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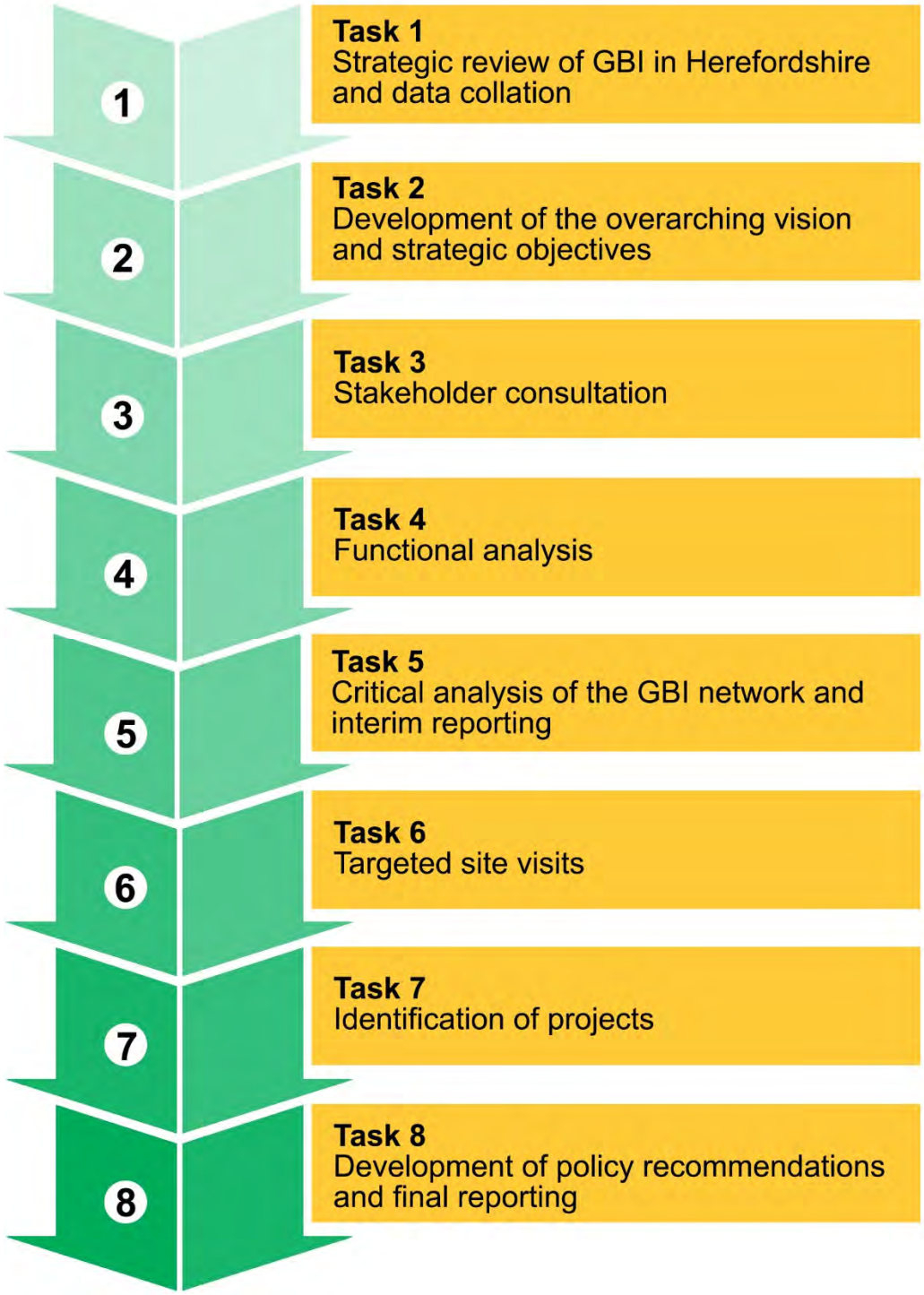
Appendix A

Methodology

7.65 The development of the Strategy has involved eight distinct tasks, which are detailed below and illustrated graphically in **Figure A.1.**

Figure A.1: Methodology for the development of the Strategy



Task 1: Strategic review of GBI in Herefordshire and data collation

7.66 In order to understand the characteristics of the existing GBI network and initiatives within Herefordshire, a detailed desk review was undertaken of policy documents, studies and guidance.

7.67 This task also focussed on the lessons learnt from the 2010 GI Strategy, ensuring the alignment of the new Strategy with the current national and local policy agenda. This allowed analysis of the existing network, together with a holistic review of the factors contributing to the 'need' for GBI in Herefordshire and the identification of areas of deficiency.

Task 2: Development of the overarching vision and strategic objectives

7.68 In close collaboration with the Council and with consideration of the outputs from the stakeholder consultation, an overarching vision was produced for Herefordshire's GBI network. The process was also informed by the review of the vision at the three spatial tiers outlined within the 2010 GI Strategy. The development of the overarching vision was supported by a series of strategic objectives which were used to guide the roadmap towards successful delivery and illustrate the function of strategic greenspaces across the county.

Task 3: Stakeholder consultation

7.69 Consultation was undertaken to help identify stakeholder attitudes, expectations and aspirations for GBI in Herefordshire, as well as perceived deficits and opportunities. We consulted via two stakeholder workshops to access a breadth of expertise and local perspectives as well as views on the draft overarching vision and strategic objectives for the Strategy.

7.70 In September 2022, key stakeholders were invited to attend an online workshop to introduce them to the project. The consultation allowed participants to provide input on issues such as the emerging overarching vision, existing initiatives, prevailing issues and potential partnerships. The workshop was attended by representatives from a range of organisations and public bodies. A second online workshop was held in November 2022 to build on the baseline, explore the scoping of GBI opportunities and discuss delivery mechanisms. A summary of consultation outputs and how the results were used to inform the Strategy can be found later in this chapter.

7.71 Reflecting wider synergies with the Herefordshire Open Space Assessment, a residents' survey was also utilised to gain an enhanced understanding of the public's perceptions of local needs, values and the multi-functionality of the GBI network.

Task 4: Functional analysis

7.72 A 'themed' approach was adopted to organise the review of the baseline, with the emergence of the themes detailed later in this chapter. This enabled a detailed review of the current functionality of the GBI network against a range of ecosystem services, particularly in relation to the climate emergency and nature recovery. The importance of GBI in supporting health and wellbeing (as highlighted by the COVID-19 pandemic) was also emphasised. This task identified the forecast performance of the GBI network through the preparation of a series of mapping outputs. Following the review by theme, an overarching holistic analysis was undertaken to create a unified baseline analysis to inform the next stages of the Strategy.

Task 5: Critical analysis of the GBI network and interim reporting

7.73 This stage involved the definition of a selection of issues and opportunities, informed by the evidence base provided in the previous stage. Identified interventions were mapped and the impacts and benefits of these opportunities determined through an assessment of their multifunctionality. This allowed us to build up a more textured and granular picture of provision, demand and access to GBI across Herefordshire, providing an indication of severance or areas where interventions were required.

Task 6: Targeted site visits

7.74 Following the identification of issues and opportunities, targeted site visits were undertaken to assess the range of existing assets and the opportunities these features may provide in achieving the objectives of the Strategy.

Task 7: Identification of projects

7.75 The findings from the above tasks were used to develop a list of projects and initiatives for the protection and enhancement of the GBI network within the county. These were mapped to provide a spatial analysis of area-based improvements to repair, reconnect and restore GBI. Potential delivery mechanisms and partnerships were also identified, including their relative multifunctionality and benefits to the GBI network.

Task 8: Development of policy recommendations and final reporting

7.76 Following the analysis and assessment of GBI assets, policy recommendations were developed to provide an understanding of deficiency and need. The final report was prepared, detailing the measures for the enhancement of the county's GBI network through the identification of deliverable GBI projects.

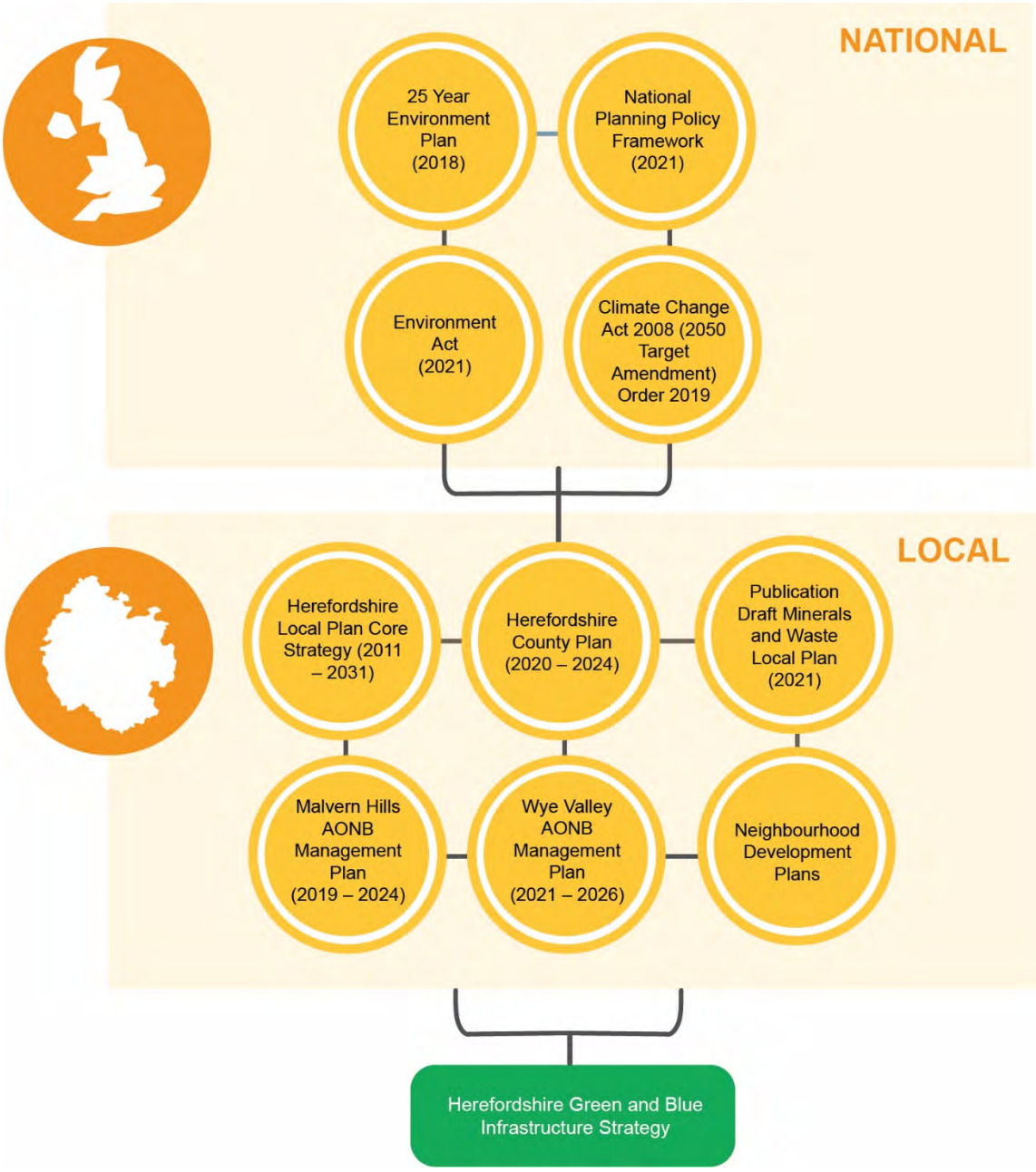
Appendix B

Policy context

National Level

7.77 At a national level, the National Planning Policy Framework (NPPF) (2021) **[See reference** 31**]** emphasises the importance of placing GBI at the heart of plan making, reinforcing the value of adopting a strategic approach to maintaining and enhancing the network whilst also planning for the enhancement of natural capital (para 175). Within the NPPF, GBI is identified as a tool to help overcome the pressures of climate change (paragraph 20), most notably in the planning of new development (paragraph 154), as well as promoting healthy and safe communities (paragraph 92). **Figure B.1** illustrates the policy context.

