOVE LEFT: GI Concept Plan prepared by Worcestershire Green Infrastructure Partnership
 ABOVE: Landscape MasterPlan submitted with the planning application

Local case study: A mixed-use development, adjacent to Webheath, which received planning consent in 2022 will provide in the region of 2,500 new homes within a 127.34ha site. A Green Infrastructure Concept Plan for the site was prepared by the Worcestershire Green Infrastructure Partnership which brought together subject specialists to identify the site’s existing GI assets. The multifunctional value of each asset was prioritised and the key opportunities to protect, enhance and link assets together through a future development scheme were set out with case studies drawn from local and national exemplar developments. Subsequent thematic and specialist site surveys commissioned by the developer brought a deeper understanding of key GI themes including ecology, landscape, forestry and drainage to inform a detailed Green Infrastructure Parameter Plan for the scheme. The approved landscape masterplan now allocates 37.4% of the site (47.62Ha) for Green Infrastructure and will provide a network of green spaces which include existing GI assets such as hedgerows and field patterns, copses, woodland and the Spring Brook. The development will add to these new elements using new features including structural planting, informal and formal recreational open space and parkland, new walking and cycling routes, sustainable drainage systems and purpose-built wildlife tower. A strong emphasis on wildlife habitat creation has been made within areas of open space, particularly in the Spring Brook corridor, with both Blue and Green Infrastructure designed to benefit ecology.

- 5.19 Sustainable drainage systems (SuDS) play an important role in the management of surface water run-off in developments. More sustainable than conventional drainage systems, they can mitigate adverse effects of stormwater runoff on the environment whilst providing opportunities for biodiversity enhancement and recreational corridors.
- 5.20 The Flood and Water Management Act 2010 gave Worcestershire County Council Lead Local Flood Authority (LLFA) status, with responsibility for flood risk management from surface water, groundwater and ordinary watercourses. The Council has produced a Local Flood Risk Management Strategy for Worcestershire³¹, which recognises and supports the use of a green infrastructure approach to deliver natural flood risk management. Natural Flood Management (NFM) aims to reduce flood risk by increasing the ability of a catchment to retain water for longer through the placing of natural physical barriers and enhancing attenuation and infiltration. GI features such as surface water attenuation ponds can contribute to reducing flood risk to developed areas.
- 5.21 Good GI provision within development can also extend to consideration of design elements such as lighting. Artificial lighting can ensure that natural spaces are safer and more user friendly for people but can have significant negative impacts on wildlife, for example interrupting the flight lines and foraging activity of bats. Careful consideration of the interface between artificial lighting and GI features following best practice guidance, such as that published by the Bat Conservation Trust³², can help to ensure that impacts on wildlife are minimised. This approach can also contribute to reducing the energy use associated with artificial lighting within a development.



Local case study: At Bewdley School architects Robert Bray Associates designed an innovative SuDS scheme to manage roof and surface water runoff that included permeable paving, vegetated swales, a rain garden and a wetland. The features are connected to feed a waterwheel, a tipping bucket and a Torricelli tube, enabling the SuDS to be used for educational purposes. **Bewdley School: Robert Bray Associates**

31 https://www.worcestershire.gov.uk/info/20236/flood_risk_management/1046/plans_policies_and_strategies

32 Guidance Note 08/18 Bats and artificial lighting in the UK. Bat Conservation Trust. <https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349>

What principles should be followed?

5.22 Figure 7. Spatial priorities for green infrastructure in Worcestershire, gives an indication of the high-level approach that should be taken to green infrastructure in each Environmental Character Area. A profile for each area is given in [Appendix C](#), with detail about the priorities outlined in [Appendix D](#). Additional guidance can be found in the Green Infrastructure Framework Documents 2, 3 and 4 which provide the evidence base for this Green Infrastructure Strategy.

5.23 The key to planning and managing green infrastructure in new development is to consider the site in its context. This includes considering the features of the site and the networks of habitats, sustainable transport routes and water courses that surround it. Figure 10 outlines the steps to follow when considering how to integrate green infrastructure within new development.

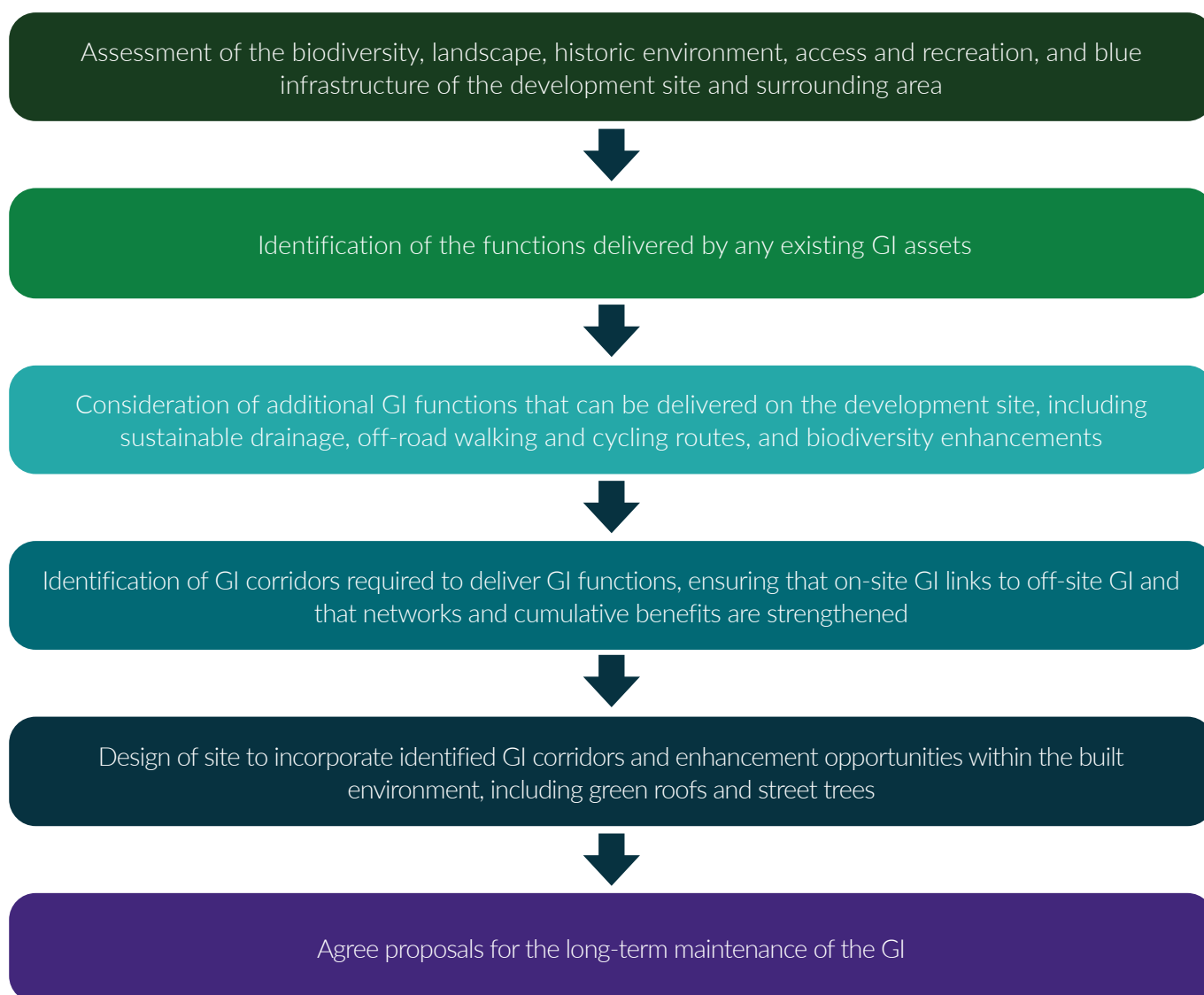


Figure 9. Principles to consider when integrating green infrastructure within new development

5.24 The Worcestershire GI Partnership has established the principle of preparing Green Infrastructure Concept Plans for major development sites, working in partnership with the appropriate local planning authority and the developer. These should contain an assessment of the GI assets and identify a set of GI principles and priorities for the site.

5.25 The Building with Nature Standards Framework³³ is the UK's first evidence-based benchmark for good industry practice for the delivery of high-quality green infrastructure. The standards are applicable to development of different types and scales. As well as allowing benchmarking of plans and policies and guiding the design and construction phases of the development itself, the standards provide an assessment tool to grant the Building with Nature Award within an accreditation system. Twelve overarching principles are set out that should be applied when seeking to achieve the standards.

What mechanisms exist to assist in delivery now and in the future?

5.26 Local planning policies are key to the delivery of quality GI through new development, and these should reflect the principles of sustainable development identified in national planning policy. Appropriately trained development management officers at local authorities and well-informed developers and consultants will also be key to success.

5.27 There are approximately 50 strategic development sites in Worcestershire, mapped in Figure 11 below. Integrating GI into the development of these sites offers significant opportunities for GI delivery in the county. Smaller sites also offer the opportunity to include green infrastructure, potentially integrated with other on-site features such as the requirements for formal play areas, SuDS, and features such as street trees.

STRATEGIC DEVELOPMENT SITES

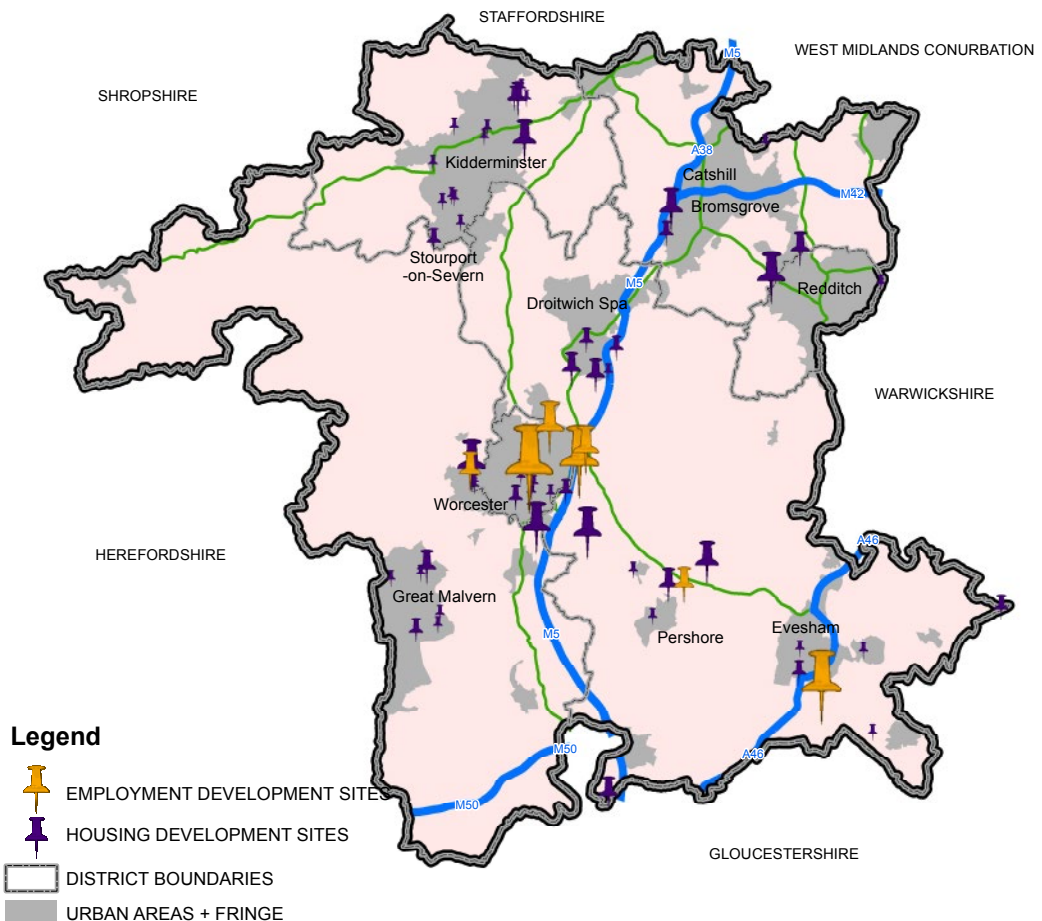
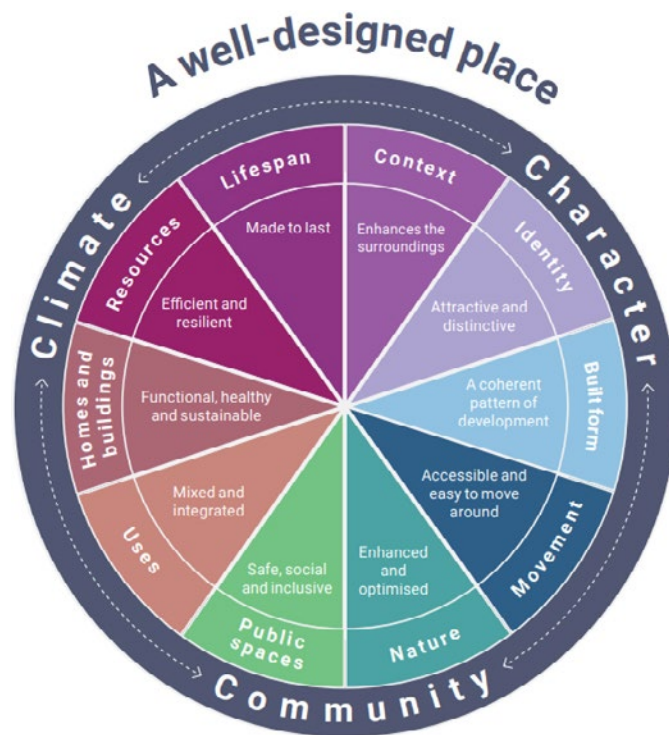


Figure 10: Map of strategic development sites in Worcestershire

33 <https://www.buildingwithnature.org.uk>

- 5.28 The long-term management, maintenance and monitoring of GI is important to ensure that assets maintain their role and function, particularly where they replace traditional grey infrastructure. Without appropriate management, functions can become lost or impaired over time. For development sites, both management plans and funding should form a part of proposals for the site development and these arrangements should be secured alongside planning permission.
- 5.29 The legal requirement to deliver Biodiversity Net Gain through planning provides an opportunity to contribute to the provision of green infrastructure on the development site and to secure funding for the long-term management of features.
- 5.30 Design Codes/Design Guides present an opportunity for ensuring that GI features are integrated into multiple aspects of the development design. Figure 12 is taken from the National Design Guide³⁴ and shows the ten characteristics of well-designed places. Many of these are of clear and direct relevance to GI, for example in creating developments that are accessible and easy to move around, where nature is enhanced and optimised and where the design creates resilience. Local Design Guides should reflect this overarching framework whilst setting out clear priorities for enhancing local character and identity through provision of green infrastructure.



