

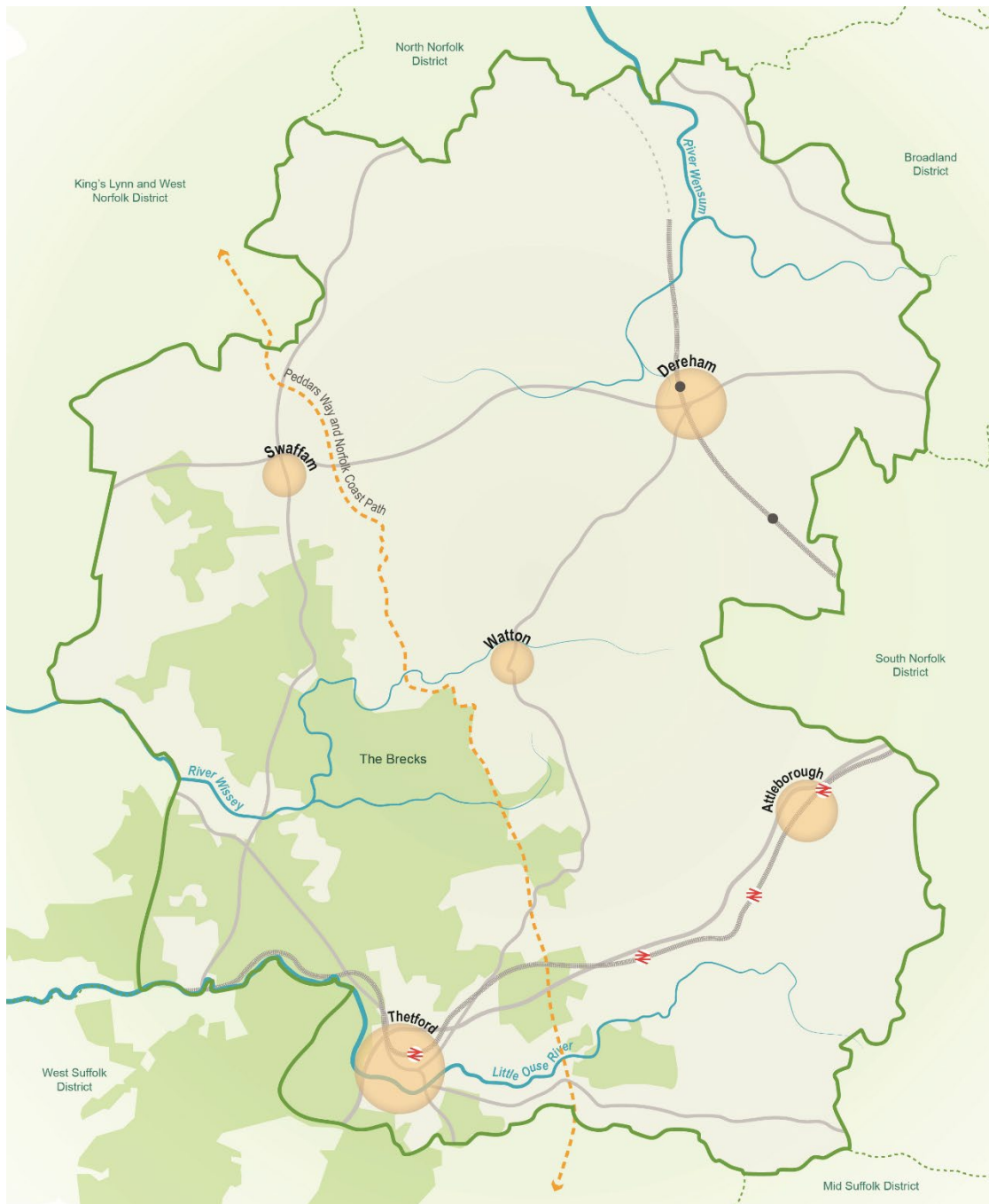
Green and Blue Infrastructure Study

Breckland Council

Final report

Prepared by LUC

October 2025



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Chapter 1

Executive Summary

Introduction

1.1 Breckland's "Commitment to a Greener Future" in the Council's Corporate Plan 2024-8 sets out a clear ambition to protect and enhance the district's distinctive landscapes, habitats and communities. Achieving this means not just conserving what exists, but planning and investing in a joined-up green and blue infrastructure network that supports nature recovery, climate resilience, health and wellbeing, and local character.