Figure B.1: Policy context



7.78 These form just some of the policy shifts demonstrating the growing importance of GBI in delivering nature-based solutions to planning issues. A legal commitment to reach net zero carbon emissions by 2050 was also introduced in a 2019 amendment to the Climate Change Act (2008) **[See reference** 32**]** and the government's flagship 25 Year Environment Plan set out

a series of national goals for improving the environment and encouraging the wider implementation of GBI **[See reference** 33**]**.

7.79 Since then, national policy has included a 10-point plan for a 'green industrial revolution', and in 2021 the Environment Act **[See reference** 34**]** was passed, which established legally binding environment targets directed by goals introduced in the 25 Year Environment Plan. Some key proposals for GBI outlined within this plan include the strengthening of requirements in national planning policy on Biodiversity Net Gain (BNG) and the establishment of a cross-government project to review and update existing standards for GI (Natural England GI Standards Framework). Reference is also made to the development of a Nature Recovery Network which seeks to provide an additional 500,000 hectares of wildlife habitat amongst other plans for landscape-scale recovery for woodlands, peatland, and natural flood management (Nature Recovery Green Paper).

Local Level

7.80 The policies relating to GBI in the adopted Herefordshire Local Plan Core Strategy (2011 - 2031) **[See reference** 35**]** are listed below:

- **Policy LD1: Landscape and townscape** – sets out concepts of conservation, restoration and enhancement in relation to Herefordshire's landscape and townscape. This includes maintaining and extending tree coverage and enhancing the natural beauty of important features, including parks, gardens, and landscape areas through enabling appropriate uses, design and management.
- **Policy LD2: Biodiversity and geodiversity** – establishes measures to ensure that development proposals conserve, restore and enhance the biodiversity and geodiversity assets of Herefordshire through the retention and protection of nature conservation sites and habitats, restoration and enhancement of existing biodiversity and geodiversity features on site, and the creation of new biodiversity features and wildlife habitats.

- **Policy LD3: Green Infrastructure** – establishes measures to ensure that development proposals protect, manage and plan for the preservation of existing and delivery of new GI. The policy seeks to identify and retain existing GI corridors, provide on-site GI, and integrate surrounding GI into a holistic network.

7.81 The Council is in the process of updating the current Herefordshire Local Plan Core Strategy (2011 - 2031), which was adopted in October 2015. The Local Plan 2021- 2041 will set out the planning framework for the county for the period to 2041 and will cover issues such as housing provision, the economy, retail and town centres, strategic and community infrastructure and the environment. The Strategy will provide a key piece of evidence to support this Local Plan update, supporting the growth coming forward and providing a framework to guide sustainable development. The Local Plan review also provides an opportunity to revise, update and / or expand on the adopted policy approach as appropriate.

7.82 The core strategy also outlines policies covering topics that relate to GBI but do not currently reference GBI, including:

- **Policy SD1: Sustainable design and energy efficiency** – seeks to create safe, sustainable, well integrated environments for all members of the community. The policy seeks to integrate new development into the existing built, natural, and historic environment.
- **Policy SD3: Sustainable water management and water resources** – establishes measures for sustainable water management in new development to reduce flood risk, protect water quality, enhance groundwater resources, and provide opportunities to enhance biodiversity, health and recreation.
- **Policy SD4: Wastewater treatment and river water quality** - ensures that the achievement of water quality targets for the county's rivers will be met. This includes the management of adverse nutrient levels and the protection of the areas protected sites.

7.83 Herefordshire has also adopted the Herefordshire County Plan 2020-2024 to help further shape growth in the county **[See reference** 36**]**. This document identifies the protection and enhancement of the environment as a key priority, in which GBI plays a vital role in realising its ambitions. This involves improving residents' access to greenspace, increasing flood resilience, air quality, and reducing the council's carbon emissions.

7.84 A Minerals and Waste Local Plan (MWLP) is currently in development and aims to guide mineral extraction and the management of waste in Herefordshire up to 2041 and beyond. Of relevance to GBI, the emerging document recognises that mineral workings and waste sites make important contributions to the protection and enhancement of outdoor public access and recreation resources within the county. Opportunities to incorporate GBI within mineral sites include access improvements (safety permitting), the introduction of site interpretation to promote the site's significance, the creation of recreational assets and improvements to accessibility and engagement for people with disabilities **[See reference** 37**]**.

7.85 Both the Herefordshire Local Plan Core Strategy and Herefordshire County Plan refer to the protection of the county's Areas of Outstanding Natural Beauty (AONB) (Wye Valley and Malvern Hills). In reference to these, local policy includes the Malvern Hills AONB Management Plan 2019 – 2024 **[See reference** 38**]**, and the Wye Valley AONB Management Plan 2021-2026 **[See reference** 39**]**. These formulate Local Authority policy for the management of each AONB and establish material considerations for the respective Core Strategies and Local Development Plans of constituent Local Planning Authorities. Due to the cross-boundary nature of the AONBs, both plans are managed by their separate AONB Partnerships.

Neighbourhood level

7.86 There are currently 113 designated neighbourhood areas and 89 draft / adopted Neighbourhood Development Plans (NDPs) in Herefordshire. Many of these documents include policies for greenspaces and have been used to

designate both ‘Local Green Spaces’, in accordance with the criteria contained in the NPPF. Some of the NDPs have also been used to identify deficiencies in GBI, with the aim that these may be addressed through new development or planning gain.

Appendix C

Place - Baseline

Key assets

Landscape Character

7.87 Herefordshire is characterised by a largely rural landscape, with 95% of the county's land use classified as rural. The county is typified by a rich variety of landscapes, ranging from the distinctive sandstone uplands of the Black Mountains in the west to the low-lying Wye Valley in the south. The lowland wooded sandstone hills located in the centre of the county contrast with the elevated rolling plateau farmland and estates to the north east. Land use is predominantly agricultural, with small woodlands and mature hedgerows dispersed across the county. Of the total land used for agriculture in the county, over half of the land area is grassland pasture **[See reference** 40**]**.

7.88 Hereford forms the principal urban centre, lying broadly centrally within the county. Herefordshire is also served by five market towns. These comprise Bromyard to the north east, Kington to the north west, Ledbury to the east, Leominster to the north, and Ross-on-Wye to the south. A dispersed rural settlement pattern predominates, characterised by scattered villages, hamlets and clustered properties located around commons. 53% of the county's population is noted as living within these rural areas **[See reference** 41**]**. The local vernacular of villages is shaped by the underlying local geology, typified by characteristic stone farmhouses in the south and distinctive black and white timber-framed buildings in the north west.

7.89 Large areas of the county are characterised by low-lying, gently undulating topography dissected by prominent hills and incised river valleys. Land lying at the centre of the county is defined by low lying land associated with the river

terraces of the Wye and Lugg, with the occasional steep-sided hill. Areas of higher land rise towards the county boundary, notably the Black Mountains to the west, and the high ridge of the Malvern Hills AONB to the east. Areas of woodland are typically located on hill tops and valley sides, forming significant landscape features.

7.90 The county forms an important area for commercial agriculture, supported by fertile and high-grade agricultural soil. Characterised by both mixed arable and pastoral types, the county is predominantly comprised of 'very good' (Grade 2) and 'good' (Grade 3a) quality agricultural land. Traditional orchards are also characteristic of the landscape, albeit in decline.

7.91 Mapping and written descriptions published by Natural England classify the landscape character of Herefordshire into seven distinct National Character Areas (NCAs) **[See reference** 42**]**. These NCAs describe the broad landscape context within the county and are listed below:

- NCA 98 – Clun & North West Herefordshire Hills;
- NCA 99 – Black Mountains & Golden Valley;
- NCA 100 – Herefordshire Lowlands;
- NCA 101/102 – Herefordshire Plateau;
- NCA 103 – Malvern Hills;
- NCA 104 – South Herefordshire & Over Severn; and
- NCA 105 – Forest of Dean and Lower Wye.

7.92 The Herefordshire County Landscape Character Assessment **[See reference** 43**]** provides a characterisation of Herefordshire, examining the special character, distinctiveness and qualities of the county. This guidance is considered to be of value in a wider context, informing landscape planning, policy and decision making within Herefordshire. The document divides the landscape of Herefordshire into 14 generic Landscape Character Types (LCTs), forming broad tracts of landscape that have a unity of character. The LCTs are subdivided into local Landscape Character Areas (LCAs), which form discrete

areas that possess the characteristics described for the LCT, but have a recognisable local identity. Criteria that have informed the classification of the landscape include underlying geology, topography and drainage; agricultural land use and field pattern; semi-natural habitats; settlement and road pattern; cultural heritage; and views and perceptual qualities. The document identifies the key forces for change in the county as changes in agricultural practices, development pressures and climate change.

Designated landscapes

7.93 Both the Wye Valley and Malvern Hills AONBs are recognised as nationally important landscapes due to their distinctive character and natural beauty. Large sections of these designated landscapes fall within the boundary of Herefordshire.

7.94 . To the north of the Wye Valley AONB, land is characterised by a lowland landscape associated with the meandering watercourse of the River Wye. However, land lying downstream of Ross-on-Wye is more dramatic in character, typified by gorges with sheer cliffs and steep wooded slopes. These landscape features are interspersed with broader valley reaches and rounded hills. This variation in topography has resulted in a range of distinctive settlement patterns and farming patterns within the AONB, as well as an abundance of historical and culturally significant sites.

7.95 The Malvern Hills AONB encompasses the eastern extent of Herefordshire and is characterised by a varied topography, dominated by a distinctive north-south ridge. The landscape is also typified by ancient woodlands, traditional orchards, parks, pastoral farmland and commons. The varied geology within the AONB gives rise to a unique array of habitats for wildlife, which are recognised as both locally and nationally important (see **Chapter 4**).

7.96 There are 25 Registered Parks and Gardens of Special Historic Interest within Herefordshire **[See reference** 44**]**, noteworthy examples include Humphry Repton’s landscape improvements at Garnons and Hampton Court,

Eastnor Castle, Berrington Hall by Lancelot ‘Capability’ Brown, Moccas Court, and Croft Castle. A large proportion of these assets are concentrated to the north west and west of the county.

Historic landscapes

7.97 The county comprises a wide range of built heritage assets; including listed buildings and conservation areas, which recognise locations with special historic character. Whilst built features cannot be considered as GBI; elements of the network (including parks, open spaces, street trees and incidental vegetation) contribute towards their settings, enhance their value as key visitor destinations and help to interpret the county’s historic development, heritage, culture and changes in land use over time.

7.98 The county is currently home to 64 conservation areas **[See reference** 45**]**. These areas vary in size, from small hamlets to country house estates, villages, and market towns. These designated areas are defined as ‘an area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance’. The designation of conservation areas results in additional planning controls to preserve or enhance the character of the area. Trees in conservation areas also are afforded the same protection as those subject to a Tree Preservation Order (TPO).

7.99 Herefordshire contains 265 Scheduled Monuments **[See reference** 46**]**, ranging from the remains of Roman villas to iron age hillforts. Notable clusters of scheduled monuments are located to the north and west of Hereford. Many Scheduled Monuments are located on private land which makes it difficult to improve public access to them. Over 5,900 listed buildings are also distributed across the county **[See reference** 47**]**, including 127 Grade I listed building which are considered to be of ‘exceptional interest’ and of the greatest national importance. Notable examples include Goodrich Castle and Hereford Cathedral as well as several country houses (including Berrington Hall, Croft Castle and Hampton Court).

Urban greening

7.100 Urban greening forms an essential part of the GBI network by ensuring its continued functionality and delivery of benefits within built-up areas and in areas of new development. Where provisions of green and open space are limited, for example within market towns, greening the 'grey' infrastructure is vital to provide benefits to people and the environment. Green walls, green / brown roofs, street trees, pocket parks, community gardens, rain gardens (including SuDS) and raised planters are all forms of urban greening considered in this Strategy.

7.101 Recognised within the Hereford Town Investment Plan **[See reference** 48**]**, the 'Greening the City' project was identified as a post COVID-19 opportunity to enhance Hereford City Centre. The project focusses on access and greening interventions, with the aim of improving the attractiveness of Hereford whilst also enhancing connections to its rural hinterland. Key elements of the scheme include public realm improvements and cycle / walking routes. The project is set to commence in 2022 / 2023 and is due to be completed in 2023 / 2024.