- **Context** - enhances the surroundings.
- **Identity** - attractive and distinctive.
- **Built form** - a coherent pattern of development.
- **Movement** - accessible and easy to move around.
- **Nature** - enhanced and optimised.
- **Public spaces** - safe, social and inclusive.
- **Uses** - mixed and integrated.
- **Homes and buildings** - functional, healthy and sustainable.
- **Resources** - efficient and resilient.
- **Lifespan** - made to last.

Figure 11. The ten characteristics of well-designed places. Taken from the National Design Guide.

34 National Design Guide (2021). MHCLG. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962113/National_design_guide.pdf

B Delivering Green Infrastructure through land management

Why deliver Green Infrastructure through land management?

- 5.31** Although GI is frequently seen as the preserve of urban areas and new development, there is also a need for GI in rural areas. Worcestershire is a largely rural county, with a prevalence of land-based industries. Over 80% of the county is categorised as high-quality agricultural land, with agriculture, horticulture and forestry being prominent business sectors. Other places are managed for informal recreation, with approximately 20 such sites at a strategic scale and many more serving district or neighbourhood scale. Many tourist attractions in the county also involve 'paid-for' access to GI. There are 14 Local Nature Reserves, 112 Sites of Special Scientific Interest and 2 Special Areas of Conservation in the county which are managed primarily for biodiversity interest.
- 5.32** Although the primary purpose for managing these rural parts of Worcestershire may be focused on just one of the components of GI, many of these assets are in fact multi-functional and there is significant scope to integrate multifunctional GI in a way which is complementary and beneficial to the primary land-use.
- 5.33** Changes to land management practices offer opportunities to include a number of green infrastructure principles, including³⁵:
- Reduction in water abstraction from water courses for agricultural use through the development of water storage reservoirs. Well-designed reservoirs can also enhance biodiversity, and contribute to landscape and the historic environment;
 - Enhancements to water quality by reducing agricultural run-off and/or reducing the use of agricultural chemicals such as fertilisers;
 - Management of flood risk using natural flood management principles to increase flood resilience throughout catchments;
 - Provision of informal recreational opportunities, particularly through the enhancement of walking and cycling networks;
 - Biodiversity enhancements through management or creation of woodland as assets for renewable energy;
 - Optimising land management regimes to maximise soil carbon sequestration rates and storage capacity or, where appropriate, changing habitat type to one with higher carbon capture potential;
 - Management or creation of new woodland for recreation, health, water benefits, timber and biodiversity;
 - Enhancement and preservation of areas of historic interest and importance such as historic landscape patterns of hedges or the settings of historic buildings;
 - Biodiversity enhancements, such as planting and maintaining hedgerows and managing new woodland areas, can attract additional funding to a site from sources such as agri-environment schemes;
 - Locally-grown food can attract a price premium and become a tourist attraction (as evidenced in Worcestershire's Asparagus Festival and Plum Festival), which contributes to the local economy.
 - Renewable energy generation from biomass can be an incentive in appropriate circumstances for the management of habitats such as woodland, meadow and reed bed³⁶.

35 A wider analysis of the benefits and drawbacks to farm business, land management and rural economy is provided in the GI Framework 4 evidence base, which explores the economic and social benefits of GI in Worcestershire.

36 In some cases site management requirements would not be compatible with increased biomass removal for renewable energy generation. We must be careful to ensure that economic opportunity does not outweigh nature conservation value and that sites of high nature conservation value do not become over- 'managed' to the detriment of their biodiversity.

BENEFITS OF INTEGRATING GI INTO LAND MANAGEMENT



Environmental Land Management Schemes

The new Environmental Land Management Schemes will enable farmers and other land managers to enter into agreements and receive payments for delivering benefits including for water quality, habitats, species and soil protection. The scheme began piloting in 2021 and is due to launch in full by 2024.

<https://www.gov.uk/government/publications/environmental-land-management-schemes-overview/environmental-land-management-scheme-overview>

Payments for Ecosystem Services (PES)

Payments for ecosystem services (PES) is a term used to describe a range of schemes through which the beneficiaries, or users, of ecosystem services provide payment to the stewards, or providers of those services

Case Study: United Utilities, working with farm tenants in conjunction with partners such as the RSPB, Natural England and the Forestry Commission, undertook the Sustainable Catchment Management Programme (SCaMP) across 20,000ha land in the Peak District and Bowland areas, 13,000ha of which is designated as a SSSI. £10.5 million was invested in moorland restoration, woodland planting, farm infrastructure and protecting watercourses. Undertaking the SCaMP improvements allowed farmers to access additional agri-environment revenue income via grants administered by Natural England and the Forestry Commission.

Payments for Ecosystems Services: A Best Practice Guide (2013). Defra. <https://www.gov.uk/government/publications/payments-for-ecosystem-services-pes-best-practice-guide>

Health and Wellbeing benefits

Many sites providing green infrastructure offer the opportunity for informal recreation, through the inclusion of walking and cycling paths, mountain biking or specialist tourism such as bird watching. Neighbourhood-scale green infrastructure can be important in enabling people to take regular, informal exercise. A £5.77 million pilot project on the embedding of green social prescribing into community-based healthcare to tackle physical and mental ill health was launched by Government in 2020.

<https://www.england.nhs.uk/personalisedcare/social-prescribing/green-social-prescribing>

Wider recreational benefits

The Humber Nature Partnership has identified several locations where economic investment will lead to sustainable increases in visitor numbers and associated visitor spend. The wider Humber Estuary contains several nationally and internationally important sites for nature conservation, which attract tourists looking for walking, birdwatching and other wildlife and nature-related activities.

<http://humburnature.co.uk/admin/resources/investing-in-natural-capital.pdf>

Figure 12. Economic benefits of integrating GI into land management

What principles should be followed?

5.34 Figure 7 gives an indication of the high-level approach that should be taken to green infrastructure in each Environmental Character Area. A profile of each area is given in **Appendix C**, with detail about the priorities outlined in **Appendix D**. Additional guidance can be found in the Green Infrastructure Framework Documents 2, 3 and 4, which provide the evidence base for this Green Infrastructure Strategy.

5.35 The key to planning and managing green infrastructure features within wider land management is to consider the site in its context. This includes considering the features of the site and the networks of habitats, sustainable transport routes and water courses that surround it. Figure 14 outlines the steps to follow when considering how to integrate green infrastructure within land management.

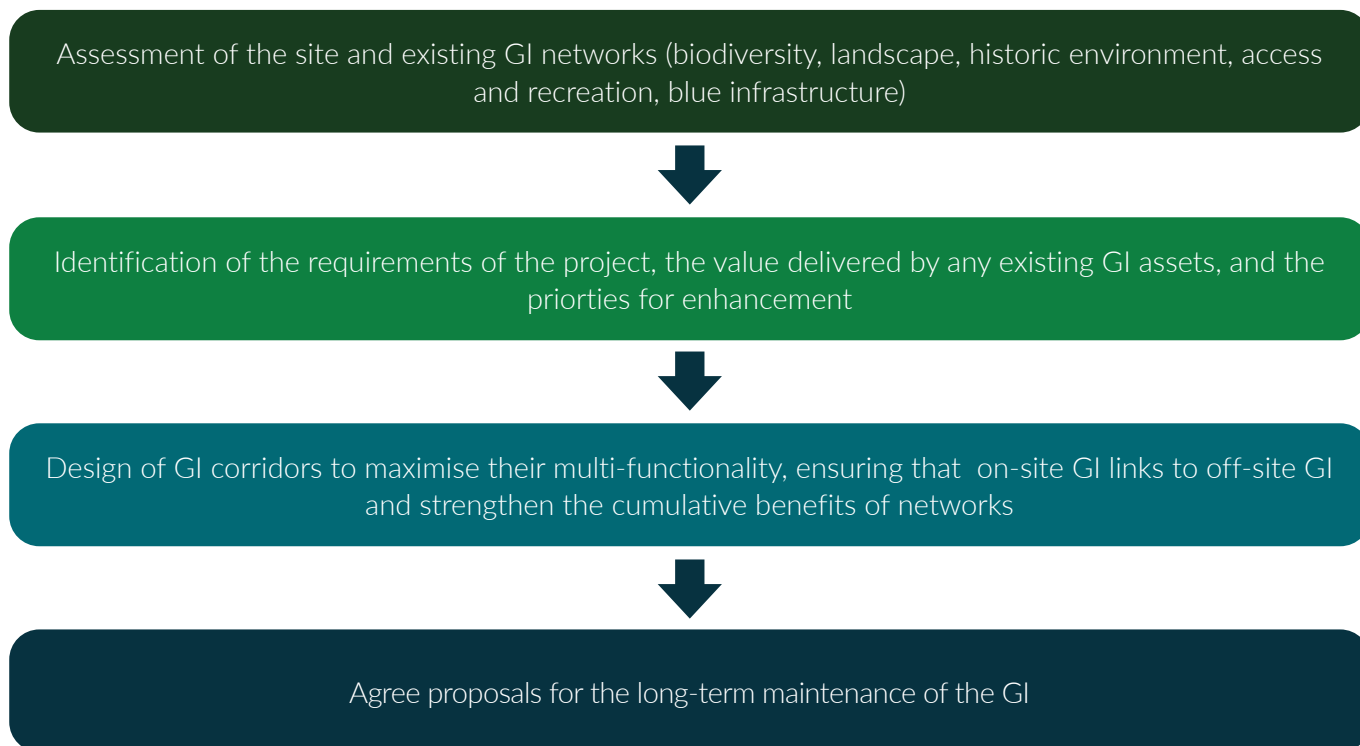


Figure 13. Principles to consider when integrating green infrastructure into land management

What mechanisms exist to assist in delivery now and in the future?

5.36 The mechanisms for delivery of green infrastructure in relation to land management include:

- Routine land management practices.
- Agri-environmental schemes which provide payments to farmers for environmentally sensitive or environmentally enhancing land management.
- Flood risk mitigation works.
- Participation in a carbon off-set market.
- Priorities for public access outlined in the Rights of Way Improvement Plan for Worcestershire.
- Participation in a Biodiversity Net Gain off-set market.
- Eco-Schools scheme supports pupils and supporters (school staff, admin and community members) to improve green infrastructure within their school grounds, promoting biodiversity and creating wildlife habitats, while providing rich learning opportunities.

C Delivering Green Infrastructure through minerals extraction and restoration

Why deliver Green Infrastructure through minerals extraction and restoration?

- 5.37 Minerals development can have a long-term impact on the character of an area but is in itself only a temporary operation. Once the minerals have been extracted, the land must be 'restored' to an appropriate after-use. This can involve restoring the land to its previous use, but can also provide significant opportunities for habitat creation, climate change mitigation and blue infrastructure enhancements and can include elements of public access for recreation. The scale of activity is also such that larger sites or sub-regional assets could be created.
- 5.38 The end-use of a restored mineral working would typically be agriculture, recreation or nature conservation, but due to their scale and the significance of landscape and habitat change often involved, there is usually opportunity to integrate the delivery of GI assets into restoration schemes. Many of the principles of multi-functionality outlined in **part 3 above** will also apply to restored minerals sites.
- 5.39 The mineral industry has a long history of restoring sites for biodiversity gain. By 2020 Mineral Products Association (MPA) members had created over 83km² of priority habitat through the restoration of minerals sites³⁷. The MPA works in partnership with many conservation groups, such as the RSPB and the Wildlife Trusts, on the restoration and subsequent management of restored workings, including a growing network of nature reserves that form the MPA's National Nature Park³⁸.
- 5.40 Minerals sites are also important to the UK's uniquely diverse geological heritage, because they afford opportunities to study and enjoy geology that would only otherwise be possible at major outcrops and around our coastline. Since 1949, 500 SSSIs (22% of all geological SSSIs), have been designated as a result of exposure left by quarrying³⁹.