1.2 This GBI Study provides the evidence and framework to deliver that vision - mapping Breckland's natural assets, identifying key opportunities and needs, and showing how new development can help create a stronger, more connected network. It also highlights the partnerships, policies and funding needed to turn ambition into action.

What is Green and Blue Infrastructure?

1.3 Green and Blue Infrastructure (GBI) is the network of natural and semi-natural spaces - from parks, woodlands, meadows and street trees to rivers, canals, wetlands and sustainable drainage features - that connect landscapes, people and places. Planned as a network, these elements deliver multiple benefits at once: they support wildlife, make walking and cycling easier and more pleasant, help manage water and urban heat and enhance the distinctiveness and vitality of towns and villages.

1.4 This study sets out the importance of viewing GBI as essential infrastructure – just as essential as other types. By investing in it strategically, Breckland District can recover nature, strengthen communities, grow its visitor economy and achieve climate resilience.

Why does Breckland need a GBI Strategy?

1.5 Breckland is a rural district of wide skies, heathland, farmland and chalk rivers - landscapes of exceptional ecological value but also vulnerability. The district faces major environmental challenges, including climate change, water

scarcity, fragmented habitats, recreational pressures, and the need to accommodate significant growth through the emerging Local Plan (2024–2042).

1.6 This study provides the evidence base to ensure that new development strengthens rather than fragments Breckland’s GBI network, identifying where investment will deliver the greatest benefits for people, nature and place, and supporting the Council’s “Commitment to a Greener Future”.

A vision for the future of Breckland’s GBI Network

1.7 Chapter 4 of this study sets out a vision for the future of the GBI network in Breckland. Supported by a series of six Strategic Objectives, this vision should act like a ‘golden thread’ for decision making on GBI and guides the opportunities identified later in the report:

Through the planning process and in collaboration with partners, Breckland Council will shape a connected, resilient, and inclusive green and blue infrastructure network. The network will protect and enhance Breckland’s rich natural heritage and protected sites, support healthy and thriving communities and market towns, strengthen climate resilience and celebrate the District’s unique landscape identity - ensuring benefits for people of all ages and background, local economies and nature for generations to come.

How is Breckland’s GBI network performing today?

1.8 The GBI “themes” used for this study draw on the Benefit Principles set out in the Natural England GI Framework - which outlines best practice for green and blue infrastructure planning across England. They help to draw out the multiple ‘functions’ which GBI assets play in the District. Full analysis (including maps) is set out in **Chapter 3**.

Theme 1: Nature-rich Breckland: Only 5% of the District’s SSSIs are in favourable condition, and habitats are fragmented by intensive agriculture and other pressures. New development must buffer and connect habitats, reduce recreational pressure on designated sites, and align with the emerging Norfolk Local Nature Recovery Strategy.

Theme 2: Active and healthy Breckland: Access to high quality accessible green space is uneven across the District and particularly in rural areas. A well-connected network of local green spaces, walking and cycling routes, and natural play areas is vital for health and wellbeing.

Theme 3: Thriving and prosperous Breckland: Market towns face challenges of public realm quality, vacancy and changing retail patterns. Urban greening, green routes and high quality landscapes can attract visitors, support businesses and strengthen local identity.

Theme 4: Understanding and managing Breckland's water environment: Breckland's chalk rivers are globally rare but under pressure from nutrient pollution, modification and increasing water scarcity. River corridor restoration and sustainable drainage across the District are central to improving water quality and flood resilience.

Theme 5: Resilient and climate-positive Breckland: Climate change will intensify heat, drought and flood risks. Expanding tree canopy, reconnecting wetlands and delivering multifunctional GBI in growth areas will be crucial to help Breckland adapt to the impacts of climate change and to build the District's 'carbon sink'.

Priorities for GBI enhancements in Breckland's key 'growth areas'

1.9 Significant new development is planned through the Local Plan, offering a once-in-a-generation opportunity to use growth to deliver a greener, healthier Breckland. To ensure this happens, the study includes six Key Growth Area profiles (see **Chapter 5** for full profiles):

1. Thetford
2. Roudham / Larling
3. Swaffham
4. Swanton Morley
5. Watton
6. East Tuddenham / Hockering

1.10 Each profile summarises the local landscape and GBI context, the main environmental and placemaking challenges, and the most important opportunities for multifunctional GBI – such as habitat corridors, active travel links, blue-green flood resilience and high-quality public open space.