7.102 Delivered as part of the 'Greener City' project, the Council has also recently invested in new tree planting and urban greening interventions within Hereford. The initiative aimed to provide an attractive environment and enhance locations such as High Town as well as surrounding streets (Commercial Street, Eign Gate, Widemarsh Street and Trinity Square) **[See reference** 49**]**.

7.103 The emerging Hereford Design Guide outlines proposals for a network of urban greening interventions and an integrated cycle network, providing a circular route in the city. The link will provide connections to the wider network, including Rotherwas, along Widemarsh Brook and the River Wye. The document also describes potential greening opportunities at Prior Street, Widemarsh and Eign Brook **[See reference** 50**]**.

7.104 Over 23 individual roadside verge habitats are recorded in Herefordshire (roadside verges open space dataset). Working with Herefordshire Wildlife

Trust and Balfour Beatty Living Places, the Council aims to protect, manage and enhance roadside verges for their ecological value **[See reference** 51**]**.

Street trees

7.105 Trees are a fundamental building block of the GBI network and deliver multiple benefits, namely urban cooling, provision for biodiversity, carbon sequestration, higher property prices, rainfall attenuation, pollutant removal and improved sense of place. Tree coverage within Herefordshire lies at 19.1%, although the target for the county is 20%. Furthermore, Hereford only has 15% tree cover, however, for a city of its size this should be closer to 30% **[See reference** 52**]**.

7.106 The county includes approximately 743,000 individual trees, woodlands, and groups of trees **[See reference** 53**]**. In addition, there are over 500 Tree Preservation Orders (TPOs). The TPOs within the county are primarily located within Hereford and the market towns, as well as along some key infrastructure corridors. However, smaller settlements such as Luston, Wigmore, Lugwardine and Burghill also contain a relatively large distribution of TPOs. Large TPO groups characterise the landscape to the east of the county, including Old Colwall Estate, land to the east of Munsley and Highgrove Wood.

7.107 The Severn Treescapes Project, of which the Council is a project partner, was awarded a substantial grant from the Trees Call to Action Fund in 2022. The project aims to create a 60 mile corridor of enhanced tree cover to connect the Lower Wye Valley and the Forest of Dean in the south to the Wyre Forest in the north (see **Chapter 4**). Although farmland accounts for approximately 75% of the land use in this area, the scope of this project is likely to result in an uptake in urban tree planting. This is likely to be achieved through the creation of community woodlands and the enhancement of local greenspaces as a mechanism to promote the value of trees within the county **[See reference** 54**]**.

7.108 Although there is an increased ambition for street tree planting across Herefordshire, the issue of ongoing maintenance means the success of new

plantings can be mixed. Many new trees rely on members of the community to water and maintain them. Therefore, when raising funds for tree planting, maintenance costs for the establishment period (which should be at least 3 years) should be factored in.

Drivers and issues

Landscape quality and land use change

7.109 Land quality in the county is at risk of the negative effects of development **[See reference** 55**]**, flooding, drought, and other extreme weather events driven by climate change **[See reference** 56**]**. The large extent of farmland in the county will need to mitigate and adapt to the effects of climate change over the coming years (refer to **Chapter 4**). However, the agricultural qualities of the county requires protection to reinforce its strong sense of character. Land use should make the most of fertile soils whilst also integrating semi-natural features and heritage assets into the landscape. This includes the creation and restoration of a network of traditional orchards which form important landscape features within the county.

7.110 Statements of Environmental Opportunity (SEOs) included within the NCA profiles which host Herefordshire outline the potential to promote sustainable farming practices. NCA 101: Herefordshire Plateau summarises the need to create a farmed landscape that is more permeable to the movement of species and supports a greater range of habitats **[See reference** 57**]**. The requirement for farming practices that enhance soil condition and reduce soil erosion, particularly in relation to the River Wye SAC, is also highlighted in the profile for NCA 104: South Herefordshire and Over Severn. The incoming Environmental Land Management (ELM) scheme aims to enhance the sustainability of farming by encouraging farmers to carry out work that enhances the environment. This includes activities such as tree or hedge planting, river management to mitigate flooding, or creating and restoring habitats for wildlife. Between October 2019 to December 2021 Herefordshire

Wildlife Trust helped to deliver one of the pilots for the scheme **[See reference** 58**]**.

Development and urban squeeze

7.111 Future development should be delivered alongside a programme of sensitive urban greening. This should include features such as green walls and roofs, as well as street trees, parklets, raised planters, community gardens, rain gardens and wildflower meadows (as an alternative to traditional highway verges). This will not only improve the functionality of the county's urbanised areas, but also enhance the environmental quality of neighbourhoods to residents and visitors. Interventions should reflect local character, cultural heritage and the visual distinctiveness of Herefordshire to impart a sense of place **[See reference** 59**]**.

Heritage at Risk

7.112 A number of the county's heritage assets are in poor condition. Currently there are 57 heritage assets on Historic England Heritage at Risk Register **[See reference** 60**]**. These include 11 Grade I Listed Buildings, three Grade Listed II Buildings, 16 Grade II* Listed Buildings, 25 Scheduled Monument, and two Conservation Areas. Central Hereford is also described as an Area of Archaeological Importance.

7.113 As described by Historic England's recent guidance on managing heritage assets **[See reference** 61**]**, heritage helps to provide economic prosperity, regeneration, civic pride, sustainability, education, leisure and tourism, and health and wellbeing. Thus, the degradation of these cultural and heritage assets can negatively impact communities, due to their valuable role in providing a sense of place and community distinctiveness. Furthermore, with increasing development pressures on the county it is necessary to ensure an appropriate balance is struck between developed land, the natural environment, and the historic and cultural environment. Future development should recognise

the benefits derived from sustainably managing these resources in a manner that safeguards the county's heritage.

7.114 Other remnants of the county's industrial heritage are at risk of being lost from the landscape. The former route of the Herefordshire and Gloucestershire Canal is still visible in the landscape today in the form of wooded corridors and seasonally wet ditches. The canal first opened in 1798 and connected Hereford with the city of Gloucester. Following the arrival of the railways, use of the canal slowly declined and led to its gradual closure in 1881.

7.115 Since 1992, the Herefordshire and Gloucestershire Canal Trust have been striving towards the complete restoration of the route. Policy E4 within the Herefordshire Core Strategy aims to safeguard the historic route of the canal, together with its infrastructure, buildings, towpaths and features. Any new development within or adjacent to the historic route is required to incorporate canal restoration into their plans. At present, 10% of the 34-mile canal has been restored or is under restoration, for example stretches at Malswick and Oxenhall, with a further 10% under active negotiation, including as part of a scheme for over 600 homes on the outskirts of Ledbury, and plans for a new Hereford terminus near the railway station as part of a student accommodation scheme.

Urban heat island effect

7.116 Urban development within the county is set to rise in the coming years. Infrastructure such as buildings, roads and other forms of infrastructure absorb and re-emit heat to a far greater extent than most natural surfaces **[See reference** 62**]**. Urbanised areas such as towns and cities with denser concentrations of infrastructure are prone to becoming heat 'islands' relative to less urbanised outlying areas with more natural landscapes. The increased temperatures associated with urban areas has a series of knock on effects including increased energy use (refrigeration and air conditioning), air pollution levels, and heat-related illness and mortality.

Appendix D

Nature - Baseline

Key assets

Designated sites

7.117 An expansive designated site network exists across Herefordshire. Designated sites provide the core of a resilient nature recovery network and form the areas where nature conservation efforts are traditionally focussed. To be effective, these sites must be large enough, connected, optimally complex and well managed to ensure functioning ecosystems. The provision of national and local wildlife sites within the county is listed below:

- Four Special Areas of Conservation (SACs) totalling approximately 984 ha, covering 0.5% of Herefordshire;
- 77 Sites of Special Scientific Interest (SSSIs) totalling over 4,601 ha, covering 2.1% of Herefordshire;
- Three National Nature Reserves (NNRs), covering 0.1% of Herefordshire; and
- 742 Local Wildlife Sites (LWS) totalling approximately 18,954 ha, covering 8.7% of Herefordshire.

7.118 The protection of habitats and species across Herefordshire is supplemented by the designation of local nature conservation sites in private or Trust ownership, including those owned and/or managed by Plantlife, Herefordshire Meadows, Herefordshire Wildlife Trust and the Countryside Restoration Trust. These have an important role to play in expanding and connecting areas between the national designated site network and long-term

delivery of conservation objectives for locally important habitats and species and a contributing to a resilient nature recovery network.

7.119 A resilient network of Local Wildlife Sites (LWS) helps to strengthen the upper echelon statutory designated sites such as SACs, SSSIs and NNRs. A LWS review is currently in development by Herefordshire Wildlife Trust. This is expected to report its findings in 2023.

Priority habitats

7.1 There is a great diversity of priority habitats across Herefordshire. Along the various floodplains of the Wye, Teme and Severn Vale catchments there are lowland meadows and floodplain grazing marsh. Malvern Hills AONB and SSSI supports lowland dry acid grassland and the Black Mountains SSSI supports upland wetland in mosaics with species rich grassland, grass moorland and upland heathland. Generally, priority habitat is concentrated to the east at the Malvern Hills AONB, south at the Wye Valley AONB, in the uplands to the west, and between Hereford and Leominster. There is less priority habitat in the north east **[See reference** 63**].**

7.2 Traditional orchards are a locally significant habitat, covering approximately 2.4% of Herefordshire. However, orchards are often small and found in isolated patches with an average habitat patch size of just 0.26ha. These habitats are ecologically valuable and an increasingly rare habitat that reflect Herefordshire's agricultural landscape, which has become increasingly intensified.

7.3 Phase 1 habitats provide finer resolution mapping than the Priority Habitat Inventory (PHI), and values habitats of local conservation importance even though they may not meet the PHI criteria. This helps to inform both strategic and local scale opportunities for enhancing the GBI network.

Woodland

7.4 Woodlands are one of the most extensive habitat types in Herefordshire. As per the National Forestry Inventory data, the total extent of woodland is approximately 27,800ha, covering 12.6% of Herefordshire, average habitat patch size is 3.7ha. This is higher than the total woodland coverage of England, which is 10%. Woodland and trees provide several benefits; including flood management, air purification and local climate regulation. The network of woodland cover also supports various habitat and species assemblages. The protection, enhancement, creation and connection of woodland is a priority for national action, following the 2021 State of the UK's Woods and Trees report by the Woodland Trust **[See reference** 64**]**.

7.5 Herefordshire has a good distribution of remaining ancient woodland across the county with a total coverage of approximately 13,500 ha of (6.2% of the county). Ancient woodland comprises approximately 40% of Herefordshire's woodland types. However, ancient woodland is very fragmented across the county, and most of the recorded woodland is in small clusters with notable gaps around Leominster and Hereford. Powys on the north west border and Monmouthshire on the south west border have good coverage of ancient woodland. Increasing the tree cover on the Herefordshire side of each of these borders would help expand and enhance these tracts. Likewise, Herefordshire's woodland on the south east border plays an important role in buffering and connecting the large continuous area of the Forest of Dean.

7.6 Gloucestershire, Herefordshire and Worcestershire Wildlife Trusts are leading the Severn Treescapes project to create a 60 mile wooded corridor of trees, hedgerows, orchards and native woodland to provide important connectivity in woodland cover **[See reference** 65**]**. This project aims to address the disparity in woodland cover across the three counties and provide important linkages between the two existing large semi-natural woodlands, the Forest of Dean in the south and Wyre Forest in the north. This work will increase habitat resilience in the face of the climate and ecological crises. It will also provide important benefits, specifically on agricultural land through increased shading, water filtration and provision of important habitat corridors

whilst contributing towards productivity. The project will provide important buffer habitats around remaining pockets of ancient woodland to create a climate resilient landscape **[See reference** 66**]**. In addition to providing advice on tree planting, the Severn Treescapes project will offer advice on managing and improving existing woodlands and hedgerows across the landscape.