37 <https://www.mineralproducts.org/Campaigns/Quarries-and-Nature/50-Years-of-Net-Gain.aspx>

38 <https://mineralproducts.org/Campaigns/Quarries-and-Nature/MPAs-National-Nature-Park.aspx>

39 Minerals Products Association (2012) "The mineral products industry's contribution to the UK"

BENEFITS OF INTEGRATING GI INTO MINERALS DEVELOPMENT



Cost-effective mitigation during extraction

The often-phased nature of minerals extraction over large sites and extended timescales, and the availability of earth moving and shaping equipment, means that delivery of green infrastructure features can begin at the earliest stages of mineral working. Habitats can be created temporarily or seasonally, including ponds or nesting banks for birds or invertebrates. The Worcestershire Minerals Local Plan supports this approach, with delivery of GI throughout the whole lifetime of a development encouraged in the proposed policy on green infrastructure.

<https://afterminerals.com/advice-category/habitat-advice/>

<https://www.worcestershire.gov.uk/minerals>

Reduced reliance on inert fill

With increased recycling and re-use of waste, inert fill to raise land levels following extraction is becoming increasingly scarce. It is also no longer acceptable in areas of flood risk or where it could impact on groundwater. The landfill of waste is also discouraged through the Worcestershire Waste Core Strategy.

The creation of many GI assets, including wetlands, facilitate restoration through use of overburden and other material found on site, without the need to import fill. This not only reduces reliance on outside industry but also minimises the regulatory burden through reducing environmental permitting requirements.

Cost-effective restoration

Wet woodland is a common component of aggregate sites and almost always succeeds rapidly during the operational period. For example, restored sand and gravel sites can provide the moist ground conditions for wet willow woodland which can be promoted by natural regeneration of a surrounding habitat or through planting. Natural regeneration is therefore an effective and a low-cost alternative that requires minimum effort. In addition, natural hydrological systems are generally more sustainable and cost-effective solutions than artificial water control systems.

Figure 14. Benefits of integrating GI into minerals development

- 5.41 By taking a green infrastructure approach and integrating restoration scheme objectives with the delivery of outcomes for a wider network of sites, environmental aspects are more likely to be successful. By taking an integrated green infrastructure approach it can be possible to deliver multiple benefits, for example biodiversity gains can be incorporated into agricultural or recreational restoration schemes.

What principles should be followed?

- 5.42 Figure 7 indicates the high-level approach that should be taken to green infrastructure in each Environmental Character Area. A profile for each area is given in [Appendix C](#), with detail about the priorities outlined in [Appendix D](#). Additional guidance can be found in the Green Infrastructure Framework Documents 2, 3 and 4, which provide the evidence base for this Green Infrastructure Strategy.
- 5.43 The key to planning and managing green infrastructure in minerals extraction and restoration is to consider the site in its context. This includes considering the features of the site and the networks of habitats, sustainable transport routes and water courses that surround it. Figure 16 outlines the steps to follow when considering how to integrate green infrastructure into mineral extraction and restoration.

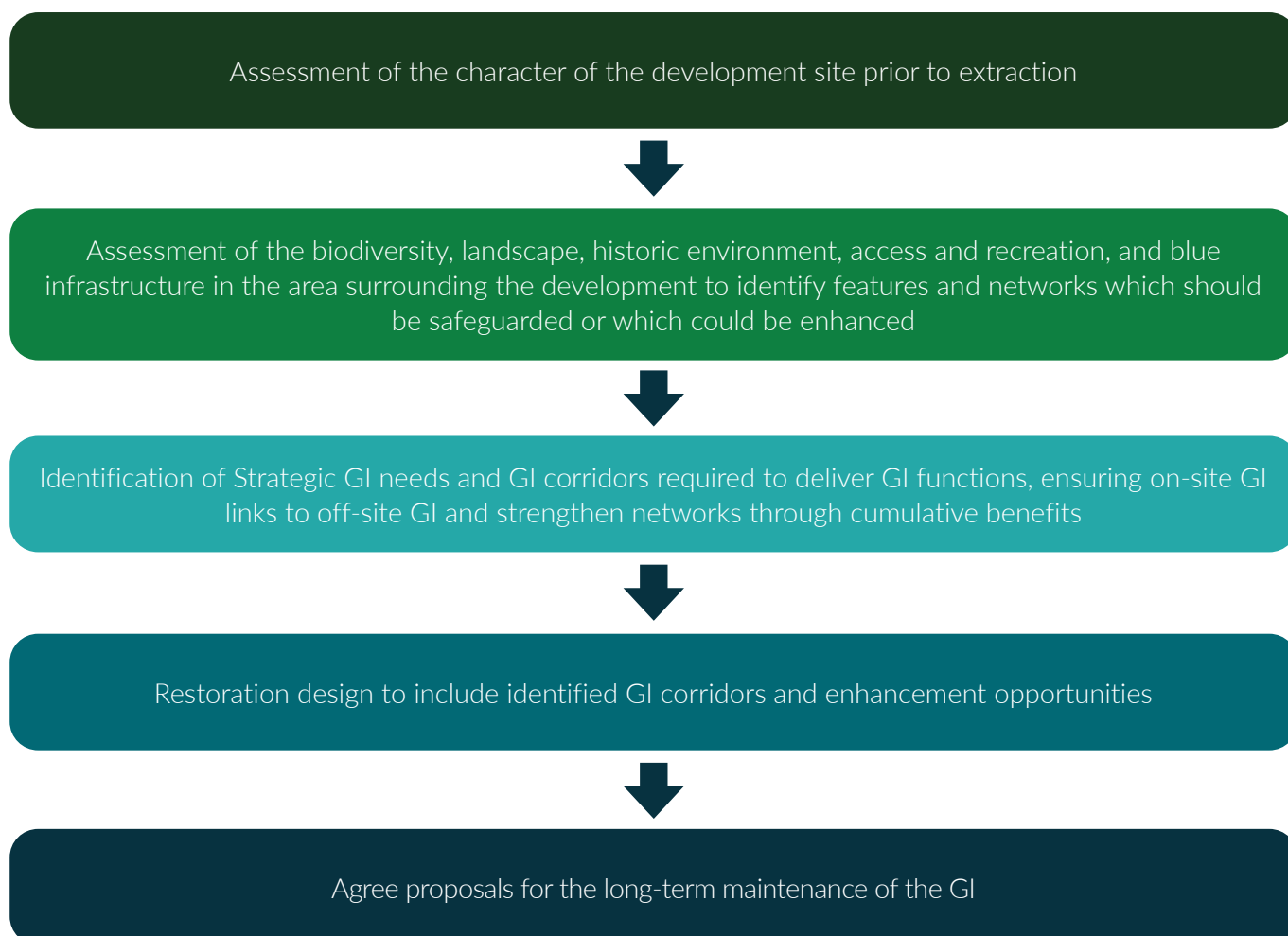


Figure 15. Principles to consider when integrating green infrastructure into mineral extraction and restoration

What mechanisms exist to assist in delivery now and in the future?

- 5.44 Modern planning permissions for mineral workings require a detailed restoration and aftercare scheme. The new legal requirement to deliver Biodiversity Net Gain through planning also provides an opportunity to contribute to the provision of green infrastructure and to secure funding for the long-term management of features.
- 5.45 Many operators are sympathetic to environmental enhancement, which is supported by the Mineral Products Association. There is likely to be significant potential to incorporate wider green infrastructure concepts within a greater range of restoration schemes.
- 5.46 The Worcestershire Minerals Local Plan⁴⁰ (MLP) (adopted July 2022) has a green infrastructure approach embedded throughout the plan to guide mineral extraction and restoration. Green infrastructure priorities are set out in policies for each of the strategic corridors identified in the MLP. If this opportunity is to be fully embraced, then a partnership approach to delivery is needed, involving discussions between the County Council (as the mineral planning authority), the mineral operator, and other relevant members of the Worcestershire Green Infrastructure Partnership.

D. Delivering Green Infrastructure through infrastructure development

Why deliver Green Infrastructure through infrastructure development?

- 5.47 The term 'infrastructure' means the basic facilities, services and installations needed for a functioning community or society, including transport, waste management, emergency services, communications, water supply, wastewater, flood risk, minerals and energy (including heat), health, community and cultural infrastructure and other local facilities.
- 5.48 Green infrastructure mechanisms can be used both in addition to traditional grey infrastructure approaches and as an alternative. Figure 17 illustrates alternative approaches and contributions which green infrastructure can offer.

40 <https://www.worcestershire.gov.uk/minerals>

BENEFITS OF INTEGRATING GI INTO INFRASTRUCTURE DEVELOPMENTS



Air quality management

Government estimates that fine particulate pollution and NO₂ emissions will cost the NHS and social care system £1.6 billion between 2017 and 2025. The use of green infrastructure in urban areas or as part of the strategic transport network can reduce the concentrations of pollutants to which people living and working nearby are exposed. A review of the recent scientific literature on the links between green infrastructure and air quality concluded that good barrier design and careful selection of plants can enhance air pollution mitigation.

<https://www.gov.uk/government/publications/air-pollution-applying-all-our-health>

[Effects of Vegetation on Urban Air Pollution \(2018\). Air Quality Expert Group.](#)

[Barwise, Y and Kumar, P. *nj Climate and Atmospheric Science* \(2020\)3:12.](#)

Screening and buffering

Green infrastructure can contribute to acoustic or visual screening of development. As well as tree and shrub planting alongside a noise source, sound insulation can also be enhanced through the use of green walls and green roofs to reduce noise transfer inside a building. Well-designed buffering of a development will include consideration of how onsite green spaces and green features can link into the local ecological network, connect priority habitats and provide enhancements for wildlife both within and beyond the development boundary.

<https://livingroofs.org/noise-sound-insulation/>

Surface water management

Green infrastructure can be used alongside or as an alternative to traditional engineered surface water drainage systems to support the protection of critical infrastructure from flooding. The use of SuDS to manage surface water within the development can deliver a cost saving as well as providing wildlife habitat, amenity value for people attending or working on the site and opportunities for education. Natural Flood Management (NFM) interventions can be located upstream of a development to reduce or slow the flow of water in times of flood events. Both SuDS and NFM can be designed to reduce the need for the chemical treatment of water before it enters a watercourse or the supply chain.

https://www.worcestershire.gov.uk/info/20236/flooding/1045/flood_risk_and_development/4

Figure 16. Benefits of integrating GI into infrastructure developments

What principles should be followed?

- 5.49** Figure 7 indicates the high-level approach that should be taken to green infrastructure in each Environmental Character Area. A profile for each area is given in **Appendix C**, with detail about the priorities outlined in **Appendix D**. Additional guidance can be found in the Green Infrastructure Framework Documents 2, 3 and 4, which provide the evidence base for this Green Infrastructure Strategy.
- 5.50** The key to planning and managing green infrastructure in new development is to consider the site in its context. This includes considering the features of the site and the networks of habitats, sustainable transport routes and water courses that surround it. Figure 18 outlines the steps to follow when considering how to integrate green infrastructure within new development.