1.11 These profiles demonstrate how GBI can be embedded from the outset of masterplanning and broader multi-stakeholder initiatives to improve the GBI network locally, helping to create distinctive, sustainable places that reflect local character and landscape identity.

Delivering GBI in Breckland

1.12 Turning the vision into reality will depend on coordinated delivery and sustained investment. Breckland Council cannot deliver this alone - success will require strong collaboration between all stakeholders including developers, neighbouring authorities, Natural England, the Environment Agency, Forestry England, Rivers Trusts, landowners, and community groups.

1.13 Key tools for delivery include:

- Embedding strong, evidence-based GBI policies in the new Local Plan.
- Securing multifunctional GBI through new development, guided by the Breckland Design Guide.
- Aligning GBI investment with emerging tools such as Biodiversity Net Gain (BNG), the Norfolk Local Nature Recovery Strategy and catchment-based water management.
- Using the Council's Infrastructure Delivery Plan (IDP) to direct developer contributions towards strategic GBI projects.
- Exploring innovative finance opportunities such as habitat banks, carbon and nutrient credit schemes and agri-environment funding.

1.14 See **Chapter 6** for further detail on delivery, and **Appendix A** for further detail on the stakeholders involved in the development of this study.

Next Steps

1.15 This study provides a robust foundation for the Local Plan Full Update (2024-2042) and for the next review of Breckland's Infrastructure Delivery Plan (IDP). It should also inform parallel strategies - including health and wellbeing,

open space, and climate action - ensuring GBI is embedded across all areas of policy and delivery.

1.16 Next steps include:

- Translating strategic opportunities into deliverable project through detailed feasibility and design work.
- Prioritising “early-win” projects that demonstrate tangible benefits for communities and wildlife.
- Establishing clear governance and partnership arrangements to coordinate funding and deliver.
- Monitoring progress to ensure continuous improvement.

Chapter 2

Introduction to the study

What is green (and blue) infrastructure?

2.1 Green and blue infrastructure (in this report simply referred to as GBI) refers to the network of green and blue spaces that surround and run through our villages, towns and cities. GBI helps connect people, wildlife and nature. It can include large green spaces like National Parks, Country Parks, farmed landscapes or river corridors. It can also include private gardens, allotments, hedges, street trees, roadside green verges, or footpaths. However, GBI is not about individual assets - more important are the connections between those assets and the functions they provide.

2.2 Crucially, GBI should form a strategic network of high-quality green spaces and other natural features, which offers quality of life benefits for communities. It should thread through and around the built environment and connect the urban area to its wider rural hinterland.

2.3 Unlike grey infrastructure, such as drainage pipes which have a single function, GBI can provide many functions. These include recreation, removing water pollution, reducing flood risk, providing homes for wildlife, providing flowers for bees and other pollinators and helping to keep urban areas cool.

2.4 However it should be noted that different functions can sometimes compete. As such, it is important to carefully define and manage these uses to ensure they complement rather than conflict with each other.

2.5 With all this in mind, GBI is a core planning consideration in Breckland, given the District's ecological richness, rural character and environmental challenges shared with the rest of the UK. It will also help deliver against the Commitment to a Greener Future set out in Breckland's Corporate Plan 2024-8.

Figure 2.1: Key benefits of Green and Blue Infrastructure

How does GBI add value?

2.6 Historically, GBI has been treated within the planning system as a cost. However new approaches - such as the 'natural capital' approach - have helped to better understand the tangible value delivered by investment in GBI.

2.7 A natural capital approach considers the value of the natural environment for people and the economy. It is an important part of a wider move to better understand 'inclusive wealth' – as set out in the Dasgupta Review commissioned by the government in 2019 [\[See reference 1\]](#).

2.8 The UK's Planning Practice Guidance (PPG) [\[See reference 2\]](#) states that:

Green infrastructure is a natural capital asset that provides multiple benefits, at a range of scales. For communities, these benefits can include enhanced wellbeing, outdoor recreation and access, enhanced biodiversity and landscapes, food and energy production, urban cooling, and the

management of flood risk. These benefits are also known as ecosystem services.