The water environment

7.7 Herefordshire has an extensive network of rivers, streams, brooks, wetlands and lakes. The majority of Herefordshire is located in the catchment of the River Wye. This watercourse is designated as an SAC and is notified for Annex II species, including white clawed crayfish and otters. These species are anecdotally understood to live throughout the River Wye catchment. The river also supports iconic fish species such as salmon, as well as rare freshwater bivalves such as the freshwater Pearl Mussel **[See reference** 67**]**. Other important watercourses within Herefordshire include the River Clun, River Lugg and River Teme, which are all designated as SSSIs.

7.8 Herefordshire includes relatively little wetland habitat listed within the Priority Habitat Inventory. The total area of floodplain grazing marsh is approximately 635ha, covering 0.3% of Herefordshire with an average habitat patch of 2.7ha. Specific foci include the man-made sites of Bodenham Lake, Brockhall Gravel Pits, Hartleton Lakes and Wellington Gravel Pits. Areas of blanket bog occur in upland areas such as in the Black Mountains. Herefordshire also has a significant distribution of ponds across the county, making up 2.2 km for a total land area percentage of 0.1%. These support protected great crested newts and a variety of other amphibians and aquatic invertebrates **[See reference** 68**]**. The Herefordshire Wildlife Trust recently secured funding from the National Lottery heritage Fund to map, understand and help to preserve a number of Herefordshire's ice age ponds. These shallow ponds were created 22,000 years ago during the last ice age when the ice sheet began to melt. The majority of ponds are ephemeral meaning they are seasonally wet from autumn to spring and tend to dry out during the warmer summer months. Due to their age, they host a large number of species and provide important local habitat nodes for breeding amphibians and foraging

wildfowl and wading birds. They primarily exist within private land ownership, making it particularly important to raise awareness and spread information on positive land management practices which take account of nutrient loading and vegetation management **[See reference** 69**]**.

Geology

7.9 Much of the underlying bedrock of Herefordshire is comprised of compositions of mudstone, siltstone and sandstone. Limestone and calcareous bedrock compositions can be found to the south east of Hereford, in the Malvern Hills AONB, towards the north of the county and on the southern border with Gloucestershire. Understanding underlying geology can ensure habitat restoration or creation is locally appropriate. For example, clay, silt, sand and gravel can be positive indicators for woodland restoration / creation; and clay, silt, gley and peat soils are positive indicators for wetland restoration / creation.

7.10 The presence of peat is particularly important for the identification of areas which offer climate change opportunities for both climate adaptation and mitigation. Peatlands are the most carbon dense habitat type and are highly significant for carbon sequestration as part of global efforts to combat climate change. Peatland soils occur at the south western extent of the county at the border of the Black Mountains, with smaller deposits located along the corridor of the B4352 between Bredwardine and Tyberton. An isolated area of peaty soils is also situated at Ledicot.

Drivers and issues

Site condition

7.11 Ecosystem condition is assessed by an ecosystem's composition, structure and function. These factors underpin the ecological integrity of an

ecosystem and supports its capacity to supply ecosystem services. In the absence of other data, Sites of Special Scientific Interest (SSSI) condition information provide an insight into overall habitat condition – as listed below:

D.1 Favourable

- 42% of total units.

D.2 Unfavourable-recovering

- 41% of total units.

Unfavourable-no change

- 14% of total units.

D.3 Unfavourable-declining

- 3% of units.

7.12 Reasons for the unfavourable condition of SSSIs include:

- Lack of natural regeneration due to high deer browsing pressure (e.g., Cherry Hill Wood SSSI, Wellington Wood SSSI, Downton Gorge SSSI, Upper Wye Gorge SSSI, Lea and Pagets Wood SSSI);
- Bracken encroachment (e.g., Black Mountains SSSI);
- Recreational pressure (e.g., Malvern Hill SSSI); and
- Water quality (e.g., River Lugg Meanders SSSI, River Teme SSSI).

7.13 Many priority habitats in Herefordshire are exceeding their critical load for nitrogen. This is mostly caused by nitrogen runoff from intensive livestock farming **[See reference** 70**]**.

7.14 Nutrient deposition can introduce nutrients into habitats with previously nutrient poor soil and cause them to become more nutrient rich and acidic. This

can lead to the colonisation of new weedy plants that flourish well in this environment and outcompete the previous plant species. This negatively impacts the ecological functionality and species diversity of ecosystems **[See reference** 71**]**.

Recreation and development pressure

7.15 A large proportion of the county is covered by SSSI Impact Risk Zones (IRZs), which indicate the type of development proposals which could potentially have adverse impacts on European sites and SSSIs. Of the principal settlements provided in the Core Strategy, Hereford, Ross-on-Wye and Leominster are the most constrained by SSSI IRZs due to the presence of the River Wye SSSI or the River Lugg SSSI. Due to the lack of designated sites, large areas of land to the north east and the south west do not fall into any SSSI IRZs.

7.16 Recreation can be acute in many parts of the Malvern Hills AONB. This has caused areas of acid grassland habitat to fall into unfavourable condition and risks the Malvern Hills SSSI becoming a critical threshold site. The AONB and Natural England are to formulate a plan to manage and mitigate against this pressure.

7.17 Lugg and Hampton Meadows SSSI, located to the east of Hereford, falls within large swathes of Countryside Rights of Way (CRoW) Act Registered Common Land. This signifies a right of access to this land, making it vulnerable to recreation pressures. The meadows are important sites for ground nesting birds, particularly the endangered curlew. Natural England have recently permitted the withdrawal of access rights on Lower Lugg and Hampton Meadows during the curlew breeding season from 1st March to 31st July. Access to Upper Lugg Meadow has not been restricted, however, this important site for curlew feeding and roosting is still frequented by dog walkers which can lead to disturbance of birds if dogs are not kept under control.

7.18 The Wye Valley is an important area for tourism; including water sports, angling, walking and cycling. This can create disturbance to sensitive species such as otters who use Herefordshire's river corridors as resting and feeding places. Reinforcing people's relationships with nature and the benefits they gain from it is central to achieving nature's recovery. Considering different categories of access such as 'undisturbed nature', 'nature exploration' and 'active access' can help leave space for wildlife and people.

Land management change

7.19 As a rural county, agriculture and land use is the prevailing land use within the county. 77% of land areas is farmed, compared to 12.6% of land area that is woodland **[See reference** 72**]**. Land use and food production has become more widespread and intensive. For example, there has been an increase in intensive poultry units in Herefordshire and upstream in Powys. This has contributed to nutrient enrichment of watercourses (see 'water quality' for more information).

7.20 Major sources of ammonia emissions within the county come from intensive agriculture and to a lesser degree, road traffic emissions. Atmospheric ammonia pollution results in nitrogen deposition which has toxic effects on certain nitrogen limited habitats. Effects of nitrogen deposition range from direct toxicity on individual plant species, to acidification of soil and water and increased sensitivity, secondary stress factors such as pests or climatic events, and long-term effects. This demonstrates how land use, land management, and ecology are intrinsically linked.

7.21 Encompassing a significant area of the county, including areas which are designated as SSSI such as the Lugg and Hampton Meadows SSSI detailed in the Recreation and development pressure section above, CRoW Act Registered Common Land is a key consideration in the planning and delivery of the future LNRS. Common land is accessed, and can be grazed by the public. Accordingly, the habitats present are in varying ecological condition.

7.22 However, farming can work in harmony with ecology and many of the priority habitats that remain within Herefordshire reflect the ecologically diverse landscape created by traditional farming practices (such as open species-rich grassland mosaics that are normally maintained by traditional grazing and cutting methods). The emerging Environmental Land Management Schemes (ELMs), is intended to shift the way farming and land management is supported in the UK. It will focus on providing environmental goods and services which mitigate the impact of the climate and ecological emergency on people and wildlife alongside food production by capturing carbon in the soil, hedges, grassland and trees while also reducing the footprint of food production **[See reference** 73**]**.

Habitat loss & fragmentation

7.23 There is a large extent of core habitat (areas of high nature conservation value) to the west of Herefordshire, and a much smaller presence of core habitat to the east. The south east of Herefordshire has a large expanse of sustainable land-use areas, with a smaller presence in the east except for a large cluster in Ledbury. There are also several wildlife corridors (rivers and hedgerows) and stepping stone habitats (pockets of woodland, open grassland within the rural landscape and urban parks) throughout Herefordshire **[See reference** 74**]**.

7.24 Traditional orchards are comprised of widely spaced, mature trees which support species-rich grassland. Not only do traditional orchards offer huge biodiversity value, they also reflect Herefordshire’s heritage of apple, pear and hops growing for cider production. The specialist skills and knowledge required to manage traditional orchards, including low impact grazing, makes them an important feature in Herefordshire's agricultural heritage. However, these habitats have experienced a drastic national decline as a result of intensive agriculture practices, with an estimated loss of 90% of the UK's traditional orchards since 1950 **[See reference** 75**]**.

7.25 Herefordshire provides a stronghold for traditional orchards as it contains a significant proportion (14%) of remaining orchards within England. Within the

County, traditional orchards cover 1.2% of Herefordshire, representing 2,511ha in total. Over a third of the UK's remaining traditional orchards can be found within the Three Counties (Herefordshire, Gloucestershire and Worcestershire), leading to the formation of the Three Counties Traditional Orchard Project in 2014. This Heritage Lottery funded project raised awareness of traditional orchards, a particularly important issue due to much of them being within private ownership, as well as delivering orchard skills training and encouraging more people to enjoy them for their beauty and wildlife.

7.26 Very little priority wetland habitats is represented by the Priority Habitats Inventory dataset. The total area of floodplain grazing marsh is 635 ha, covering 0.3% of Herefordshire, average habitat patch is 2.7ha. Foci include the man-made sites of Bodenham Lake, Brockhall Gravel Pits, Hartleton Lakes and Wellington Gravel Pits. Areas of blanket bog are known to occur in upland areas such as in the Black Mountains.

7.27 Overcoming and reversing habitat loss and fragmentation requires the creation of sites that are big enough, messy, complex and dynamic. Increasing the number of core sites is also essential by creating and restoring habitat as well as protecting what is already there. There is significant opportunity to expand and enhance the habitat network, notably to the south, east and west of Hereford, adjacent to the Black Mountains, adjacent to the Malvern Hills AONB, and large swathes of the north east, north west, west, and south east of the county.

7.28 Habitat should also be functionally and physically connected. Improving the permeability of the landscape can be achieved by reducing the intensity of farming practice, improving the diversity of land use or by increasing the amount of semi-natural habitat through stepping stones or corridors. These principles underpin the design of nature recovery networks **[See reference** 76**]**. The Marches Nature Partnership, an informal collaboration between Herefordshire and the Shropshire, Telford & Wrekin Local Nature Partnership, provides an example of working strategically at the strategic scale in the county to deliver nature recovery.

Species loss

7.29 As agricultural practices have intensified over the last century, exacerbated by an increased use of pesticides and herbicides, the county has been a dramatic decline in the presence, abundance and diversity of invertebrates. This has resulted in declines in many farmland birds such as the grey partridge, lapwing and skylark, which require insects to feed their chicks. These effects have been compounded by increased stocking densities which affect ground-nesting birds as overgrazing reduces the sward height, leaving nests more susceptible to predation.

7.30 The loss of insects from the landscape has also impacted the abundance and diversity of bat species, specifically across agricultural land since the 20th century. Bats have also been affected by the loss of hedgerows and standing water from the landscape as a result of agricultural intensification and development **[See reference** 77**]**. In addition, the loss of field margins has severely impacted granivorous birds such as corn buntings which require ground nesting habitat in cereal fields, grass field margins or unimproved grassland **[See reference** 78**]**.

7.31 The county has also seen declines in the number of brown hare as a result of reductions in habitat cover through loss of mixed farming and field margins and also as a result of habitat fragmentation and highway construction which has resulted in road mortality **[See reference** 79**]**. The loss of hedgerows from the landscape has also had a significant impact on yellowhammer numbers and other mammals including hedgehogs and harvest mouse. Loss of hedgerow and fragmentation of woodlands have resulted in declines in dormouse numbers which rely on hedgerows to provide shelter, nesting habitat and connectivity across the farmed landscape.