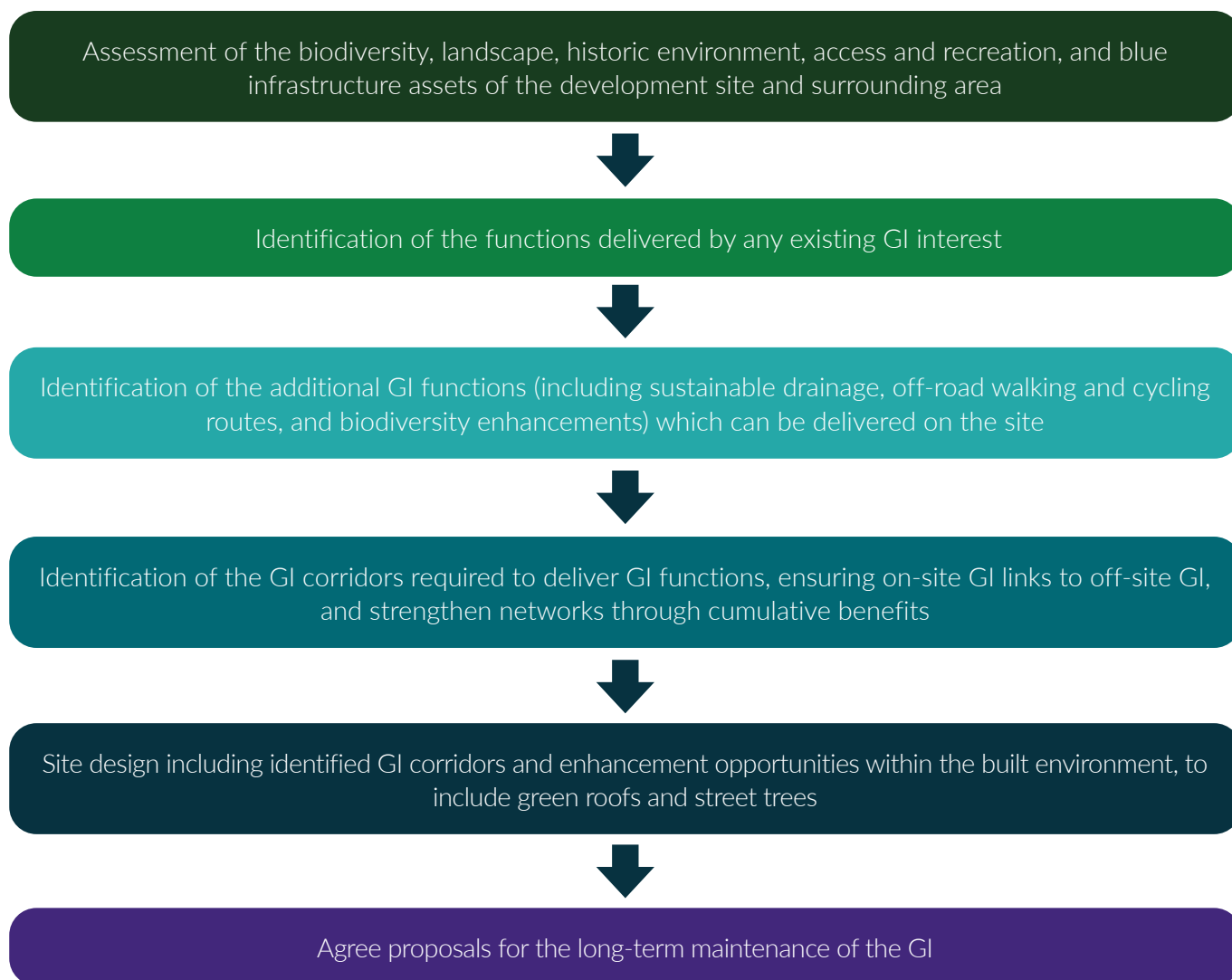


Figure 17: Principles to consider when integrating green infrastructure into infrastructure developments

- 5.51** The Worcestershire GI Partnership has established the principle of preparing Green Infrastructure Concept Plans for major development sites, working in partnership with the appropriate local planning authority and the developer and/or their agents. These should contain an assessment of the GI assets and identify a set of GI principles and priorities for the site.

5.52 The Building with Nature Standards Framework⁴¹ is the UK's first evidence-based benchmark for good industry practice for the delivery of high-quality green infrastructure. The standards are applicable to development of different types and scales. As well as allowing benchmarking of plans and policies and guiding the design and construction phases of the development itself, the standards provide an assessment tool to grant the Building with Nature Award within an accreditation system. Twelve overarching principles are set out that should be applied when seeking to achieve the standards.

What mechanisms exist to assist in delivery now and in the future?

5.53 The integration of GI into new development closely reflects the principles of sustainable development identified in national planning policy. Local planning policies will play an integral role in the delivery of quality GI through new development. Appropriately trained development management officers at local authorities and well-informed developers and consultants will also be key to success.

5.54 Companies and organisations within the private or public sector who are responsible for infrastructure delivery and operation are increasingly setting strong environmental and climate adaptation standards for performance and governance. Some of these standards are driven by a legislative and regulatory framework, and some are based on broader corporate social responsibility principles. Green infrastructure, with its links to biodiversity protection, sustainability, and climate resilience and adaptation, should be a key component in achieving and demonstrating these high standards.

5.55 The legal requirement to deliver Biodiversity Net Gain through planning provides an opportunity to contribute to the provision of green infrastructure on the development site and to secure funding for the long-term management of features.

5.56 Some major infrastructure development will fall within the scope of Nationally Significant Infrastructure Projects (NSIP), which are subject to separate planning laws. There will be a Biodiversity Net Gain requirement for NSIPs and a biodiversity gain statement (or statements) for NSIPs will be published by Government in 2023.

41 <https://www.buildingwithnature.org.uk/>

E: Delivering Green Infrastructure through Retrofitting

Why deliver Green Infrastructure through retrofitting?

5.57 Retrofitting green infrastructure means to design and integrate GI features into existing development. Sometimes this involves removing an existing 'grey' infrastructure feature and replacing it with a 'green' solution.

BENEFITS OF RETROFITTING GI INTO DEVELOPMENT



Improving the public realm

Green infrastructure can be retrofitted to individual buildings to enhance the passive cooling effect or to mitigate ground-level ozone pollution. GI features that will contribute to this include living walls, green roofs and tree and shrub planting in outdoor spaces.

Case study: The refurbishment of Birmingham New Street Station included the installation of a 300m² living wall.

UK Green Building Council: <https://www.ukgbc.org>

Promoting health and wellbeing

Green infrastructure can be used in urban areas to create safer spaces for pedestrians and cyclists by increasing tree cover and green space, which supports and encourages active, healthy travel choices.

Cities Alive: Rethinking green infrastructure (2014). ARUP

Sustainable water management

Green solutions to flood attenuation, such as naturally vegetated soakaways or a complex of ponds, can provide savings on the cost of maintaining or replacing traditional hard 'grey' infrastructure. Green roofs, rain gardens and other SuDS features can all be retrofitted to manage storm water and surface water run-off.

Case study: Moorlands Junior School in Sale achieved a 20% reduction in rainwater volume entering the public sewer via the installation of raingardens, infiltration trenches and permeable paving.

Susdrain: www.susdrain.org/case-studies/pdfs/025_18_04_30_susdrain_suds_awards_moorlands_junior_school_suds_sale_light.pdf

Climate Resilience

Well-designed green infrastructure refits can contribute to making a development more resilient to the impacts of climate change. This could include the replacement of impervious sealed surfaces, the installation of SuDS or increasing urban tree cover. Green Infrastructure can also play an important role in measures that reduce energy consumption or support a community to make more sustainable travel choices and lower CO² emissions.

Town and Country Planning Association <https://tcpa.org.uk/wp-content/uploads/2022/03/Factsheet-3.pdf>

Figure 18. Benefits of retrofitting GI into developments

What principles should be followed?

5.58 Figure 7 gives an indication of the high-level approach that should be taken to green infrastructure in each Environmental Character Area. A profile for each area is given in **Appendix C**, with detail about the priorities outlined in **Appendix D**. Additional guidance can be found in the Green Infrastructure Framework Documents 2, 3 and 4 which provide the evidence base for this Green Infrastructure Strategy.

5.59 The key to delivering good green infrastructure through retrofitting is to consider the site in its context. This includes considering the features of the site and the networks of habitats, sustainable transport routes and water courses that surround it. Figure 0 outlines the steps to follow when considering how to retrofit green infrastructure.

5.60 The Building with Nature Standards Framework is applicable to projects which are retrofitting GI into development.

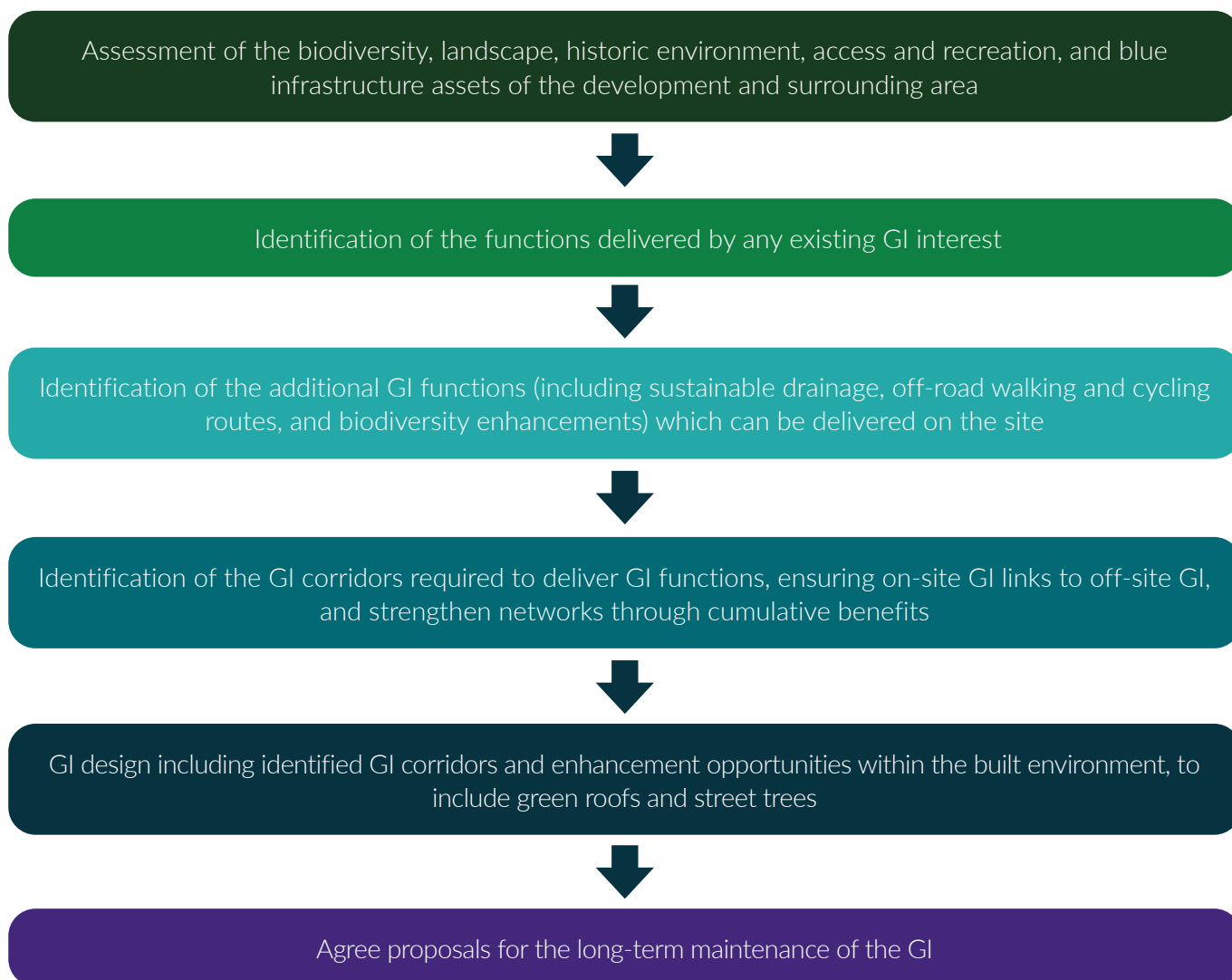


Figure 19: Principles to consider when retrofitting green infrastructure into developments

What mechanisms exist to assist in delivery now and in the future?

- 5.61** A key driver for the retrofitting of GI will be instances where an intervention is required to solve an identified problem. Examples could relate to flood risk management, water quality objectives, urban air quality targets, high rates of crime or anti-social behaviour or unacceptable accident statistics. There may be a statutory duty on the relevant public body to deliver a solution.
- 5.62** Urban regeneration projects should actively seek to improve or deliver green infrastructure as part of the wider design, including considering 'green' solutions in preference to traditional grey infrastructure.
- 5.63** Some sources of charitable grant funding may be applicable to the retrofitting of GI. For example, the Natural Networks⁴² project delivered by Worcestershire County Council and Worcestershire Wildlife Trust offers grants for biodiversity enhancements to accessible green spaces, but the delivery of wider multi-functional benefits is promoted.

42 <https://www.worcestershire.gov.uk/naturalnetworks>

6. Funding and Viability

- 6.1** Opportunities to develop green infrastructure will arise from a wide range of situations, from changes in land management to development proposals. This diversity leads to a range of funding mechanisms. Some proposals will need capital funding, to establish a green infrastructure asset, and subsequently revenue funding, to secure its long-term management. A new SuDS installation, for example, will require capital investment to initially create the scheme as part of development proposals, as well as revenue funding for its long-term maintenance and management to secure its functionality.
- 6.2** Funding for green infrastructure schemes will be dependent on the type of scheme, its origins and functions. For example, capital investment in green infrastructure arising from a new development will be funded primarily from that development but may need to look at different ways of using revenue funding to secure long-term maintenance.
- 6.3** The table below outlines some of the principal sources of capital and revenue funding for green infrastructure for schemes within Worcestershire. This is not an exhaustive list, as other funding schemes may be available in particular circumstances or in specific areas.

Funding mechanism	Types of GI supported	Details	Type of funding
Community Infrastructure Levy (CIL) ^{43 44}	New development	The money can be used to fund a wide range of infrastructure that is needed because of new development and provides wider benefits. This includes flood defences, parks, and green spaces.	Capital and revenue
Section 106 agreements	New development	Funding must be intrinsically linked to the development.	Capital and revenue
Biodiversity Net Gain	New development	Money contributed by developers to meet planning conditions for delivering BNG.	Capital and revenue
Agri-environment funding	Land management	Agri-environment funding can be secured by landowners and managers for changes to the management of land which benefit the natural environment. The new Environmental Land Management schemes are currently being piloted with plans for full implementation by 2024.	Capital and revenue

43 CIL has been adopted by the three South Worcestershire councils: Malvern Hills, Wychavon and Worcester City

44 Tabled amendments to the Community Infrastructure Levy are set out in the Levelling Up and Regeneration Bill, therefore its relevance to green infrastructure delivery in Worcestershire may change.