2.9 This value is largely made up of:

- **Provisioning services** – products from nature such as food, water, energy and materials. This includes agriculture, water extraction, renewable energy and mineral extraction.
- **Regulating services** – services helping to maintain the quality of our environment, such as carbon sequestration to remove greenhouse gases, parks and blue spaces to cool, and vegetation to remove air pollutants.
- **Cultural services** – these are non-material benefits people obtain from natural capital, such as tourism, recreation and aesthetic experience.

2.10 In fact, the Office For National Statistics now produces a set of Natural Capital accounts. These estimate the financial and societal value of natural resources in the UK. In 2022, they estimated that the stock of the UK's natural capital is worth £1.8 trillion [\[See reference 3\]](#). Natural England's Natural Capital Atlas (Atlas 25 – the Norfolk Edition) highlights the natural capital value and ecosystem services of natural assets in the wider region surrounding Norfolk, noting the dominance of arable land in places like Breckland and the role of freshwater habitats – which provide essential services like water supply, flood protection, water quality regulation and cultural value. Woodland is also noted for its role in storing carbon and improving air quality. [\[See reference 4\]](#)

Why does Breckland need a GBI study?

2.11 Breckland's adopted **Local Plan (adopted in 2023)**, which currently guides development and growth in the Borough, is not supported by a District-level GBI Study.

2.12 The adopted policies are linked to the Norfolk-wide **Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS)**, which was commissioned by the Norfolk Councils. However the primary purpose of the GIRAMS was to identify measures needed to mitigate the likely negative impact of new development on designated habitat sites, in order to meet legal obligations under the Habitats Regulations.

2.13 Once adopted, Breckland's new Local Plan Full Update will guide development and shape the District from 2024 to 2042. The emerging Local Plan will need to respond to, and accommodate, significant future growth. This

growth represents an opportunity to channel investment into Breckland's GBI network. However, it is important that robust policies ensure that new development enhances rather than harms the natural environment.

2.14 The new Local Plan is being prepared against the backdrop of a rapidly changing national context – including a response to the climate emergency and a renewed focus on biodiversity and nature networks, in part as a result of the Environment Act 2021 and in the light of Natural England's GBI Framework (2023). It is important that the new Local Plan reflects this new reality. It is equally important that it reflects the latest available data on GBI networks and associated needs and challenges.

2.15 This study must draw on evidence to set out priorities which support the Local Plan's ambitions to;

- Reduce the District's carbon footprint.
- Protect and enhance the outstanding local environment.
- Improve the health and wellbeing of Breckland's residents.
- Ensure towns and villages are truly sustainable, meeting changing needs of local populations and catering to a new model for leisure and retail.
- Secure and attract investment and make the District an attractive place for new and growing businesses.

2.16 Against this background, the overarching goal of this GBI study is to provide a robust evidence base for the Local Plan Full Update and support the need to accommodate significant growth in the District while protecting the natural environment. With this in mind, it seeks to:

- Identify deficiencies and opportunities for creating and enhancing GBI across the District.
- Review current GBI policies with the existing Local Plan and make recommendations for robust new policy.
- Ensure that enhancements to the GBI network are aligned with overall growth plans, with a focus on those areas which will accommodate that growth.

How was the study developed?

2.17 The process for developing the Strategy was split into the following key tasks:

1. A **desktop baseline review** and **mapping of key data sets**, considering existing policy and emerging information on potential growth locations.
2. The identification of **relevant GBI ‘themes’**, based on Breckland’s characteristics and the Natural England GBI Framework.
3. **Analysis of GIS data** to understand how different GBI assets interact with a range of factors and needs across the District, in order to identify gaps in current provision.
4. Establishing a **Vision and set of Strategic Objectives** to guide the remainder of the study.
5. Considering the **emerging growth strategy** in Breckland and the implications for the GBI network.
6. **Engaging with key stakeholders** to ‘sense check’ the baseline and co-create opportunities.
7. **Reviewing existing GBI policy** and recommending a new policy approach.
8. Drafting the **final report**.

2.18 Because GBI does not respect administrative boundaries, it was important that this Strategy takes account of GBI corridors which extend beyond the local authority boundaries of Breckland itself to take a wider, more strategic view.