7.32 Traditional orchards provide important habitat for a range of species assemblages. Mature fruit trees provide foraging habitat for a range of birds such as the lesser spotted woodpecker. The larval form of the noble chafer has also experienced significant declines and is recognised as vulnerable in the UK as a result of the loss of traditional orchards from the landscape.

7.33 In Herefordshire, the great crested newt is at risk of future declines in population as a result of mild and wet winters affecting their survival during hibernation. Warmer drier summers are also likely to lead to detrimental effects, reducing the availability of ponds and availability of aquatic prey for newt larvae (resulting in desiccation of eggs as ponds dry in spring).

7.34 There are various other factors which have resulted in species losses across Herefordshire. These include poor water quality, river modifications and a rise in both invasive and non-native species which has resulted in significant reductions in the distribution of white-clawed crayfish.

Invasive species

7.35 Himalayan balsam, Japanese knotweed and American Skunk Cabbage cause significant problems throughout the Wye Valley. As well as outcompeting native wildflowers and plants they can significantly increase the flood risk. Dominant stands can block waterways and, by leaving riverbanks and hillslopes bare of stabilising vegetation every winter, they increase erosion and lead to more sediment and debris entering watercourses.

7.36 The American signal crayfish is a significant threat to white-clawed crayfish – a European protected species and a Herefordshire local priority species. This non-native crayfish competes for food and habitat and carries a fungal disease which is fatal to the native crayfish **[See reference** 80**]**. The Marches Crayfish Partnership was formed to deliver a shared regional crayfish strategy.

Tree pests and diseases

7.37 Ash dieback will kill around 80% of ash trees across the UK **[See reference** 81**]**, caused by a fungus called *Hymenoscyphus fraxineus.* Across Britain, Herefordshire is in the top 10 counties for its percentage coverage of ash canopy in woodland **[See reference** 82**]**. Trees in woodlands with high proportions of ash are likely to decline more quickly. Acute oak decline, caused

by multiple agents, is also affecting trees in the West Midlands. For infection to occur, it is likely the trees need to be weakened (predisposed) by certain factors, especially environmental factors.

7.38 Prolonged drought, flooding and high temperatures also mean that trees are likely to be stressed and more vulnerable to disease. Mild, wet winters create ideal conditions for disease and pests to spread. Forest Research collate information on tree pests and diseases **[See reference** 83**]**. Replacing dead or felled trees with a diverse range of native trees provides an opportunity to re-establish other native trees and create resilience for the future. The Herefordshire Tree Wardens are working on a plan to make different varieties of trees available that are resistant to Dutch Elm disease **[See reference** 84**]**.

7.39 Grey squirrels cause considerable damage to broadleaf woodland by bark stripping. This damage will cost the economy an estimated £18.6 million a year under a moderate scenario in damaged timber, lost carbon capture, and tree replacements **[See reference** 85**]**. Lack of natural regeneration due to high deer browsing pressure is a principal reason for the county's SSSI's not being in favourable condition. Deer particularly target young trees, which threatens tree planting ambitions. A draft national deer management strategy has been produced to outline how to sustainably manage deer.

Water quality

7.40 The River Wye has suffered increased nutrient levels in recent years. This has been caused by numerous factors; such as changing agricultural practices, the impacts of waste water treatment works and land use changes **[See reference** 86**]**. These nutrients result in severe and prolonged algal blooms. The results of this are evident within the Wye and its tributaries today, with salmon catches down 95% since the 1970s and some invertebrate groups and plant species becoming mostly absent from the river **[See reference** 87**]**. As a result, development is not permitted in the Lugg, Frome or Arrow catchments that do not demonstrate 'nutrient neutrality' **[See reference** 88**]**. The impact of agriculture on Herefordshire's watercourses is also felt through the trampling of riparian habitats by cattle which can also lead to bank erosion.

7.41 Formed in 2014, the Wye Catchment Partnership delivers improvements in water quality, water quantity and wildlife along the catchment of the River Wye. In addition, the Wye and Usk Foundation has recently submitted a bid to DEFRA's Landscape Recovery Scheme to improve land management and water quality along the catchments of the Wye and Lugg. The overarching aim of the project is to reduce the amount of phosphorus entering the watercourses over the next twenty years.

7.42 A Nutrient Management Board will be the responsible body for ensuring the delivery of the conservation objectives for the River Wye SAC **[See reference** 89**]**. A catchment-based approach will target five upstream areas of the river that have high phosphate levels relative to the wider catchment **[See reference** 90**]**. These are:

- River Arrow near Kington;
- River Arrow near Pembridge and Curl Brook;
- River Lugg and tributaries near Presteigne;
- Little Lugg and Withington Marsh Brook; and
- River Frome.

7.43 The Council has established an Integrated Wetlands project to enable phosphate credits to be purchased by developers to offset the phosphate load of their development and achieve nutrient neutrality **[See reference** 91**]**. The River Clun SSSI is exceeding its targets for both phosphates and nitrates. All development within the Lugg catchment will also need to demonstrate nutrient neutrality for both phosphates and nitrates **[See reference** 92**]**.

Physical modifications

7.44 Compared with many rivers across the UK, Herefordshire's water bodies remain for the most part unmodified. The River Wye is a rare example of a near natural, large western eutrophic river that has not been subject to significant straightening. However, there are sections of Herefordshire's rivers that have

undergone physical modification. This includes parts of the River Dore and the River Wye, and modified water bodies in Hereford, Leominster and Bromyard **[See reference** 93**]**.

7.45 By 1995, 50% of the River Wye catchment, excluding reservoirs, was blocked by culverts, debris dams, weirs and crossing points **[See reference** 94**]**. This is particularly prevalent within Hereford where a number of the Wye's tributaries, including the Yazor, Widemarsh, Eign, Newton, Withy and Red Brooks are largely culverted or experience urbanisation of their banks as they pass through the city. These present barriers to fish migration and isolate fish populations during pollution or climate events. The Wye and Usk Foundation has restored access to over 800km of the Wye and Usk although many tributaries remain blocked or partially blocked including those leading into Hereford and Ross on Wye **[See reference** 95**]**.

Water availability / abstraction

7.46 The River Wye catchment is a major source of water not only for Herefordshire but for much of Birmingham, the East Midlands, Leicestershire, Derbyshire and Staffordshire. The River Wye is a regulated river, and there are complex conditions attached to these lower Wye abstraction licences **[See reference** 96**]**.

7.47 Many forms of irrigated agriculture are highly consumptive i.e. return little or no water to the source, since water is used and lost either through processes or evapotranspiration. Water abstraction pressure will increase as summers become drier and warmer. Low water levels are causing some wetland sites that are important for wildlife to dry out, for example, Coughton Marsh Herefordshire Wildlife Trust site and the Sturts SSSI.

7.48 Large areas of Herefordshire, to the south in Ross-on-Wye, and to the west of Hereford towards the uplands, are sites of available surface water abstraction. Water is available to be abstracted from these areas at least 70% of the time **[See reference** 97**]**.

Flood risk

7.49 Flood risk can originate from main rivers / watercourses, overland surface water flow by heavy rainfall, groundwater emergence, and from artificial sources .i.e. reservoirs **[See reference** 98**].** 8.1% of Herefordshire's total land area is characterised by active flood plain, placing many areas in the county at risk of flooding.

7.50 Several major rivers have contributed to past flooding events. This includes the River Wye, River Lugg, River Teme, River Frome, River Dore, River Leadon, and Worm Brook. Ordinary watercourses, such as Widemarsh Brook and Yazor Brook also pose a threat to properties throughout Herefordshire.

7.51 Large areas of Herefordshire are listed under Flood Zone 2 and 3, putting these sites at risk of flooding. These flood zone risk areas extend along the River Wye impacting Hereford, across the west of Herefordshire in Whitney on Wye, and along the edges of Leominster. Hereford, Kington, Ross-on-Wye, Bromyard, and Leominster are some examples of towns and villages at risk of flooding **[See reference** 99**]**.

7.52 Continued flooding can negatively impact a number of species, particularly mammals which live in burrows or setts, such as mice, voles and badgers. Waterlogged ground also makes it more difficult for animals to dig for their food **[See reference** 100**]**.

7.53 To manage flooding within Herefordshire, the Council secured funding from the Flood Defence Grant in Aid (FDGiA) to produce the Herefordshire Natural Flood Management Project. This pilot project engages and supports landowners to implement natural flood management in priority sub-catchment areas (Bodenham Brooks, Brimfield Brook, Dulas Brook, Tedstone Brook, and Pentaloe Brook. Red, Norton and Twyford Brook system, and Cheaton, Cogwell and Ridgemoor Brook system **[See reference** 101**]**. The project will also promote increased biodiversity, and socioeconomic benefits for the community **[See reference** 102**]**.

7.54 Nature-based solutions, such as the installation of riparian vegetation, can create buffer zones against land erosion by stabilising soil structures and reducing water velocity. This can improve the infiltration rate of soil to better absorb excess water **[See reference** 103**]**. An example of this being successfully delivered is the creation of new pools and scrapes at Oak Tree Farm Nature Reserve which held significant flood waters during January 2022 **[See reference** 104**]**.

7.55 The Lugg Living Landscape project, delivered by Herefordshire Wildlife Trust, works with farmers and other land managers to improve landscape management along the corridor of the River Lugg **[See reference** 105**]**. So far, the project has delivered habitat enhancements across farmland, including hedge restoration, pond creation and tree planting, which have helped to address issues relating to soil quality, as well as installing livestock fencing and improving management practices such as pollarding.

Biodiversity Net Gain and Local Nature Recovery Strategies (LNRS)

7.56 LNRS will form the delivery mechanism for the National Nature Recovery Network. This framework for nature recovery is intended to allow joined-up thinking in monitoring and reporting on biodiversity, and in the planning and delivery of conservation actions. The LNRS will support delivery of biodiversity imperatives (for designated sites and protected species) and duties (under the Natural Environment and Rural Communities Act) of the council, which are cross-compatible with achieving wider environmental benefits as referenced in the Act. The Malvern Hills AONB has it produced its own nature recovery plan **[See reference** 106**]**

7.57 The minimum mandatory 10% BNG (incoming) is a key mechanism to secure the Nature Recovery Network (NRN). This may be through buffering and enhancing existing core habitat and designations or connecting existing gaps in the nature network.

7.58 Not only will BNG need to be delivered by the end of the development process, but it will also need to be maintained for the next 30 years, ensuring the long-term stewardship of biodiversity interventions. The UK Government's 2019 consultation on BNG concluded that 10% net gain "strikes the right balance between ambition, certainty in achieving environmental outcomes, and deliverability and costs for developers" **[See reference** 107**]**. However, this takes into account the vast discrepancies in baseline conditions across the country, ranging from large-scale strategic sites in a rural setting down to small infill developments within an urban setting. Furthermore, the Environment Act highlights the importance of 10% as a minimum.

Impacts due to climate change

7.59 Increased levels of precipitation, and longer periods of wet and dry weather conditions, will enhance the existing flood risk over the coming decades. This increased rate of precipitation and flooding can impact water quality by increasing soil erosion, which will lead to more sedimentation and agricultural runoff entering rivers and other water bodies **[See reference** 108**]**. Appropriate natural flood management practices, such as the implementation of SuDS, riverbank restoration, and wetland creation can reduce the risk of flooding by providing new areas of natural water storage on the land.

7.60 The impacts of climate change will be particularly strong in urban areas. A greater proportion of hard surfacing in urban areas increases the likelihood of flooding, and the urban heat island effect will increase warming in urban areas. Greenspaces, permeable surfaces and SuDS can increase water attenuation and reduce flooding in built areas (refer to **Chapter 3**).

7.61 In the case of farming, certain agricultural methods contribute to global warming, but a changing climate can have significant effects on the viability of agriculture and food production. Future effects on the agricultural sector at the county level will include greater pressure on water availability, competing demands for water, and declining soil health. This trend is evidenced by noticeable reductions in ground water levels in recent years. Other effects include the likelihood of a decline in agricultural productivity as a result of

extreme weather events. New and emerging pests and diseases also have the potential to cause severe impacts on animals and plants. These effects are likely to be complex as systems adapt in different ways and impacts at the local level are not easy to predict. While initially the benefits of warmer temperatures and longer growing seasons may be experienced, in the longer term these will become outweighed by reductions in water availability.