Funding mechanism	Types of GI supported	Details	Type of funding
The National Lottery Community Fund	Community use within new or existing development / minerals/ infrastructure	A variety of funding streams applicable to community projects including acquisition and establishment of public open space.	Capital and revenue
The National Lottery Heritage Fund	Community use within new or existing development / minerals/ infrastructure	A variety of funding streams to be used to conserve and enhance heritage assets including nature reserves and parkland.	Capital and revenue
Hypothecated taxes	New development	A tax levied for a specific purpose. Taxes can be levied on new development and reserved for green infrastructure. This model has been successfully applied on both small- and large-scale development sites.	Revenue
Endowments	New development / minerals / infrastructure	Site endowments may be successfully used to create a long-term income for the management of land. It may be appropriate to dedicate these to a specific charitable trust which can use the income to manage the land. There are also charitable companies which specialise in using endowments to manage land.	Revenue
Management companies/ Community Development Trusts	New development / minerals	Land ownership is retained by the developers, but responsibility for the management is transferred to a management company with agreed standards and a management plan.	Revenue
Local authority	New development / minerals/ infrastructure	A traditional method of securing GI on development sites with the long-term management transferred to the relevant local authority.	Revenue
Natural Networks (and successor programmes)	Community use within new or existing development	Worcestershire-based fund providing grants to enhance the biodiversity value of greenspaces that have community/public access.	Capital

Table 3. Funding mechanisms

Viability

- 6.4 The capital and revenue costs of green infrastructure are determined by the requirements of any individual scheme. Nationally, several sources of information can inform the assessment of GI costs, including:
- land management standard costs such as Spon's Price Books
 - standard costs from agri-environment schemes
 - farm contractor charges guides
 - previous experience and organisational knowledge of the costs of schemes and their long-term maintenance.
- 6.5 Any viability assessment of GI needs to be determined against both the policy requirements and the functions which are being delivered. The decision to invest in green infrastructure can be a more cost-effective and more viable alternative to investment in more traditional grey infrastructure. The assessment also needs to take into account all the multi-functional characteristics of green infrastructure, to ensure functions are not costed twice.
- 6.6 Green infrastructure costs should be considered critical to delivering sustainable development in the meaning of the NPPF. Accordingly, they must be embedded and assessed as a part of site viability to determine if the site can support both the initial capital costs and the longer-term management costs to ensure that functionality is maintained.

7. Monitoring the Success of the Green Infrastructure Strategy

7.1 The success of the Worcestershire Green Infrastructure Strategy will be monitored through the following indicators:

1. Endorsement of the revised 2022-2027 Green Infrastructure Strategy by Worcestershire Green Infrastructure Partnership members. Key indicator/target: The Strategy to be formally endorsed by 31st December 2022.
2. Incorporation of green infrastructure principles into strategic approaches to the natural environment, economy, health and wellbeing. Key indicator/target: Inclusion of GI principles in other key new, revised or updated local plans and strategies, e.g. those published by Local Planning Authorities, LNP, LEP, Health and Wellbeing Board.
3. Adopted Local Plans that include green infrastructure policies based on the GI strategy and framework documents. Key indicator/target: GI policies in all adopted Local Plans.
4. Number of successful funding bids for green infrastructure projects by members of the Green Infrastructure Partnership. Key indicator/target: 2 successful bids for green infrastructure projects by the Partnership members
5. Number of Green Infrastructure Concept Plans produced during the lifetime of this Strategy document by the Worcestershire GI Partnership. Key indicator/target: 5 Green Infrastructure Concept Plans prepared for strategic development sites in Worcestershire
6. Number of Green Infrastructure Plans produced by the GI Partnership which are subsequently reflected in development master plan proposals. Key indicator/target: All Green Infrastructure Concept Plans produced are reflected in subsequent development proposals
7. By 2024 begin data collection for a spatially mapped baseline of land management initiatives that support delivery of green infrastructure in Worcestershire, to include land dedicated to biodiversity offsetting (arising from mandatory BNG), carbon sequestration, ELMS and Natural Flood Management. Key indicator/target: Framework and protocols for data collection and mapping agreed and data collection underway

7.2 Performance against these indicators will be reported to the Local Nature Partnership.

8. Next Steps

- 8.1** Following the endorsement of the revised Worcestershire Green Infrastructure Strategy by the Worcestershire Green Infrastructure Partnership, partners will then take steps to implement the strategy in their organisations and through their own structures.

Worcestershire level

- 8.2** The Strategy has benefited from the recognition and support of the Worcestershire Local Nature Partnership (LNP). The Worcestershire LNP is a partnership of organisations working together to provide leadership on environmental issues and working with partners in other sectors (such as business and enterprise, landowners, health, and tourism), to ensure the future prosperity and health of our environment. The LNP will be an effective delivery mechanism for the Strategy in the future.
- 8.3** The revised Strategy will be endorsed by Worcestershire County Council. A similar process may be followed by other partner organisations with similar decision-making structures. The final endorsement of the Strategy by Worcestershire County Council is expected by the end of 2022.
- 8.4** The evidence base for the Worcestershire Green Infrastructure Strategy should be kept updated. Priorities include a review of Framework Document 4 and the preparation of a new Framework document to explore viability and costing of GI.
- 8.5** Worcestershire County Council is the provisional Responsible Authority for the preparation of a Local Nature Recovery Strategy (LNRS) for the county. The LNRS should make clear links with the Green Infrastructure Strategy. The planning and delivery of green infrastructure should also seek to achieve alignment with the aims and objectives of other relevant strategic-level landscape-scale management plans, for example the Nature Recovery Plans published by Malvern Hills AONB and Cotswolds AONB.

District level

- 8.6** The Worcestershire Green Infrastructure Strategy is a strategic document and an important first step in the planning and delivery of GI in the county. The aim of the WGIP is for the strategic priorities to be reflected in adopted/emerging Local Plans across the county.
- 8.7** It is recommended that local councils will develop further work based on the vision and priorities established in this Strategy. A more localised assessment of the strategic priority areas should be undertaken by each authority.
- 8.8** Historically, the district councils have worked closely with the Worcestershire GI Partnership and used the GI evidence base to inform the GI policies in their adopted/emerging Local Plans. District Councils should continue to use the Strategy and further local analysis to inform their Local Plans. The incorporation of GI priorities in other planning guidance, such as SPDs and design guides, is also encouraged.
- 8.9** The Strategy should be used to inform future economic development decisions at the district level. Other district functions such as sports and leisure or parks and countryside services should have regard to the principles and priorities identified in the Strategy.

Site level

- 8.10** The Worcestershire GI Partnership has been developing GI Concept Plans and Statements for strategic development sites in Worcestershire. Whilst District Councils are encouraged to be involved in this process, they can also produce guidelines for developing other specific sites and proactively engage with developers. This will help to ensure co-ordination of the wider Strategy delivery and will help to realise a site's green infrastructure potential.

Appendix A: Worcestershire Green Infrastructure Framework

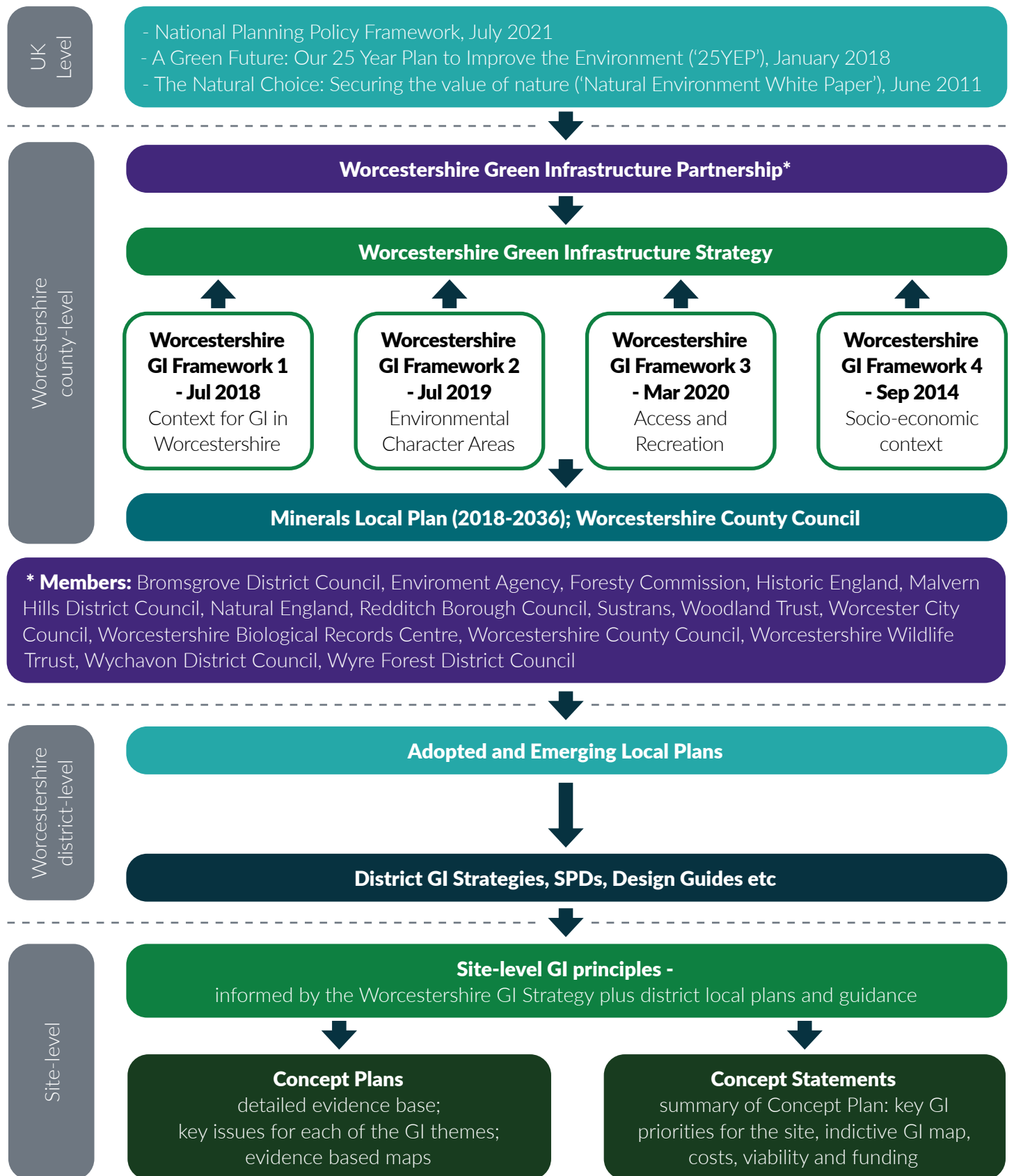


Figure A1: Worcestershire Green Infrastructure Framework – structures

GI Partnership

- A.1** In 2008, organisations including Worcestershire County Council, the six district councils, Worcestershire Wildlife Trust and Natural England came together to form a cross-sectoral partnership to optimise planning and delivery of GI. The Worcestershire GI Partnership has subsequently expanded to cover the remaining Defra statutory agencies and voluntary organisations. The partners represent a diverse range of interests, all focused on the natural and historic environment, but encompassing sustainability, recreation and transport. The Partnership aims to expand its membership to include representatives from the health and economic development sectors (see Figure A for the full list of partners).
- A.2** One of the Partnership's roles is to publish a Worcestershire Green Infrastructure Strategy. The Strategy is a non-statutory county-wide guidance document which aims to:
- direct and drive the delivery of GI in Worcestershire; and
 - inform relevant strategies and plans of partner organisations.

Green Infrastructure: Strategy and Evidence Base

- A.3** The Worcestershire Green Infrastructure Strategy establishes a vision and priorities for Green Infrastructure provision in the county.
- A.4** The Strategy is informed by four GI 'Framework Documents', which form a detailed GI evidence base. This evidence base is periodically reviewed and updated. Readers should ensure they are referring to the most up-to-date version.
- **GI Framework Document 1** (first published in November 2008 and updated in July 2018): provides an introduction to the concept of Green Infrastructure (GI) and identifies the need for the strategic planning of GI and the policy drivers that support GI planning at different spatial scales.
 - **GI Framework Document 2** (first published in July 2012 and updated in July 2019): provides an introduction to the landscape, biodiversity and historic environment datasets and develops the concept of GI Environmental Character Areas based on the quality and quantity of these natural environment assets.
 - **GI Framework Document 3** (first published in May 2013 and updated in March 2020): identifies the location, extent, and functionality of strategic recreational assets in Worcestershire. It also explores the potential need for new recreational assets and identifies areas of search and potential funding mechanisms for new facilities.
 - **GI Framework Document 4** (published September 2014 and due to be updated): explores how multifunctional green infrastructure solutions can provide economic and health benefits, as well as contributing to climate change mitigation and adaptation.
- A.5** The Framework Documents can all be found on Worcestershire County Council's [**Planning for Green Infrastructure**](#) webpages.