What happens next?

2.19 This Strategy will form part of the evidence base underpinning Breckland’s emerging Local Plan. It will be used by both the Local Plan and Development Management teams to inform the development of GBI policies in the new Local Plan, as well as in decision-making on planning applications. The priorities outlined in this Strategy should also guide the next update of Breckland’s Infrastructure Delivery Plan (IDP), making it a key element of infrastructure planning.

2.20 However, the Council’s Local Plan alone will not be sufficient to secure all the investment needed for Breckland’s GBI network. The delivery of this network will involve multiple partners, both within and outside the Council. Therefore, it is essential that the multiple benefits of GBI are recognised and integrated across all local authority departments.

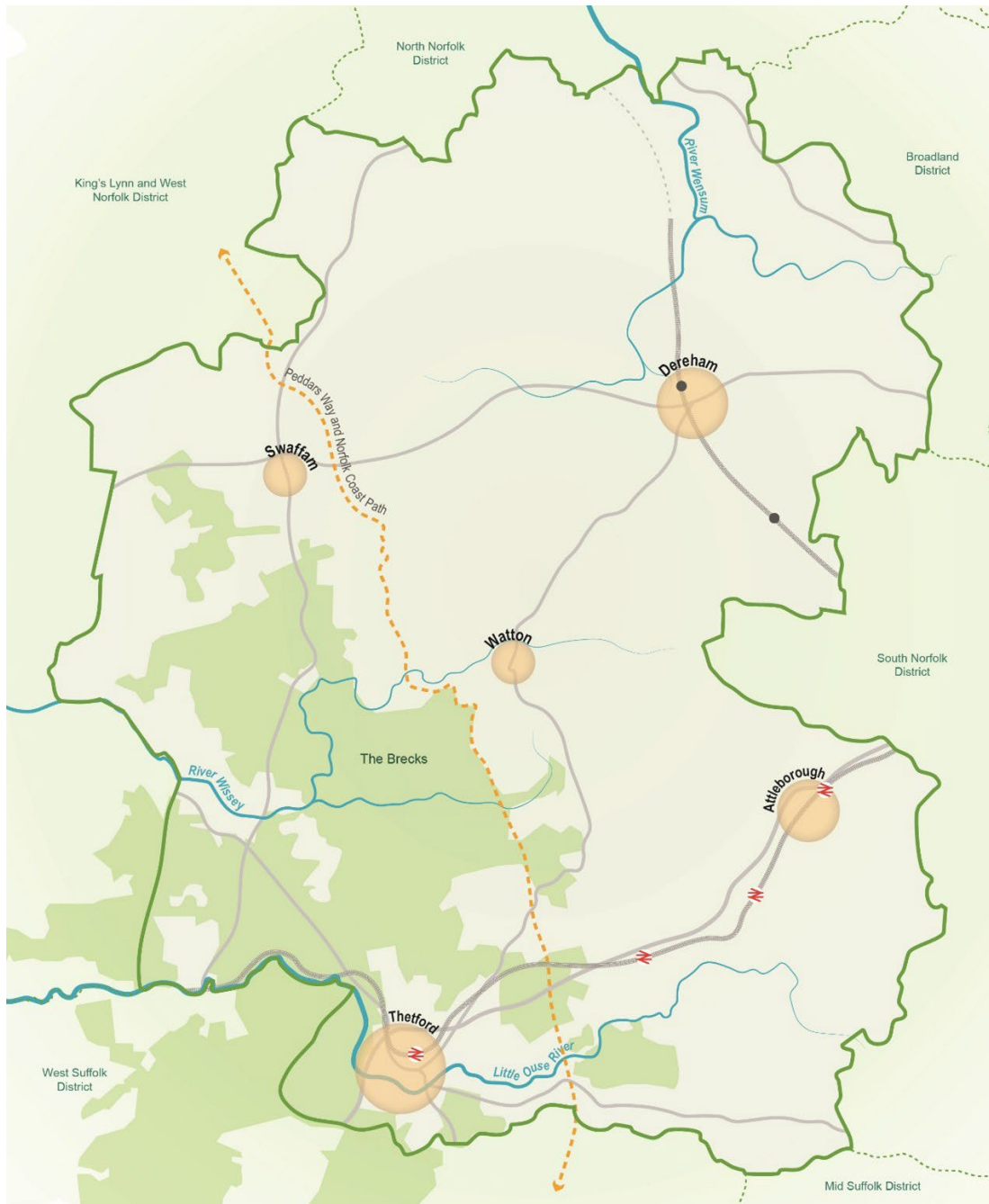
2.21 Additionally, a strong delivery partnership with external organisations and community groups (see **Appendix A**) will be crucial.