7.62 Species and habitats will need to adapt to climate change. Central to these will be the development of nature recovery networks across Herefordshire and beyond, ensuring that wildlife is not fixed and restricted to a series of unconnected wildlife sites. Ensuring habitats (and associated wildlife) are resilient to the impacts of climate change is essential. This includes habitat restoration (e.g. wetland restoration) and woodland creation to deliver benefits for carbon sequestration, the creation of wildlife corridors as well as a contribution to natural flood management, therefore helping to increase climate adaptation. Mitigation of climate change and carbon capture could provide an incentive for woodland creation across Herefordshire.

7.63 Appropriate climate adaptation policy will be needed to make Herefordshire more resilient to the impact of climate change. Planting native tree species can also increase biodiversity, reduce soil and riverbank degradation, and decrease the heat island effect in urban areas **[See reference** 109**]**.

Appendix E

People - Baseline

Key assets

Open Space and Local Green Space

7.64 Open space provision in Herefordshire varies in size and primary function. The Herefordshire Open Space Assessment defines open space across nine typologies:

- Amenity greenspace: 473ha;
- Natural and semi-natural greenspace: 7,204ha;
- Green chain or corridor: 33ha;
- Incidental greenspace: 38ha;
- Civic spaces: 1ha;
- Provision for children and teenagers: 11ha;
- Allotments: 4ha;
- Outdoor sports provision: 927ha; and
- Cemeteries and churchyards: 106ha.

7.65 Herefordshire has 40ha of accessible greenspace per 1000 of the population. However, the spatial distribution of accessible greenspace varies considerably across the county and is considerably lower within the rural context. The breakdown of accessible greenspace provision in Hereford and the market towns is set out below.

- Hereford – 3.9ha per 1000 of the population;

- Bromyard – 0.8ha per 1000 of the population;
- Kington – 3.0ha per 1000 of the population;
- Ledbury – 1.3ha per 1000 of the population;
- Leominster – 1.5ha per 1000 of the population; and
- Ross-on-Wye – 1.4ha per 1000 of the population.

7.66 The Herefordshire Open Space Assessment has established a hierarchy of sites for sites categorised as accessible greenspace (i.e. amenity greenspaces, natural and semi-natural greenspace and green chains or corridors). This is derived from the guidance outlined in the Natural England GI Framework.

Public Rights of Way (PRoW)

7.67 The components of the PRoW network are listed below:

- 3,015 km of public footpaths;
- 417 km of bridleways;
- 34 km of restricted byways; and
- 32 km of Byways Open to All Traffic (BOATs).

7.68 Provision for walkers within Herefordshire is relatively extensive compared to other users, with approximately 88% of the PRoW network comprised of public footpaths. Bridleways and BOATs constitute only 11% and 1% of the network. Proposed improvements outlined in the Herefordshire Rights of Way Improvement Plan (ROWIP) highlight the need to establish better access to destination sites (access land and commons) as well as car-free links between nearby villages and amenities. The maintenance of existing routes is also identified as important to ensure the accessibility of the current network and sustain its future use **[See reference** 110**]**.

7.69 Circular routes within the county play an important recreational role in the county, helping to increase local users as well as potential visitor numbers. However, the pattern of current provision of these routes places a strong reliance on the local road network. Key findings of the ROWIP identifies the need for additional bridleways within the county, with a specific emphasis on the proposed creation of circular routes for horse riders. The requirement for better PRoW provision for those that are less mobile or blind / partially sighted is also highlighted.

7.70 Walking and cycling levels in Hereford are below the national average, with 38% of trips which are 2km or less being undertaken by car, compared with 19% for the England average (excluding London). This increases to 73% for trips up to 5km, compared to 40% for the England average (excluding London) **[See reference** 111**]**. Across the city, the dominance of private car use often challenges the safety of walking and cycling and leads to an inefficient use of space on the road network. Pedestrian and cycle movements are also hindered by the limited crossing points. This is particularly true regarding access over the River Wye, the railway line and major roads around and through the city.

7.71 This trend of private car dominance and a lack of uptake of walking, wheeling, cycling and public transport is replicated across Herefordshire, with 85% of households owning a car in Herefordshire compared to 74% for the national average **[See reference** 112**]**. Although analysis from the 2021 Census is not yet available, recent modal share statistics show bus passenger journeys in 2019/20 were 44% lower than in 2011. This decline in bus patronage, partly attributed to a perception of poor network reliability and increasing fares, is likely to exacerbate the use of private vehicles across the county, particularly within rural locations.

Countryside Rights of Way (CRoW) Act sites

7.72 Access land and common land form a distinctive feature of Herefordshire, with fragmented sites dispersed across the county. The network is comprised of approximately 5,900 ha of open access land, including CRoW Act sites and open access common land. Many of these areas incorporate areas of forestry,

including a tract of open access land at Mortimer Forest. Although most of these sites are accessible form a PRoW or local road, some sites have no direct access. Lying within close proximity to Hereford, an extensive area of access land located at Haugh Wood / Fiddler's Green provides an important recreational asset. Common land constitutes approximately 75% of all the open space in Herefordshire.

Promoted routes

7.73 Herefordshire's PRoW network includes a number of promoted routes. These routes are distinctively waymarked to distinguish them from the wider PRoW network. However, poor waymarking is one of the most commonly reported problems associated with the network. The north east of the county is devoid of promoted walking routes **[See reference** 113**]**.

7.74 Offa's Dyke National Trail broadly follows the border between England and Wales, passing through the western edge of Herefordshire. This 285 km long route attracts a large number of users and offers a well sign-posted recreational route. Other regional trails include long distance routes such as the Herefordshire Trail (240 km), Wye Valley Way (220km) and Three Choirs Way (160 km). The wider network also encompasses Mortimer Trail in the north of the county and Monnow Valley Walk in the south east. Stretching from Worcestershire to the Brecon Beacons National Park via Bromyard, the Three Rivers Ride forms part of the National Bridleway Network. In addition, the county is comprised of fifteen circular, waymarked heritage trails which pass within close proximity to local sites of historic interest **[See reference** 114**]**.

7.75 Both the Malvern Hills and the Wye Valley AONBs host a number of locally promoted routes and trails. This includes two promoted 'Miles without Stiles' routes at Colwell and Cradley. These routes help promote 'barrier free' access for all, supporting access older generations and those with mobility problems.

7.76 Promoted routes form an important component of Herefordshire's tourism offer. This is enhanced by the 'Walkers are Welcome' accreditation scheme

which has been achieved in Bromyard, Leominster, Kington and Ross-on-Wye. This scheme is aimed at promoting urban areas for visitors **[See reference 115]**. The Herefordshire Walking Festival began in 2002 to signal the end of the foot and mouth epidemic which had a significant hit on rural tourism in the county. The festival offers walk for a variety of levels and distances, including routes for wheelchair users and visually impaired users **[See reference 116].** Ambitious proposals to re-establish sections of the Herefordshire and Gloucestershire Canal and towpath also offer the opportunity to enhance the walking and cycling network, whist also reinforcing the route as a strategic green and blue corridor for people and wildlife.

7.77 Although recreational cycling in the county has grown in popularity, cycling on the road work for the purpose of commuting and accessing services has declined in recent years in favour of car usage **[See reference** 117**]**. The distribution of routes forming part of the wider National Cycle Network (NCN) within the county is sparse. Accommodated on both on-road and traffic-free sections, NCN 46 provides a wider connection between Hereford and Abergavenny. This route currently finishes abruptly within Hereford and does not permit onward travel. However, an extension of this route between Hereford and Worcester is currently under construction. NCN 44 also forms a short section of a predominantly traffic-free route within Hereford, crossing the River Wye to the south east of Bartonsham. Stretching west from Kington to Llandrindod Wells, NCN 825 crosses land to the west of the county.

Navigable Routes

7.78 The Rivers Wye and Lugg have a long history of use for navigation and recreation, particularly as a commercial waterway. More recently, the infrastructure of locks and weirs have been removed and the use of these watercourses for leisure-craft, including canoes and rowboats is common. A public right of navigation exists along large sections of the Wye and Lugg, including all of the stretch through Herefordshire. However, this does not extend to the riverbank **[See reference 118]**.

Destination sites

7.79 The Wye Valley AONB is nationally renowned as a destination for tourism and recreation, with 2.3 million tourist days per annum. Tourism within the AONB is primarily focussed on the river corridor and market towns, although this is expanding due to the effects of farming diversification **[See reference 119]**. Within the Malvern Hills AONB, natural and cultural heritage attracts an estimated 1.25 million visitors a year **[See reference 120]**. Other popular sites, located within the Herefordshire boundary, include Eastnor Castle and Picton Garden at Colwall. Furthermore, the county includes a number of National Trust properties which form key tourism assets.

7.80 Outside of the AONBs, Queenswood Country Park & Arboretum, dubbed the 'Green Heart of Herefordshire' is the only designated country park in the county. The site provides an important destination site within easy reach of Hereford. The site is managed by Herefordshire Wildlife Trust and Hereford New Leaf Sustainable Development. In addition to delivering wildlife conservation, the vision for the site is to improve wellbeing and promote sustainable development through local food growing **[See reference 121]**. The site includes a visitors' centre, café and shop and hosts a number of workshops and events throughout the year **[See reference 122]**.

Tourism assets

7.81 Tourism is an important factor in the region's economy. In 2015, it was estimated that the five million visitors contributed £442 million to the economy and supported 6,688 jobs in Herefordshire **[See reference** 123**]**.

7.82 The distinctive heritage assets and rural countryside in the countryside form important features which attract tourists into the area **[See reference 124]**. The Herefordshire Sustainable Destination Management Plan identified several 'hidden gems' which attract visitors to Herefordshire. Several of these can be directly enhanced through GBI:

- Natural and created landscape, venerable trees;
- Flora and fauna; and
- Geological and water features.

The document also highlights the importance of walking and the PRoW network to tourism within Herefordshire. The long history of farming and its link to local food produce also provides an attraction for visitors to the area **[See reference** 125**]**.

Economic value of GBI

7.83 The economic value of GBI has been studied increasingly in recent years. It is estimated that investing £5.5 billion into upgrading parks and greenspaces, greening neighbourhoods and creating large scale regional parks in deprived areas would generate £200 billion in physical health and wellbeing benefits **[See reference** 126**]**. The preservation and enhancement of GBI also offers the opportunity for farming diversification, increased tourism, delivery of productive landscapes, food production and other economic benefits within primarily rural contexts such as Herefordshire.

Drivers and issues

Fragmentation of the PRoW network

7.84 The bridleway network within Herefordshire is somewhat fragmented, especially in the south west of the county. There is a significant need to address severance of these routes and improve safety at key access points where linkages are provided to the local road network. The county is also characterised by a number of public footpaths which terminate at parish boundaries or unadopted roads which reduces wider connectivity and access.

Balancing recreational and ecological pressures

7.85 An increased number of users along rural PRoW could potentially lead to conflict with landowners and farmers. Reflective of the rural character of the county, the need to foster a greater understanding regarding modern farming practices amongst users of the PRoW network is required **[See reference 127]**. Recreational pressure on PRoW also poses an additional threat when routes are located within close proximity of watercourses due to gradual erosion and catastrophic loss through banks collapse **[See reference 128]**. However, the principal recreational pressure on the River Wye is derived from watercraft, in particular canoeing. This is managed by the Environment Agency through the implementation of a 'code of conduct' **[See reference 129]**.

7.86 Approximately 25% of all open spaces within Herefordshire overlap with at least one natural heritage designation (SINC, LNR, NNR, SSSI, SAC, SPA or Ramsar site). These spaces encompass nearly 30,000ha and account for 93% of the total open space land cover.

Population and demographics

7.87 Herefordshire is the least densely populated local authority in the West Midlands, with a population density of 87 people per km^2. Approximately half of the people live in rural areas, nearly six times higher than the average for England **[See reference 130]**. This rural population highlights the need for an integrated and connected network of multifunctional greenspaces and PRoWs throughout the county.