GI Policy Context

National Policy

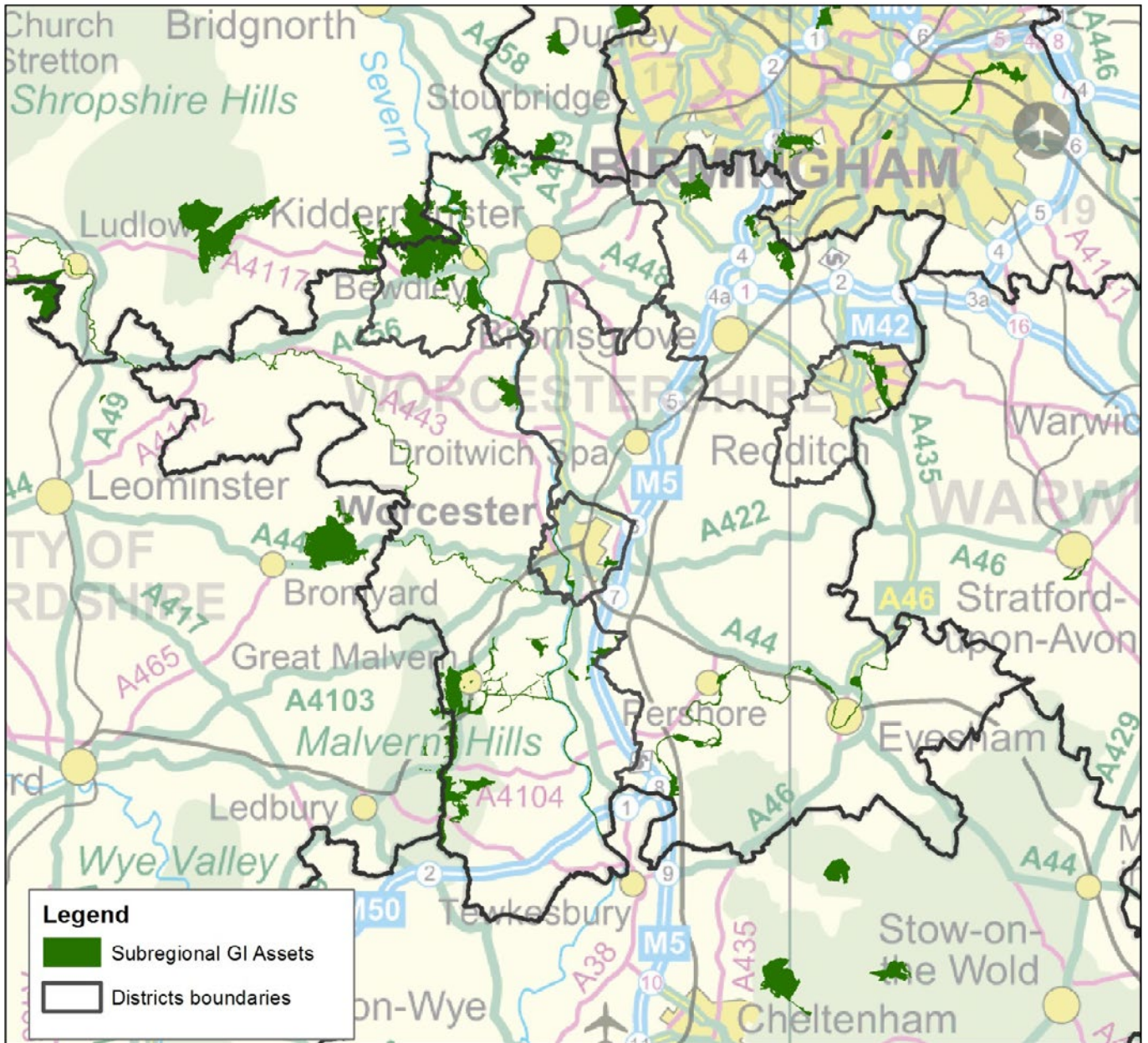
- A.6 National Planning Policy Framework (last update July 2021) sets out the Government's planning policies for England and how these are expected to be applied. Policies encourage the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.
- A.7 A Green Future: Our 25 Year Plan to Improve the Environment (2018) is a policy paper that sets out the action Government will take to help the natural world regain and retain good health. The 25YEP is driving policy development and revision of the national Green Infrastructure Standards.
- A.8 Natural Environment White Paper (2011) recognises that economic growth is compatible with the natural environment and that there is a value in natural capital from services provided by the natural environment.

Local Plans

- A.9 **Bromsgrove District Plan** (adopted 2017): Policy BDP24 requires development to adopt a holistic approach to deliver the multiple benefits and vital services of GI, including improving connectivity and enhancing the quality of GI.
- A.10 **South Worcestershire Development Plan** (adopted 2016; under review): Policy SWDP 5 sets GI targets at 40% for greenfield sites exceeding 1ha gross and 20% for sites less than 1ha but more than 0.2ha for housing and mixed-use proposals. This excludes private gardens. It is proposed to strengthen the policy on GI under the revised plan.
- A.11 **Borough of Redditch Local Plan No.4** (adopted 2017): Policy 11 confirms the importance of a multifunctional GI network to the people, wildlife and character of the borough.
- A.12 **Wyre Forest District Local Plan** (adopted 2022): Policy SP.28 sets GI targets at 40% for greenfield sites exceeding 1ha gross and 20% for sites less than 1ha but more than 0.2ha for housing and employment (including mixed-use) proposals. This excludes private gardens. Brownfield developments are expected to include proposals for GI features such as SuDS, green roofs and green walls and that these should be integrated into the wider GI network.

Appendix B: Strategic Green Infrastructure Assets

- B.1 Green Infrastructure can be considered at different spatial scales, from small local sites at a neighbourhood scale through to larger strategic sites which are considered on a county or sub-regional scale.
- B.2 Table B1: detail strategic GI assets in Worcestershire.



Subregional Green Infrastructure Assets

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Figure B1: Strategic Green Infrastructure Assets in Worcestershire

Table B1: Strategic Green Infrastructure Assets in Worcestershire

Site name	District
Wyre Forest (incl Earnwood, Maxfields, Eyemore Copses, Woodlands for People and Section 16 land)	Wyre Forest
The Malvern Hills (incl Malvern Common, North Hill, Sugar Loaf Hill and Worcestershire Beacon, Castlemorton Common, Coombe Green, Hollybed, Shadybank Commons)	Malvern Hills
River Avon	Wychavon
River Severn	Malvern Hills and Worcester City
River Teme	Malvern Hills
River Stour	Wyre Forest
Staffordshire and Worcestershire Canal	Wyre Forest
Worcester and Birmingham Canal	Bromsgrove and Worcester City
Droitwich Canals	Wychavon
Arrow Valley Country Park	Redditch
Lickey Hills	Bromsgrove
Clent Hills	Bromsgrove
Ribbesford Wood also known as Arley Wood	Wyre Forest
Shrawley Wood	Malvern Hills
Arley Birch and Coldridge Wood	Wyre Forest
Kempsey Common	Malvern Hills
Waseley Hills Country Park	Bromsgrove
Worcester Woods Country Park	Worcester City
Riverside Meadows (Stourport-on-Severn)	Wyre Forest
Bewdley Riverside Corridor	Wyre Forest

Appendix C: Green Infrastructure Profiles

Green Infrastructure Profiles

Teme Valley and Wyre Forest

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Enhance stream and river corridors. Protect ancient countryside character. Protect and enhance the ancient woodland habitats of the Wyre Forest. Enhance and expand acid grassland habitats.
Overarching principles – Socio-Economic	Enhance economic wealth and address health inequalities. Main economic issues: below average household income. Main health issues: respiratory, heart diseases and mental health.

Severn Valley North

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Restoration of the Severn floodplain.
Overarching principles – Socio-Economic	Enhance economic wealth and address health inequalities. Main economic issues: below average household income. Main health issues: heart diseases.

North Worcestershire Hills

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Maintain wooded character, linking and buffering existing sites.
Overarching principles – Socio-Economic	Primary focus on supporting overall health of residents with particular focus on prevention of heart diseases, obesity and respiratory conditions in the area adjacent to Redditch. Support employment creation across the area.

Forest of Feckenham and Feckenham Wetlands

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / maintain socio-economic status.
Overarching principles – Environment	Protect the traditional field patterns, boundaries and small woodlands. Enhance stream corridors.
Overarching principles – Socio-Economic	Maintain the current economic performance Some improvements and prevention of health issues around heart diseases, obesity and respiratory conditions.

Lenches Ridge

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Enhance the functionality and habitats of the Avon floodplain.
Overarching principles – Socio-Economic	Support both health and economic wealth. Aim to increase household income and decrease unemployment, and address health deprivation, concentrating on heart diseases, obesity and mental health.

Bredon

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and enhance Bredon Hill National Nature Reserve and enhance links between areas of biodiversity interest through links and buffering.
Overarching principles – Socio-Economic	Primary focus on enhancements to support overall health of residents. Support for employment creation.

Severn Valley South

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and enhance the Severn Valley floodplain and its functionality.
Overarching principles – Socio-Economic	Increase economic wealth and address health inequalities. Economic enhancements including employment creation, household income improvements and overall economic deprivation reduction in areas beyond the M5 corridor. Health improvements for heart diseases, respiratory diseases and obesity. Address overall health deprivation.

Bushley

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Maintain wooded character, linking and buffering existing sites.
Overarching principles – Socio-Economic	Primary focus on enhancements to support overall health of residents. Support improvements to household income.

Malvern Chase and Commons

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and enhance acid and neutral grassland habitats and wooded landscape of orchards, woodlands and scrub.
Overarching principles – Socio-Economic	Support the tackling of and prevention of obesity, respiratory and heart disease beyond the area between the A44 and A4103. Support improvements to household income.

Hagley Hinterland

Name	Description
Strategic GI Approach	Restore environmental quality / maintain socio-economic status.
Overarching principles – Environment	Maintain and restore habitat connectivity. Protect and restore acid grassland and wooded habitats.
Overarching principles – Socio-Economic	Maintain both health and economic wealth. The main economic issues are low household incomes for most of this area and unemployment and economic-related deprivation to the north of Kidderminster. The health issues include above-average obesity, heart and respiratory diseases.

Hollywood and Wythall

Name	Description
Strategic GI Approach	Restore environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and restore historic pattern of small enclosures.
Overarching principles – Socio-Economic	Primary focus on reduction in the incidence of health problems related to heart disease.

Bromsgrove-Redditch Corridor

Name	Description
Strategic GI Approach	Restore environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and restore the ancient countryside character.
Overarching principles – Socio-Economic	Primary focus on overall health-related improvements.

Mid Worcestershire Corridor

Name	Description
Strategic GI Approach	Restore environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and restore neutral grasslands, orchards and semi-natural ancient woodland, wet woodland and stream corridors.
Overarching principles – Socio-Economic	Support enhancements to both health and economic wealth. Address health issues including heart diseases, obesity and respiratory problems. Low household income and unemployment issues are the major economic issue.

East Wychavon

Name	Description
Strategic GI Approach	Restore environmental quality / maintain socio-economic status.
Overarching principles – Environment	Protect and restore hedges and field boundaries and hedge, ditch and watercourse trees.
Overarching principles – Socio-Economic	Primary focus on above-average incidence of health problems related to heart disease.

Bow Brook South

Name	Description
Strategic GI Approach	Restore environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Enhance the Bow Brook, its water quality and valley.
Overarching principles – Socio-Economic	Enhancements across both health and economic GI related issues.

Evesham Valley

Name	Description
Strategic GI Approach	Restore environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Protect and restore the River Avon corridor and functional floodplain habitats.
Overarching principles – Socio-Economic	Enhancements across both health and economic GI related issues.

Broadway and Cotswold Corridor

Name	Description
Strategic GI Approach	Restore environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and restore the characteristic Cotswold landscape and its key features including neutral and calcareous grasslands and field boundaries.
Overarching principles – Socio-Economic	Primary focus on overall health related improvements. Support opportunities to address low household incomes.

Carrant Brook Corridor

Name	Description
Strategic GI Approach	Restore environmental quality / maintain socio-economic status.
Overarching principles – Environment	Protect and enhance the Carrant Brook, its water quality and stream side habitats.
Overarching principles – Socio-Economic	Opportunities for enhancements to both health and economic wealth. Address health issues including heart diseases and respiratory problems. Low household income and unemployment issues are the major economic issues.

Longdon Hinterland

Name	Description
Strategic GI Approach	Protect and enhance environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Protect and restore the Longdon and Bushley Brook corridors.
Overarching principles – Socio-Economic	Enhancements across both health and economic GI related issues.

Kempsey Plain

Name	Description
Strategic GI Approach	Restore environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Protect and restore neutral grassland habitats and traditional field boundaries.
Overarching principles – Socio-Economic	Enhancements across both health and economic GI related issues.

River Teme Corridor

Name	Description
Strategic GI Approach	Restore environmental quality / maintain socio-economic status.
Overarching principles – Environment	Protect and restore multi-functional river valley corridor and floodplain.
Overarching principles – Socio-Economic	Opportunities to reduce the incidence of health problems related to heart disease.

Severn Meadows Corridor

Name	Description
Strategic GI Approach	Restore environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Protect and enhance multi-functional Severn river corridor.
Overarching principles – Socio-Economic	Opportunities to reduce the incidence of health inequalities and increase household incomes.