2.22 This study assesses GBI needs and opportunities at a strategic level across the District and identifies clear priorities. However, it does not provide the detailed design or implementation plans for each project. Further feasibility and design work will be required to bring those projects to fruition.

Chapter 3

Breckland's GBI network today

A summary portrait of Breckland's GBI network today



3.1 Breckland is a **predominantly rural district** in Norfolk, characterised by its wide skies, dry heathlands, distinctive landscapes and rich biodiversity. **Five historic market towns**—Thetford, Dereham, Swaffham, Watton and Attleborough—act as local service hubs, offering heritage assets, markets and access to the surrounding countryside.

3.2 The District's landscape is diverse and ecologically important. Around Thetford, sandy soils, forestry and farming shape the setting, with **Thetford Forest** to the west and the **River Thet and Little Ouse valleys** to the east and south. Dereham sits within flat tributary farmland and river valleys dotted with farmsteads. Attleborough combines built areas with tributary and plateau farmland, while Watton lies on the north-eastern edge of the Brecks, surrounded by heathland, Scots pine shelterbelts and farmland. Across the District, **heathlands, ancient woodlands, fens and chalk streams** support rare species such as stone curlew and specialised invertebrates, though many habitats are fragmented by intensive agriculture and plantations.

3.3 Breckland's **blue infrastructure** centres on chalk rivers and streams, including the **Thet, Wissey, Wensum and Little Ouse**. These are ecologically valuable but face pressures from modification and pollution. Strengthening ecological connectivity, restoring rivers and managing land more sensitively will be key to protecting the District's natural character and biodiversity.

3.4 The GBI network is also vital for people's **health and wellbeing**. **Thetford Forest** is a major recreational destination, offering walking and cycling routes such as the Green Loop and Thetford Forest Cycle Routes. **Long-distance trails including the Peddars Way, Wensum Way and Nar Valley Way** link key landscapes, rivers and villages. Investment in ecosystem services through habitat banks (e.g. Wendling Beck) and nature reserves such as RSPB Lakenheath Fen are also enhancing the network's ecological and recreational value.

3.5 However, **climate change** is already shaping Breckland's landscapes and water environment, and its impacts are expected to intensify. The District's **dry climate and reliance on sensitive chalk aquifers** make it especially vulnerable to water scarcity, which is projected to worsen with hotter, drier summers. This places increasing pressure on chalk rivers, wetlands, agriculture and public water supply. A well-connected and resilient GBI network will be critical to helping the District adapt - supporting **water retention, shading, habitat connectivity and the resilience** of both communities and ecosystems.

The remainder of Chapter 2 summarises the condition and performance of Breckland's GBI network today. It does this by breaking the functions of the network into five 'themes', based on the five Benefit Principles set out in Natural England's National Green Infrastructure Framework (NEGIF). These focus on "why" GBI should be provided:

- Nature-rich Breckland
- Active and healthy Breckland
- Thriving and prosperous Breckland
- Understanding and managing Breckland's water environment
- Resilient and climate positive Breckland

Theme 1: Nature rich Breckland

Why is GBI important for a nature rich Breckland?

3.6 Biodiverse environments underpin the benefits of GBI. In rural districts like Breckland, GBI plays a crucial role by connecting, buffering and diluting pressure on the designated sites network to provide a wider well-connected and multi-functional network of habitats for wildlife.

3.7 Well-designed and properly managed GBI can create effective ecological corridors and stepping stones, enabling wildlife to shelter, forage and move through otherwise intensive agricultural landscapes or more heavily developed areas. Given the rich array of ecological assets in Breckland, GBI is integral to maintaining and enhancing the connectivity between designated nature conservation sites. This benefits the qualifying species within and moving between these areas, as well as the assemblages that inter-exist.