7.88 The county is characterised by an elderly and aging population, with 24% of people aged 65 or above, compared to an 18% average for England **[See reference 131]**. The number of people aged over 65 increased by 24.1% between 2011 and 2021. This aging population has effects on health and wellbeing and physical activity levels. For example, the Sport England Active Lives Survey shows that, nationally, only 40% of over 75s are 'active' (undertake more than 150 minutes of physical activity a week) compared to

69% of 16 – 34 year olds **[See reference 132]**. In Hereford, 0-29 year olds account for 37% of the city population, which is higher than other areas of the county **[See reference 133]**).

Population growth / density

7.89 The county's population increased by 2% between 2011 and 2021, from 183,500 to 187,100. This was less than the national average of 6.6% and the average for West Midlands (6.2%) **[See reference 134]**. However, housing targets of 16,500 new homes between 2011 and 2031 equates to 825 dwellings per annum. The population of Herefordshire is therefore estimated to grow by approximately 12% by 2031 **[See reference** 12**]**. However, it is expected that this growth would not include a significant change to the age profile of the county. Without accounting for house building, population projects are lower, predicting 201,200 by 2031, and an increase of 8% **[See reference** 135**]**.

7.90 Population forecasts based on housing numbers are expected to show the greatest growth in the Hereford rural locality, at 42% growth. This is followed by Leominster (33%) and Ledbury (24%) **[See reference 136]**.

Health

7.91 In Herefordshire, the major causes of death include circulatory diseases, cancers and respiratory diseases. These are often impacted by environmental conditions, including air pollution and low-activity lifestyles. Twice as many people (10%) express low life satisfaction in Herefordshire compared to the UK as a whole **[See reference 137]**. Levels of loneliness in Herefordshire are also relatively high, with 26% experiencing loneliness some of the time and 8% all of the time **[See reference 138]**. This is higher than the English average which sees 6% of the population feeling lonely all the time **[See reference** 139**]**. Herefordshire's higher rate of loneliness is thought to be due to a combination of an ageing population, which tends to see people living along in their older years, and the added isolation experienced by rural communities. These

findings align with the priorities outlined in the Health and Wellbeing Strategy **[See reference 140]**. Access to greenspace within the county therefore offers the opportunity to promote improved health benefits to help address these issues.

7.92 Levels of physical activity in Herefordshire are consistent with the national average for adults, and slightly above the national average for children and young people **[See reference 141]**. However, the Sport England Active Lives Survey suggests levels of people reporting to be 'Active' in Herefordshire is lower than the national average (59.1% compared to 62.3%) **[See reference 142]**.

Deprivation

7.93 In general, levels of deprivation in Herefordshire are relatively low, although pockets of deprivation do exist. Nine Lower Super Output Areas (LSOAs) within the county lie within the most deprived 20% in England. This includes five in South Hereford (Golden Post-Newton Farm, Hunderton, Bishops Meadow-Hunderton, Redhill-Belmont Road and Newton Farm-Brampton Road), three in Leominster (Ridgemoor, Leominster-Gateway, and Leominster-Grange) and one in Ross-on-Wye (John Kyrle) **[See reference 143]**.

7.94 Deprivation in Herefordshire is largely associated with the domain of barriers to housing and services. This factor primarily relates to geographic barriers resulting from the dispersed, rural population. Herefordshire is the 18th most deprived local authority in England on this basis. In addition, Herefordshire falls below the national average for indoor living environment **[See reference 144]**.

7.95 Important links exist between deprivation and health. There is a 9.3 years (for males) and 7.3 years (for female) gap in life expectancy between the most and least deprived areas in England, with a healthy life expectancy gap of nearly 20 years **[See reference 145].** There are also links between mental health and inequality. Common mental health and psychotic disorders are

higher among people who are unemployed, economically inactive and in receipt of benefits **[See reference** 146**]**. The impact of housing and fuel poverty and health are highlighted within the Health and Wellbeing Strategy **[See reference 147]**.

Quantity and typology of open space

7.96 The Natural England GI Framework establishes a standard of 3ha of accessible greenspace per 1000 of the population. Although the total greenspace in Herefordshire is equivalent to nearly 30 times this (90ha per 1000 of the population), within the market towns the quantity of greenspace is significantly lower. Bromyard, Ledbury, Leominster and Ross-on-Wye exhibit less than half the greenspace standard per 1000 of the population.

7.97 Overall, the area of open space within Herefordshire is primarily comprised of natural and semi-natural greenspace, which accounts for over 90% of all open space. This dominance by one typology of open space reduces the multifunctional potential of the entire network.

Quality, value and access to open space

7.98 In general, good access to greenspace exists within the market towns and Hereford, with the vast majority of properties lying within either a 5-minute walk of a doorstep of local greenspace, or a 15-minute walk of a neighbourhood open space. However, large areas of rural land use lie outside of any buffers to accessible greenspace, particularly outside of the 15-minute or 5- minute buffers.

7.99 75% of all open space and over 90% of all natural and semi-natural greenspace is open access and common land. These types of open spaces have limited functionality, generally being free from basic recreational amenities and facilities (including benches, litter bins, play equipment and accessible footpaths).

Dependency on private transport

7.100 There is a high dependency on personal vehicles within the county due to the widely dispersed settlement pattern and historic road network **[See reference** 148**]**. Findings from the Hereford Travel Survey indicated that 56% of travel in the county is via private car travel, compared to 41% in the national survey **[See reference** 149**]**. Within Hereford itself, it is estimated that 50% of car journeys at peak times are for journeys of less than 2 miles **[See reference** 150**]**.

7.101 There are only four railway stations in the whole county: Hereford; Leominster; Ledbury and Colwall **[See reference** 151**]**. Railway usage in Hereford has shown a 27% increase between 2008 and 2018. However, this is much lower than the 39% increase in railway usage nationally, highlighting a much lower use of railway transport in the region **[See reference** 152**]**.

Air quality

7.102 Levels of air pollution within Herefordshire are consistently lower than national and regional figures, with data in the county remaining stable since 2010 **[See reference** 153**]**. However, two locations within Herefordshire are designated as Air Quality Management Areas (AQMAs) due to a breach in national air quality objectives for nitrogen dioxide. The A49 corridor in Hereford forms one of these AQMAs as well as the area encompassing the junction between the A44 and the B4361 in Leominster **[See reference** 154**]**. A particular pollutant of concern within both of these AQMAs is nitrogen dioxide (NO_2), which is typically associated with HGVs. Within Hereford itself, the dominance of car use, the constraints provided by the single river crossing and the convergence of the road network promotes heavy congestion, exacerbating the impacts of poor air quality **[See reference** 155**]**.

Safety and the perception of safety

7.103 Safety, and the perception of safety, can have an important impact on GBI within urban areas. This is a particular issue for girls and women where their use of public spaces is strongly impacted by their gender. It is therefore important that green assets within urban areas are sited and managed appropriately to reduce overly negative perceptions from local communities. This includes appropriate management / maintenance as well as careful design to ensure informal surveillance is achieved of the street and greenspaces to manage antisocial behaviour. If not achieved, negative perceptions could then threaten other aspects of GBI delivery.

Appendix F

Datasets used to inform data analysis

Assets

- Registered Parks and Gardens (RPG)
- Conservation Areas
- Scheduled Monuments
- Areas of Outstanding Natural Beauty (AONB)
- Local Geology Sites
- Tree data (simplified raster format to ease usage)
- Special Area of Conservation (SAC)
- Ancient Woodland
- Sites of Special Scientific Interest (SSSI)
- National Nature Reserves (NNR)
- Priority Habitat
- Local Nature Reserves (LNR)
- Local Wildlife Site
- Watercourses
- Meridian Open Water (Lakes)
- Open spaces by typology
- Accessible watersides
- Public Rights of Way (PRoW) density (NE GI Framework)
- National Cycle Network (NCN)

- National Trails

Needs

- Noise pollution where average is either >60.0 for the day OR >55 for the night
- Air Quality Management Areas (AQMAs)
- Indices of Multiple Deprivation – within the most 20%deprived for the health category
- Accessible Greenspace – achieving three or less buffers (version 1.2 NE GI Framework)
- SSSI units which are in unfavourable condition.
- Surface water flooding medium and high
- Coastal and river flooding (at 4 risk levels) (version 1.2 NE GI Framework)
- Greenness Grid over 60% not green (version 1.2 NE GI Framework)
- Heritage at Risk
- PRoW density scores below 115d

Appendix G

Developer Checklist

Process	Compliance (Yes / No / Not Relevant)	Comments
Has a design team been assembled with appropriate qualifications, experience and accreditation? This should include a team of landscape architects and, where possible, include an approved Building with Nature assessor on the team.	(Yes / No / Not Relevant)	(Add comment)
Has a site appraisal been carried out to an appropriate level, including the required ecological assessments?	(Yes / No / Not Relevant)	(Add comment)
Has pre-application engagement with relevant stakeholders been undertaken, including going further than just the 'statutory consultees', where appropriate?	(Yes / No / Not Relevant)	(Add comment)
Has the landscape 'led' the production of the masterplan? This means features such as SuDS and open space guiding the earliest design stages of the plan, rather than being an after-thought to built form. The GBI should also be context-driven by the surrounding landscape character and form.	(Yes / No / Not Relevant)	(Add comment)
Has the planning application been submitted with the necessary supporting information to prove high quality GBI will be delivered as part of the scheme, including a GBI Plan as part of the Design and Access Statement, if necessary?	(Yes / No / Not Relevant)	(Add comment)

Appendix G

Open Space	Compliance (Yes / No / Not Relevant)	Comments
Has appropriate and multifunctional open space been incorporated into the design?	(Yes / No / Not Relevant)	(Add comment)
Has open space been properly integrated into the layout? Has it been placed appropriately for use, including for natural surveillance?	(Yes / No / Not Relevant)	(Add comment)
Have the recreational needs of the new and existing communities been provided for in terms of play, parks, sports and natural greenspace, building on the findings of the Herefordshire Open Space Assessment and beginning to address gaps in deficiency?	(Yes / No / Not Relevant)	(Add comment)
Has the design of new open space provided opportunities for inclusive play and catered for often forgotten demographics, including teenage girls?	(Yes / No / Not Relevant)	(Add comment)
Has any loss in open space been compensated properly?	(Yes / No / Not Relevant)	(Add comment)
Has adequate space for private growing, community growing, and allotments been provided? This should meet the rising demand of growing spaces and enhance opportunities to connect with nature on your doorstep.	(Yes / No / Not Relevant)	(Add comment)

Active Travel	Compliance (Yes / No / Not Relevant)	Comments
Has active travel provision been integrated into the development and provides access to the wider network and local facilities?	(Yes / No / Not Relevant)	(Add comment)
Are active travel links safe, convenient and direct, discouraging private vehicle use for shorter journeys?	(Yes / No / Not Relevant)	(Add comment)

Appendix G

Active Travel	Compliance (Yes / No / Not Relevant)	Comments
Has the storage of bikes and other equipment used for active travel been thought through within the masterplan and made easily available for all plots?	(Yes / No / Not Relevant)	(Add comment)
Do active travel link cater for different types of users, including the disabled, elderly and children?	(Yes / No / Not Relevant)	(Add comment)
Has severance to existing active travel routes been avoided and resolved?	(Yes / No / Not Relevant)	(Add comment)
Is the specification of the route appropriate to the desired users and location?	(Yes / No / Not Relevant)	(Add comment)
Has an access plan been produced and submitted?	(Yes / No / Not Relevant)	(Add comment)

Landscaping	Compliance (Yes / No / Not Relevant)	Comments
Has a landscape-led approach been taken which utilises appropriate use of vegetation and design for the local context? Has the Herefordshire Landscape Character Assessment been consulted as part of the design process?	(Yes / No / Not Relevant)	(Add comment)
Has a landscape plan been produced which is consistent with the other plans?	(Yes / No / Not Relevant)	(Add comment)
Has sufficient space been made for trees and other planting within the proposals and designed to achieve multiple benefits? For example, providing shade in open spaces, helping flood attenuation and contributing positively to the landscape character.	(Yes / No / Not Relevant)	(Add comment)