Eardiston

Name	Description
Strategic GI Approach	Restore environmental quality / support socio-economic enhancements.
Overarching principles – Environment	Protect and restore networks and connectivity to the wider Teme Valley landscape.
Overarching principles – Socio-Economic	Support enhancements to both health and economic wealth. Address health issues including heart diseases and respiratory problems. Low household income and unemployment issues are the major economic issues.

Bewdley Fringe

Name	Description
Strategic GI Approach	Restore environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Protect and enhance multi-functional Severn river corridor.
Overarching principles – Socio-Economic	Opportunities to reduce the incidence of health inequalities and increase household incomes.

Birchen Coppice

Name	Description
Strategic GI Approach	Restore environmental quality / invest in socio-economic enhancements.
Overarching principles – Environment	Protect and restore networks and connectivity to the wider Teme Valley and Wyre Forest landscape.
Overarching principles – Socio-Economic	Opportunities to reduce the incidence of health inequalities and increase household incomes.

Birlingham

Name	Description
Strategic GI Approach	Restore environmental quality / maintain socio-economic status.
Overarching principles – Environment	Protect and restore the River Avon corridor and functional floodplain habitats.
Overarching principles – Socio-Economic	Opportunities to reduce the incidence of health inequalities and increase household incomes.

Crowle

Name	Description
Strategic GI Approach	Further investigation requires.
Overarching principles – Environment	Restore and create wet pasture and marshland.
Overarching principles – Socio-Economic	-

Defford

Name	Description
Strategic GI Approach	Further investigation requires.
Overarching principles – Environment	Restore and create landscape links and connectivity to estate farmlands landscape.
Overarching principles – Socio-Economic	-

Bickmarsh

Name	Description
Strategic GI Approach	Further investigation requires.
Overarching principles – Environment	Maintain traditional orchards, restore connectivity.
Overarching principles – Socio-Economic	-

Long Marston

Name	Description
Strategic GI Approach	Further investigation requires.
Overarching principles – Environment	Maintain traditional orchards, restore connectivity.
Overarching principles – Socio-Economic	-

Appendix D: Priorities and delivery

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Teme Valley & Wyre Forest	High	Medium/Low	Strategic area of search: Wyre Forest extension	<ul style="list-style-type: none"> ■ Enhance stream and river corridors ■ Protect ancient countryside character ■ Protect and enhance the ancient woodland habitats of the Wyre Forest ■ Enhance and expand acid grassland habitats ■ Provision of a strategic asset for access and recreation 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan: <ul style="list-style-type: none"> » Economic: Malvern » Technology Park ■ Local Transport Plan: Upton to Malvern cycle route ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Average:</p> <p>Protect and enhance environmental quality / invest in socio-economic enhancements</p>
Severn Valley North	High	Medium/Low	Neighbourhood/local	<ul style="list-style-type: none"> ■ Restoration of the Severn floodplain 	<ul style="list-style-type: none"> ■ Agri-environment funding ■ England Woodland Grant Scheme ■ New development proposed in emerging Local Plan ■ Housing at Gwilliams Farm site 	<p>Average:</p> <p>Protect and enhance environmental quality / invest in socio-economic enhancements</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
North Worcestershire Hills	High	Medium	Strategic area of search: Lickey Hills extension	<ul style="list-style-type: none"> ■ Maintain wooded character, linking and buffering existing sites ■ Provision of a strategic asset for access and recreation 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan: <ul style="list-style-type: none"> » Redditch Eastern Gateway ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Good:</p> <p>Protect and enhance environmental quality / support socio-economic enhancements</p>
Forest of Feckenham & Feckenham Wetlands	High	Medium/High	Neighbourhood/local	<ul style="list-style-type: none"> ■ Protect the traditional field patterns, boundaries and small woodlands. ■ Enhance stream/ordinary watercourse corridors. 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan Housing: <ul style="list-style-type: none"> » Webheath » Brockhill East » Foxlydiate » Brockhill ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Premium:</p> <p>Protect and enhance environmental quality / maintain socio-economic status</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Lenches Ridge	High	Medium	Neighbourhood/local	<ul style="list-style-type: none"> ■ Enhance the functionality and habitats of the Avon floodplain. 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan: <ul style="list-style-type: none"> » Housing: Cheltenham Road, » Pershore Road ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Good:</p> <p>Protect and enhance environmental quality / support socio-economic enhancements</p>
Bredon	High	Medium	Neighbourhood/local	<ul style="list-style-type: none"> ■ Protect and enhance Bredon Hill National Nature Reserve 	<ul style="list-style-type: none"> ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Good:</p> <p>Protect and enhance environmental quality / support socio-economic enhancements</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Severn Valley South	High	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Protect and enhance the Severn Valley floodplain and its functionality 	<ul style="list-style-type: none"> New development proposed in emerging Local Plan: <ul style="list-style-type: none"> Housing: Worcester South Station Road/ Wyre Road Agri-environment funding England Woodland Grant Scheme Emerging Minerals Local Plan 	<p>Good:</p> <p>Protect and enhance environmental quality / support socio-economic enhancements</p>
Bushley	High	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Protect and enhance the irregular field pattern, boundary hedges and orchard habitats. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Good:</p> <p>Protect and enhance environmental quality / support socio-economic enhancements</p>
Malvern Chase and Commons	High	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Protect and enhance acid and neutral grassland habitats and wooded landscape of orchards, woodlands and scrub. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Good:</p> <p>Protect and enhance environmental quality / support socio-economic enhancements</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Hagley Hinterland	Medium	Medium/High	Neighbourhood/local	<ul style="list-style-type: none"> ■ Maintain and restore habitat connectivity. Protect and restore acid grassland and wooded habitats. 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plans: <ul style="list-style-type: none"> » Housing: Kidderminster and Stourbridge Road, Hagley ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Good:</p> <p>Restore environmental quality / maintain socio-economic status</p>
Hollywood & Wythall	Medium	Medium	Neighbourhood/local	<ul style="list-style-type: none"> ■ Protect and restore historic pattern of small enclosures 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan ■ Housing: Bleakhouse Farm, Wythall ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / support socio economic enhancements</p>
Bromsgrove – Redditch Corridor	Medium	Medium	Neighbourhood/local	<ul style="list-style-type: none"> ■ Protect and restore the ancient countryside character. 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan: <ul style="list-style-type: none"> » Housing: Perryfields ■ Bromsgrove Brooks project ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / support socio economic enhancements</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Mid-Worcestershire Corridor	Medium	Medium	Strategic area of search: Worcester-Droitwich corridor Strategic area of search: Hallow Riverside corridor	<ul style="list-style-type: none"> ■ Protect and restore neutral grasslands, orchards and semi-natural ancient woodland, wet woodland and stream corridors. ■ Provision of strategic asset for access and recreation 	<ul style="list-style-type: none"> ■ New development proposed in emerging Local Plan: <ul style="list-style-type: none"> » Housing: Copcut Lane » Land adjacent to wagon Works » Economic: Worcester Technology Park ■ Bromsgrove Brooks project ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / support socio economic enhancements</p>
East Wychavon	Medium	High	Neighbourhood/ local	<ul style="list-style-type: none"> ■ Protect and restore hedges and field boundaries and hedge, ditch and watercourse trees. 	<ul style="list-style-type: none"> ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Good:</p> <p>Restore environmental quality / maintain socio-economic status</p>
Bow Brook South	Medium	Low	Neighbourhood/ local	<ul style="list-style-type: none"> ■ Enhance the Bow Brook, its water quality and valley. 	<ul style="list-style-type: none"> ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / invest in socio-economic enhancements</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Evesham Valley	Medium	Medium/Low	Neighbourhood/local	<ul style="list-style-type: none"> Protect and restore the River Avon corridor and functional floodplain habitats. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / invest in socio-economic enhancements</p>
Broadway & Cotswold Corridor	Medium	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Protect and restore the characteristic Cotswold landscape and its key features including neutral and calcareous grasslands and field boundaries. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / support socio economic enhancements</p>
Carrant Brook Corridor	Medium	Medium/High	Neighbourhood/local	<ul style="list-style-type: none"> Protect and enhance the Carrant Brook, its water quality and stream side habitats. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Good:</p> <p>Restore environmental quality / maintain socio-economic status</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Longdon Hinterland	Medium	Medium	Neighbourhood/local	<ul style="list-style-type: none"> ■ Protect and restore the Longdon and Bushley Brook corridors. 	<ul style="list-style-type: none"> ■ New development proposed in Local Transport Plan: <ul style="list-style-type: none"> » Upton to Malvern cycle route » Upton to Uckinghall cycle route » Tewkesbury to Upton cycle route ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / support socio economic enhancements</p>
Kempsey Plain	Medium	Medium/Low	Strategic area of search: Clifton Water Park	<ul style="list-style-type: none"> ■ Protect and restore neutral grassland habitats and traditional field boundaries. ■ Provision of a strategic asset for access and recreation 	<ul style="list-style-type: none"> ■ Agri-environment funding ■ England Woodland Grant Scheme ■ Emerging Minerals Local Plan 	<p>Average:</p> <p>Restore environmental quality / invest in socio-economic enhancements</p>
River Teme Corridor	Medium	High	Neighbourhood/local	<ul style="list-style-type: none"> ■ Protect and restore multi-functional river valley corridor and floodplain. 	<ul style="list-style-type: none"> ■ Agri-environment funding ■ England Woodland Grant Scheme 	<p>Good:</p> <p>Restore environmental quality / maintain socio-economic status</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Severn Meadows Corridor	Medium	Low	Neighbourhood/local	<ul style="list-style-type: none"> Protect and enhance multi-functional Severn river corridor. 	<ul style="list-style-type: none"> New development proposed in emerging Local Plan: Housing: West Worcester Agri-environment funding England Woodland Grant Scheme Emerging Minerals Local Plan 	<p>Average:</p> <p>Restore environmental quality / invest in socio-economic enhancements</p>
Eardiston	Medium	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Protect and restore networks and connectivity to the wider Teme Valley landscape. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / support socio-economic enhancements</p>
Bewdley Fringe	Medium	Low	Neighbourhood/local	<ul style="list-style-type: none"> Protect and enhance multi-functional Severn River corridor. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	<p>Average:</p> <p>Restore environmental quality / invest in socio-economic enhancements</p>

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Birchen Coppice	Medium	Low	Neighbourhood/local	<ul style="list-style-type: none"> Protect and restore networks and connectivity to the wider Teme Valley and Wyre Forest landscape. 	<ul style="list-style-type: none"> New development proposed in emerging Local Plan: Economic: South Kidderminster Enterprise Park 	Average: Restore environmental quality / invest in socio-economic enhancements
Birlingham	Medium	High	Neighbourhood/local	<ul style="list-style-type: none"> Protect and restore the River Avon corridor and functional floodplain habitats. 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	Good: Restore environmental quality / maintain socio-economic status
Crowle	Low	High	Neighbourhood/local	<ul style="list-style-type: none"> Restore and create wet pasture and marshland 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	Further investigation required
Defford	Low	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Restore and create landscape links and connectivity to estate farmlands landscape 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	Further investigation required
Bickmarsh	Low	Medium	Neighbourhood/local	<ul style="list-style-type: none"> Maintain traditional orchards, restore connectivity 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	Further investigation required

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Long Marston	Low	Medium	Neighbourhood/ local	<ul style="list-style-type: none"> Maintain traditional orchards, restore connectivity 	<ul style="list-style-type: none"> Agri-environment funding England Woodland Grant Scheme 	Further investigation required
Bewdley	Unsurveyed	Insufficient detail	Insufficient detail	<ul style="list-style-type: none"> Insufficient detail 	<ul style="list-style-type: none"> Small-scale new development proposed in Local Plan , housing and economic development 	Further investigation required
Bromsgrove	Unsurveyed	Insufficient detail	Insufficient detail	<ul style="list-style-type: none"> Insufficient detail 	<ul style="list-style-type: none"> New development proposed in emerging Local Plan, housing and economic development 	Further investigation required
Droitwich	Unsurveyed	Insufficient detail	Insufficient detail	<ul style="list-style-type: none"> Insufficient detail 	<ul style="list-style-type: none"> New development proposed in emerging Local Plan, housing and economic development 	Further investigation required
Evesham	Unsurveyed	Insufficient detail	Insufficient detail	<ul style="list-style-type: none"> Insufficient detail 	<ul style="list-style-type: none"> New development proposed in emerging Local Plan, housing and economic development 	Further investigation required
Kidderminster	Unsurveyed	Insufficient detail	Insufficient detail	<ul style="list-style-type: none"> Insufficient detail 	<ul style="list-style-type: none"> New development proposed in Local Plan, housing and economic development 	Further investigation required