3.8 It is widely evidenced – and as set out in Natural England’s GBI Framework - that biodiversity loss in England continues to accelerate, with the fragmentation of habitats resulting in species decline. Soil degradation, damage to geodiversity through agriculture, and mineral extraction are all contributing factors. Without undermining the importance of areas specifically designated for their biodiversity value (as set out below), today there is a focus on improving biodiversity and geodiversity beyond these protected areas.

How does international legislation affect biodiversity in Breckland?

3.9 The EU Habitats Directive established the Natura 2000 network, a system of protected sites across Europe aimed at conserving Europe’s most valuable and threatened species and habitats. The Directive forms the cornerstone of nature conservation policy in the EU, was transposed into UK law and continues to apply through domestic legislation.

3.10 In relation to the European site network across the Brecks, the Norfolk Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS) and associated Action Plan were endorsed by Breckland District Council in 2021 and 2024. The strategy identifies measures and projects to deliver mitigation against the effects of recreational pressure associated with forecast population growth upon these sites and functionally linked land,

including an updated tariff for relevant residential development. [\[See reference 5\]](#),

What does national legislation and policy say?

3.11 The **2021 Environment Act** sets out government actions over the next 25 years for the environment and nature recovery and transcribes key components of the 25 Year Environment Plan into law. The 2021 Act legislates for the creation of LNRS to deliver a national nature recovery network and, as a tool to help systematically address the impacts of new development for a minimum of 10% Biodiversity Net Gain (BNG).

3.12 The **Levelling Up and Regeneration Act 2023** sets out that all local planning authorities have a duty to “take account of” their relevant Local Nature Recovery Strategy (LNRS). With this in mind, this GBI study considers the LNRS areas of particular importance (APIBs), the areas which could become of particular importance (ACBs) and the potential measures set out within the LNRS Habitat Map [\[See reference 6\]](#).

3.13 The **National Planning Policy (NPPF)** sets out that planning must protect and enhance our natural environment, including boosting biodiversity, improving air and water quality, and addressing climate change—alongside housing and growth goals. Plans should also explicitly deliver net gains for biodiversity. [\[See reference 7\]](#)

3.14 At the time of publishing this study, the government’s **Planning and Infrastructure Bill** is currently under committee review by the House of Lords. Although it is still subject to amendment and assessment in parliament, the Bill aims to introduce a more strategic approach to nature recovery, as follows:

- Introduce a new Nature Restoration Fund (NRF) that will unlock and accelerate development; and
- Allow Natural England (or other designated delivery body) to bring forward Environmental Delivery Plans (EDPs) to address the impact that development has on a protected site or species.

What does local policy say?

3.15 In Breckland’s current (adopted) Local Plan:

- **Policy ENV 02 (Biodiversity Protection and Enhancement)** provides the highest level of protection to European sites and aims for net gains in biodiversity.
- **Policy ENV 03 (The Brecks Protected Habitats & Species)** focuses specifically on this SAC and SPA, addressing potential impacts including recreational pressure. [\[See reference 8\]](#)

3.16 The **Norfolk Local Nature Recovery Strategy (LNRS)** is currently in draft form [\[See reference 9\]](#). It provides a spatial framework for developing and applying GBI with locally-identified priorities and measures at the centre of decision-making. Measures to create habitat as part of the GBI network should seek opportunities to support the areas identified as Areas of Potential Importance for Biodiversity (APIBs) so that they become “bigger, better and more joined-up”.

3.17 The **Norfolk Green Infrastructure and Recreational Impact Avoidance and Mitigation Strategy (GIRAMS)** plans for mitigation specifically against the impacts of recreational pressure on international designated sites. Some GBI “Strategic Opportunity areas” were proposed to alleviate these pressures.

3.18 There is a **Shared Nitrogen Action Plan** in place for Breckland SPA/ SAC and SSSI, due to the exceedance of critical levels for nitrogen deposition and/or ammonia [\[See reference 10\]](#).

3.19 The **Breckland Design Guide** (adopted 2024) [\[See reference 11\]](#) sets out that new development must lead to “better outcomes for nature” and specifically that it should extend and enhance valuable existing ecosystems and create connected corridors for wildlife movement across neighbourhoods, streets and individual homes.

What are the assets, challenges and pressures for nature-rich Breckland?