Landscaping	**Compliance (Yes / No / Not Relevant)**	**Comments**
Is the species choice appropriate and is there species diversity to promote resilience against climate change and disease? This should include species choices which are likely to survive in their setting (particularly within urban environments and areas of high air pollution). This should be assessed with the guidance of the Tree Officer, as well as using online resources such as the Trees & Design Action Group's 'Tree Species Selection for Green Infrastructure'. **[See reference** 156**]**	(Yes / No / Not Relevant)	(Add comment)

Sustainable Drainage	**Compliance (Yes / No / Not Relevant)**	**Comments**
Has surface water management and flood risk been considered at the outset of the design process, this includes consideration for the downstream impacts of increased impervious surfaces on flooding?	(Yes / No / Not Relevant)	(Add comment)
Have the relevant nutrient neutrality requirements been discussed with Herefordshire Council and addressed through on-site or off-site mitigation?	(Yes / No / Not Relevant)	(Add comment)
Have opportunities for rainwater harvesting been maximised? Has the design of street facing private spaces been well considered to avoid the large-scale 'paving over' of front gardens?	(Yes / No / Not Relevant)	(Add comment)
Has water been used creatively and positively within the layout?	(Yes / No / Not Relevant)	(Add comment)

Sustainable Drainage	Compliance (Yes / No / Not Relevant)	Comments
Have the appropriate SuDS requirements been incorporated, and guidance followed? Assessor should consider the CIRIA SuDS Manual checklist **[See reference** 157**]** and Herefordshire Council's Sustainable Drainage Systems (SuDS) Handbook **[See reference** 158**]**.	(Yes / No / Not Relevant)	(Add comment)
Has consideration been taken for how SuDS can help to enhance water quality?	(Yes / No / Not Relevant)	(Add comment)

Water Environment	Compliance (Yes / No / Not Relevant)	Comments
Has the riparian environment been considered within the design process and safeguarded/ enhanced where opportunities arise?	(Yes / No / Not Relevant)	(Add comment)
Have appropriate buffers been put in place between development and waterbodies, taking into account management needs as well as riparian habitats?	(Yes / No / Not Relevant)	(Add comment)
Have unnecessary engineering works in the water environment been avoided, included any obstacles to the migration of wildlife?	(Yes / No / Not Relevant)	(Add comment)
Has enhanced access for the public to waterbodies been provided, where appropriate? This could also include the exploration of water-based recreation.	(Yes / No / Not Relevant)	(Add comment)

Appendix G

Wildlife	Compliance (Yes / No / Not Relevant)	Comments
Has the approach to biodiversity been directly informed by site audits, survey work, the emerging Local Nature Recovery Strategy and consultation with relevant stakeholders?	(Yes / No / Not Relevant)	(Add comment)
Have the relevant Biodiversity Net Gain (BNG) enhancements been achieved?	(Yes / No / Not Relevant)	(Add comment)
Have existing habitats within and adjoining the site been integrated into the landscape design where they have been protected and enhanced?	(Yes / No / Not Relevant)	(Add comment)
Have the opportunities to create new habitat been maximised and are these new habitats appropriate to the setting?	(Yes / No / Not Relevant)	(Add comment)
Have opportunities to enhance education and interpretation of biodiversity been explored?	(Yes / No / Not Relevant)	(Add comment)
Have green and blue corridors been provided to ensure the safe movement of wildlife and connectivity to the wider ecological network?	(Yes / No / Not Relevant)	(Add comment)
Does the site include ‘micro-greening’ features to support wildlife, including quick wins such as integrated bat and bird boxes, insect hotels, hedgehog highways and pollinator planting?	(Yes / No / Not Relevant)	(Add comment)

Appendix G

Climate Change	Compliance (Yes / No / Not Relevant)	Comments
Do designs adhere to Natural England's Climate Change Adaptation Manual – Green Infrastructure? **[See reference 159]**	(Yes / No / Not Relevant)	(Add comment)
Has tree cover significantly expanded? The Woodland Trust is advocating for 30% canopy cover on all new sites and the NPPF now requires all new streets to be treelined.	(Yes / No / Not Relevant)	(Add comment)
Have opportunities for carbon sequestration been explored within tree planting?	(Yes / No / Not Relevant)	(Add comment)

Management and Maintenance	Compliance (Yes / No / Not Relevant)	Comments
Have common areas, such as play space, parks, connecting paths and landscaped areas been designed to be well managed and maintained?	(Yes / No / Not Relevant)	(Add comment)
Has a Landscape Management and Maintenance Plan (LMMP) been submitted with all the required information? This should preferably be ecologically led, for example a Landscape and Ecology Management Plan (LEMP).	(Yes / No / Not Relevant)	(Add comment)
Have SuDS maintenance arrangements been set out within the drainage strategy and cross-referenced with the LMPP where appropriate?	(Yes / No / Not Relevant)	(Add comment)
Has the long-term stewardship of the site been discussed and secured?	(Yes / No / Not Relevant)	(Add comment)

Appendix H

Glossary

Term	Description
AGS	Accessible Greenspace Standards – a component of the top level standards in the Natural England GI Framework.
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
Biodiversity	The variability among all living organisms - terrestrial and aquatic - and the ecosystems that they are part of. Biodiversity includes the diversity within species, between species, and of ecosystems.
BNG	Biodiversity Net Gain - Percentage increase in the quality and/or quantity of habitats in comparison to the original condition or baseline i.e., enhancement over and above the level required to mitigate or compensate for the detrimental impact, or which is otherwise prescribed or committed to happen (e.g., as part of pre-existing planning consent). A minimum 10% increase in biodiversity units is mandated by the Environment Act 2021. LPAs can set the requirement higher than 10% in their local policy. Measured as ‘biodiversity units’ using a ‘biodiversity metric’. Commitment illustrated in a ‘Biodiversity Gain Plan’ as part of a planning application submission.
Blue infrastructure	Green infrastructure relating to aquatic habitats such as rivers and canals.
Carbon sequestration	The capture, removal, and storage of carbon dioxide from the atmosphere.
Ecosystem services	Benefits provided to people by natural capital (ecosystems and the biodiversity they contain).

Term	Description
ELMs	Environmental Land Management Scheme - Founded on the principle of “public money for public goods”, ELMS will be the cornerstone of agricultural policy since the UK has left the EU. The Agriculture Act 2020 provides the underpinning legislative framework for the ELMS. ELMS will provide farmers, foresters, and other land managers with an opportunity to secure financial reward in return for delivering environmental benefits. ELMS is currently undergoing testing but is anticipated to be in place in 2024.
GIS	Geographical Information Systems
GBI	Green and Blue Infrastructure
Local Nature Partnerships	Originally established in the vision of the Government’s 2011 ‘Natural Environment White Paper’, LNP bring together local organisations, businesses and people who want to improve their local natural environment.
LNR	Local Nature Reserve
LWS	Local Wildlife Sites
LNRS	Local Nature Recovery Strategies - A system of locally produced, spatial strategies, mandated under the Environment Act 2021. It is anticipated that c.50 LNRS will cover the country. Together, they will deliver the Nature Recovery Network (see below).
NCN	National Cycle Network
NNR	National Nature Reserve
Natural capital	“The elements [or ‘assets’] of nature that directly and indirectly produce value or benefit to people” i.e., ecosystem services. Natural capital may include “ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and fluctuations” (NCC, 2016 **[See reference** 160**]**).
Nature-based solutions	Defined by the IUCN as “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptably, simultaneously providing human well-being and biodiversity benefits.” **[See reference** 161**]**

Term	Description
Nature-based solutions	Nature-based solutions may be considered 'system thinking' in contrast to site-focused solutions, such as the sustainable management of uplands through low/er intensity grazing and environmental land management interventions to manage water quality and quantity downstream within the catchment in place of intensive or engineered solutions.
NPPF	National Planning Policy Framework
NRN	Nature Recovery Network - Identified in the identified in the 25 Year Plan (2018) to address the three challenges of biodiversity loss, climate change and wellbeing; the NRN will provide an integrated approach to nature recovery. An expanded, enhanced, and better-connected network of places that are rich in wildlife and resilient to climate change. Key to delivering the Government's 'Nature Strategy' outside of designated sites, the NRN delivery is led by NE through Local Nature Recovery Strategies (see above). "It comprises a core network of designated sites of importance for biodiversity and adjoining areas that function as stepping stones or wildlife corridors, areas identified for new habitat creation and up to 25 nature recovery areas [at landscape or catchment scale] for targeted action" (MHCLG, 2019 **[See reference** 162**]**).
PRoW	Public Rights of Way
Rain Gardens	Rain gardens are a type of a Sustainable Drainage System (SuDS) composed of surface and sub-surface layers that maximise water storage and infiltration. They are "shallow landscaped depressions that reduce rainfall runoff [capturing] rainfall before it enters the piped network and either releases it slowly into the network or allows it to infiltrate into the ground. Rain gardens can help improve surface water management whilst performing a range of other functions such as [public] amenity, [mitigating the impact of pollution], [reducing flood risk], and [improving water quality and] biodiversity." **[See reference** 163**]**
Re-wetting	Gradual re-wetting, the process of restoring natural water flow and saturating peatland
RPG	Registered Park and Garden of Special Historic Interest in England

Term	Description
SAC	Special Area of Conservation
SANGs	Suitable Alternative Natural Greenspace – areas created as enhanced and attractive green spaces that provide an enjoyable natural environment for recreational use (provided as an alternative to sensitive ecologically designated sites).
SSSI	Site of Special Scientific Interest
Social prescribing	A holistic approach to healthcare that brings together the social and medical models of health and wellness. Provides a formal pathway for health providers to address the diverse determinants of health, using the familiar and trusted process of writing a prescription. Connects people to community groups and to statutory services for practical and emotional support. GI provides space within which this approach can be delivered.
SuDS	Sustainable Drainage Systems - GI interventions designed to manage stormwater locally (as close to its source as possible), to mimic natural drainage and to encourage its infiltration, attenuation, and passive treatment. Natural surface-level SuDS can contribute to the reinstatement of natural processes and ecosystems. These should not however be provided in place of interventions to manage surface water within built development, such as porous pavements which can alleviate flood risk at source.
Tree pits	Tree pits are a type of a Sustainable Drainage System (SuDS) that involve creating a pit (e.g., at the side of a pavement) with enough room to encourage roots to grow downwards. Tree pits manage surface water through interception, transpiration, and infiltration – utilising the tree canopy, roots, and capturing higher volumes of water in the soil. They "…can play a valuable role in flood management [as] the rainwater run off can be diverted from ending in drainage systems to providing nourishments for trees." **[See reference** 164**]**

Term	Description
Social prescribing	Tree pits are a type of a Sustainable Drainage System (SuDS) that involve creating a pit (e.g., at the side of a pavement) with enough room to encourage roots to grow downwards. Tree pits manage surface water through interception, transpiration, and infiltration – utilising the tree canopy, roots, and capturing higher volumes of water in the soil. **[See reference** 165**]** They "…can play a valuable role in flood management [as] the rainwater run off can be diverted from ending in drainage systems to providing nourishments for trees."
UGF	Urban Greening Factor
WWNP	Working with Natural Processes dataset. The data aims to identify land suitable for the protection and restoration of natural functions of catchments, floodplains and rivers.

References

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Report produced by LUC

Bristol
12th Floor, Colston Tower, Colston Street, Bristol BS1 4XE
0117 929 1997
bristol@landuse.co.uk

Cardiff
16A, 15th Floor, Brunel House, 2 Fitzalan Rd, Cardiff CF24 0EB
0292 032 9006
cardiff@landuse.co.uk

Edinburgh
Atholl Exchange, 6 Canning Street, Edinburgh EH3 8EG
0131 202 1616
edinburgh@landuse.co.uk

Glasgow
37 Otago Street, Glasgow G12 8JJ
0141 334 9595
glasgow@landuse.co.uk

London
250 Waterloo Road, London SE1 8RD
020 7383 5784
london@landuse.co.uk

Manchester
6th Floor, 55 King Street, Manchester M2 4LQ
0161 537 5960
manchester@landuse.co.uk

landuse.co.uk

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