ECA	Quality of the Natural Environment	Socio-economic status	Recreation and access need	GI priority	Delivery mechanisms	Overall approach
Malvern	Unsurveyed	Insufficient detail	Insufficient detail	■ Insufficient detail	■ New development proposed in emerging Local Plan, housing and economic development	Further investigation required
Pershore	Unsurveyed	Insufficient detail	Insufficient detail	■ Insufficient detail	■ New development proposed in emerging Local Plan, housing and economic development	Further investigation required
Redditch	Unsurveyed	Insufficient detail	Insufficient detail	■ Insufficient detail	■ New development proposed in emerging Local Plan, housing and economic development	Further investigation required
Stourport	Unsurveyed	Insufficient detail	Insufficient detail	■ Insufficient detail	■ New development proposed in Local Plan, housing and economic development	Further investigation required
Upton upon Severn	Unsurveyed	Insufficient detail	Insufficient detail	■ Insufficient detail	■ New development proposed in emerging Local Plan, housing and economic development	Further investigation required
Worcester	Unsurveyed	Insufficient detail	Insufficient detail	■ Insufficient detail	■ New development proposed in emerging Local Plan, housing and economic development	Further investigation required

Appendix E: Other Relevant Documents and Information

Green Infrastructure Strategy for Herefordshire (2010)

<https://www.herefordshire.gov.uk/downloads/file/2063/herefordshire-green-infrastructure-strategy>

Shropshire Green Infrastructure Strategy (2020)

<https://shropshire.gov.uk/media/15654/green-infrastructure-strategy-main-report.pdf>

Warwickshire, Coventry & Solihull Sub-Regional Green Infrastructure Strategy (2013)

<https://api.warwickshire.gov.uk/documents/WCCC-372917633-2595>

West Midlands Natural Environment Plan 2021-2026

<https://www.wmca.org.uk/media/5102/natural-environment-plan.pdf>

South Worcestershire Open Space Assessment (2019)

[Open Space Assessment - South Worcestershire Development Plan \(swdevelopmentplan.org\)](https://www.swdevelopmentplan.org/Open_Space_Assessment_-_South_Worcestershire_Development_Plan)

Wyre Forest District Council Local Plan review evidence base for open space and green infrastructure

[http://archive.wyreforestdc.gov.uk/local-plan-\(2016-2036\)-background-documents/local-plan-background-documents-open-space-and-green-infrastructure.aspx](http://archive.wyreforestdc.gov.uk/local-plan-(2016-2036)-background-documents/local-plan-background-documents-open-space-and-green-infrastructure.aspx)

Environment Agency Abstraction Licensing Strategies

<https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process>

National Flood and Coastal Erosion Risk Management Strategy for England

[National Flood and Coastal Erosion Risk Management Strategy for England - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/428222/national-flood-and-coastal-erosion-risk-management-strategy-for-england-2012-2030.pdf)

National Standards for Sustainable Drainage

[Sustainable Drainage Systems: Non-statutory technical standards for sustainable drainage systems \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/428222/national-standards-for-sustainable-drainage.pdf)

South Worcestershire Strategic Flood Risk Assessment

<https://www.swdevelopmentplan.org/swdp-review/swdp-review-evidence-base/strategic-flood-risk-assessment>

Bromsgrove and Redditch Strategic Flood Risk Assessments

https://www.worcestershire.gov.uk/downloads/download/798/strategic_flood_risk_assessments_sfras

Wyre Forest District Council Local Plan review evidence base for Flood Risk, Water Management and Climate Change

[http://archive.wyreforestdc.gov.uk/local-plan-\(2016-2036\)-background-documents/local-plan-background-documents-flood-risk,-water-management-and-climate-change.aspx](http://archive.wyreforestdc.gov.uk/local-plan-(2016-2036)-background-documents/local-plan-background-documents-flood-risk,-water-management-and-climate-change.aspx)

Worcestershire Local Flood Risk Management Strategy

https://www.worcestershire.gov.uk/info/20236/flood_risk_management/1046/plans_policies_and_strategies/2

Worcestershire Rights of Way Improvement Plan (2016)

[Local Transport Plan \(LTP\) | Worcestershire County Council](#)

Worcestershire Local Transport Plan 4 (2017)

[Local Transport Plan \(LTP\) | Worcestershire County Council](#)

Worcestershire County Council Renewable Energy Strategy 2015-2020

https://www.worcestershire.gov.uk/info/20014/planning/1161/sustainable_development_research_documents/3

Worcestershire Minerals Local Plan

<https://www.worcestershire.gov.uk/minerals>

Worcestershire Waste Core Strategy (2012)

https://www.worcestershire.gov.uk/info/20015/planning_policy_and_strategy/311/waste_core_strategy

Worcestershire LEP Energy Strategy

<https://www.wlep.co.uk/wp-content/uploads/P3695-Worcestershire-Energy-Strategy-Strategy-with-glossary.pdf>

Worcestershire's Plan for Growth 2020-2040

<https://www.wlep.co.uk/wp-content/uploads/WLEP-Plan-for-Growth-2020-2040-FULL-VERSION.pdf>

Worcestershire Landscape Character Assessment

https://www.worcestershire.gov.uk/info/20014/planning/1006/landscape_character_assessment

Emerging Worcestershire Health and Well-being Board Strategy

<https://www.worcestershire.gov.uk/HWBStrategy2022>

Appendix F: Glossary

Accessible Natural Greenspace Standard (ANGSt) – tool developed by Natural England based on the minimum distances people would travel to green spaces.

Agri-environment schemes – funding schemes designed to reward environmental land management by farmers and land managers.

Air Quality Management Areas (AQMAs) – areas declared by local authorities in which national air quality objectives are not likely to be achieved. AQMAs could be just one or two streets, or could be much bigger.

Blue infrastructure – otherwise known as water infrastructure, is a network of water assets such as rivers, pond and ditches. Blue infrastructure is concerned with use, quantity and quality of water and other water-related issues including flood risk.

Biodiversity Net Gain (BNG) – BNG is an approach to development and/or land management that aims to leave the natural environment in a measurably better state than it was beforehand. The Environment Act 2021 places a BNG mandate on local planning authorities to deliver a minimum 10% net gain for biodiversity through planning.

Carbon sequestration – the process of capturing and storing atmospheric carbon dioxide. References to carbon sequestration in this document are to biological sequestration, where CO₂ is transferred from the atmosphere to vegetation, either above ground or to organic matter within the soil.

Community Development Trusts (CDTs) – CDTs are independent, not for profit organisations which aim to respond to local needs and are intended to bring about lasting social, economic and environmental benefits to the local community. The overall aims of a CDT include the ownership, maintenance and effective management of GI and other facilities, encouraging healthy lifestyles and the use of sustainable transport by residents and businesses and encouragement of community cohesion.

Community Infrastructure Levy – a new levy that local authorities in England and Wales can choose to charge on new developments in their area. The levy is designed to be fairer, faster and more transparent than the system of agreeing planning obligations between local councils and developers under section 106 of the Town and Country Planning Act 1990 (although Section 106 agreements will remain, albeit in a more limited role).

Country Park – accredited natural green spaces which have been granted Country Park status by Natural England after demonstrating 15 essential criteria and 10 desirable criteria. Some of the essential criteria include: at least 10 ha in size, readily accessible to the population which they intend to serve, entry free of charge, must predominantly consist of natural or semi-natural landscape, buildings must account for less than 5% of the land, and they should provide opportunities for the local community to have an influence over the management and development of the site.

Ecological network - representation of the interactions in an ecosystem, in which species are connected. Ecological networks are used to describe and compare the structures of real ecosystems, while network models are used to investigate the effects of network structure on properties such as ecosystem stability.

Endowments - a transfer of money and/or property donated to an institution. The total value of an institution's investments is often referred to as the institution's endowment and is typically organised as a public charity, private foundation, or trust.

Fluvial flooding – flooding which occurs in the floodplains of rivers when the capacity of water courses is exceeded as a result of rainfall or snow and ice melts within catchment areas further upstream.

Green economy – business activity which delivers economic growth whilst reducing environmental and ecological risks and contributing to human wellbeing. The term is usually used in relation to economic sectors such as renewable energy, sustainable transport, water and waste management.

Green Infrastructure Environmental Character Areas (ECAs) – 30 areas identified in Worcestershire, divided into three categories:

- Protect and enhance (greatest existing green infrastructure value)
- Protect and restore (medium existing green infrastructure value)
- Restore and create (lowest existing green infrastructure value)

The quality of these areas has been considered in terms of landscape character, biodiversity and historic environment, to arrive at score for each ECA.

Green roof – (also known as a living roof) is a roof on which vegetation is intentionally grown and/or habitats for wildlife are established. Green roofs provide different types of biodiversity habitats, water storage capacity, flood alleviation and energy saving potential.

Grey infrastructure – traditional infrastructure, e.g. roads, rail, sewers, pipes, etc.

Historic Environment Character Zones - strategic character areas derived from an integrated assessment of the historic environment. The assessment amalgamated data from the county Historic Environment Record (HER) with landscape character mapping to generate zones of distinctive character, which included an assessment of potential and sensitivity to change.

Historic Environment Characterisation - is the over-arching term for a suite of integrated or specific historic environment characterisation projects that include: Historic Environment Character Zones (HECZ), Historic Landscape Characterisation (HLC), Villages Historic Environment Resource Assessment (VHERA) and Historic Farmsteads Characterisation (HFC).

Hypothecated taxes - the dedication of the revenue from a specific tax for a particular expenditure purpose (also known as ring-fencing).

Informal recreation spaces - are flexible recreation spaces. They typically include a combination of flat open grassy areas, play spaces, picnic zones or benches.

Lead Local Flood Authority (LLFA) - Lead Local Flood Authorities (unitary authorities or county councils) are responsible for developing, maintaining and applying a strategy for local flood risk management in their areas and for maintaining a register of flood risk assets. They also have lead responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses.

Local Enterprise Partnership (LEP) - voluntary partnerships between local authorities and businesses formed in 2011 by the Department for Business, Innovation and Skills. LEPs help determine local economic priorities and lead economic growth and job creation within their local areas. In Worcestershire there are two LEPs: the Worcestershire LEP covers all of the county, whilst the northern districts/boroughs of Wyre Forest, Bromsgrove and Redditch also sit within the Greater Birmingham and Solihull LEP.

Local Nature Partnership (LNP) - partnerships of a broad range of local organisations, businesses and people who aim to help bring about improvements in their local natural environment.

Local Nature Recovery Strategy – a new, England-wide system of spatial strategies that will establish priorities and map proposals for specific actions to drive nature's recovery and provide wider environmental benefits. Introduced as part of the Environment Act 2021.

Local Plans – a plan prepared by a local planning authority which sets the rules for how the local area will develop over time. The Local Plan, along with any Neighbourhood Plans, forms the overall development plan for the local area. Planning decisions must normally be taken in accordance with the development plan.

Lower Super Output Areas (LSOA) – a sub-area of the Super Output Area, a geographical area to facilitate the calculation of the Indices of Deprivation. LSOAs typically contain 4 to 6 Output Areas, with a total population of around 1500.

Passive solar gain – use of the sun’s energy for the heating and cooling of living spaces. In this approach, the building itself or some element of it takes advantage of natural energy characteristics in materials and air created by exposure to the sun.

Payment for Ecosystem Services (PES) - payments to land managers or owners to undertake actions that increase the levels of desired ecosystem services.

Pluvial flooding - surface water flooding caused by rainwater run-off from urban and rural land with low absorbency.

Public Rights of Way (PROW) – All rights of way are legally highways and anyone may use them at any time. There are different types, such as paths, byways and bridleways. The permanence of a ProW is guided by the principle “once a highway, always a highway”, so it remains a highway until there is a legal event to close, divert or extinguish it as a PROW. A PROW can be established in one of three ways:

- express dedication - where the landowner has given the public a right of use over their land;
- presumed dedication - where the public have used a right of way for a longer time than anyone can remember; or
- deemed dedication - where a right of way has been in use for 20 years or more.

Section 106 Agreements – Planning obligations under Section 106 of the Town and Country Planning Act 1990 (as amended), commonly known as s106 agreements, are mechanisms which make an otherwise unacceptable development proposal acceptable in planning terms. They are focused on site specific mitigation of the impact of development. S106 agreements are often referred to as ‘developer contributions’, along with highway contributions and the Community Infrastructure Levy.

SuDS Approval Body (SAB) - under the Flood and Water Management Act 2010 the SAB will be an organisation within County Councils and Unitary Authorities specifically established to deal with the design, approval and adoption of sustainable urban drainage systems (SuDS) within any new development consisting of two or more properties. This new role will commence once the relevant parts of the Act are enacted.

Super Output Areas (SOA) - are a set of geographical areas developed following the 2001 census, initially to facilitate the calculation of the Indices of Deprivation. They are an aggregation of adjacent Output Areas with similar social characteristics.

Supplementary Planning Documents (SPDs) - provide additional information on planning policies in a development plan.

Sustainable development - Sustainable development means encouraging economic growth while protecting the environment and improving people’s quality of life - all without affecting the ability of future generations to do the same.

Sustainable Drainage Systems (SuDS) - a sequence of water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than the conventional practice of routing run-off through a pipe to a watercourse.

Water Storage Reservoirs – are reservoirs to store water at times of high flows to provide a secure resource for the following dry period.

Woodland Access Standard (WASSt) – an assessment of the extent of permissively accessible woodland in the UK

You can contact us in the following ways:

By Phone:

01905 766723

By Post:

Strategic Planning & Environmental Policy
Worcestershire County Council
County Hall
Spetchley Road
Worcester
WR5 2NP

By Email:

GI@worcestershire.gov.uk

Online:

www.worcestershire.gov.uk