Note on data quality: This study acknowledges that there are gaps and inconsistencies in the available data on habitat quality and condition, with some datasets potentially outdated. The following assessment has been based on the best available information but should be interpreted with caution, particularly regarding designated site condition. These are a result of challenges including inconsistent habitat survey and condition monitoring and inaccuracies and omissions in historic mapping of priority habitats.

Designated nature conservation sites in Breckland

3.20 Breckland’s protected habitats are illustrated in **Figure 3.1**. Detailed mapping of the habitat network for Breckland – which these designated sites form the foundation for – can be found in the Norfolk Local Nature Recovery Strategy (LNRS, in draft at the time of writing). Below is a summary of some of the key sites.

Statutory Designated Sites in Breckland

Table 3.1: Statutory designated sites in Breckland

Designation	Percentage of land area in Breckland
SAC	6.1%
SPA	21.3%
Ramsar site	0.1%
SSSI	18%
National Nature Reserve	0.4%
Local Nature Reserve	0.1%

3.21 ‘The Brecks’ is made up of the overlapping **Breckland Special Area of Conservation (SAC)** and **Special Protection Area (SPA)** and supports habitats of international importance including dry heaths, grassland and woodland habitats. These are a stronghold for rare species, such as breeding stone curlew, woodlark and nightjar.

3.22 Throughout the District there are various fenlands, which together form the **Norfolk Valley Fens SAC** and include various SSSIs – see **Figure 3.1**.

3.23 Breckland’s blue corridors are a further focus for designations – including the **River Wensum SAC/SSSI** (one of Breckland’s chalk rivers, supporting rare aquatic plant assemblages), the **Waveney and Little Ouse Valley Fens SAC** and the **Redgrave and Lopham Fens Ramsar site**.

3.24 Breckland District also supports several biological SSSIs, the largest expanse of which is the **Breckland Forest and Breckland Farmland SSSIs**. There are also designated sites which form part of the built environment, such as **Narborough Railway Embankment SSSI**.

3.25 The network of three National Nature Reserves (NNRs) and three Local Nature Reserves (LNRs) together support substantial ecological diversity and form part of the Areas for Particular Importance to Biodiversity (APIBs) identified within Norfolk's emerging LNRS. The Local Nature Reserves are typically managed by the Norfolk Wildlife Trust.

Non-statutory designated sites

3.26 County Wildlife Sites (CWS) form the final piece in the network of designated sites and are recognised as ecologically valuable to local wildlife. There are 425 CWS in Breckland, a small number of these are council owned. These sites are designated by Norfolk Biodiversity Partnership and are mainly on privately owned land, which may form part of the PRoW network but is otherwise not publicly accessible. Understanding the CWS network as a whole is important to monitor the state of nature across the Brecks. There has not been a District scale review of CWS [\[See reference 12\]](#)

Extent and condition of designated sites

3.27 Data shows that only 5% of SSSIs in Breckland are currently in favourable condition, as indicated on **Figure 3.1**. The remaining 95% are in varying states of unfavourable condition as follows:

- 53% Unfavourable recovering
- 1% Unfavourable no change
- 42% Unfavourable declining [\[See reference 13\]](#)

3.28 In terms of LNRs, Natural England (in their national GBI Framework) recommend an Urban Nature Recovery Standard of 1 hectare of LNR per 1,000 people. While this standard has not been adopted by the Council, Breckland currently has a total of 98 hectares of LNR across the District – this falls significantly short of the 141 hectares recommended for the currently population (before considering growth through the Local Plan).

Pressures on Functionally Linked Land (FLL)

3.29 Breckland's internationally designated sites support species that depend on nearby functionally linked land (FLL). These are areas outside site boundaries used for foraging or nesting. Development within known "species dispersal zones" can lead to harmful urban effects and loss of habitat, so FLL is a key consideration in Habitats Regulations Assessments (HRAs).

3.30 "Urban effects" impacting these sites include cat predation, eutrophication (e.g. dog fouling), trampling, fire risk, recreation-related damage, spread of invasive species, and littering.

3.31 The impact risk zone adopted by Breckland District Council and other neighbouring authorities around Breckland SPA is 1.5km, which denotes where development may significantly impact stone curlew nest density. [\[See reference 14\]](#).

Recreational pressure

3.32 The Brecks landscape is a major focus for tourism in Norfolk, attracting large numbers of visitors each year due to its opportunities for walking, cycling, and exploring nature and historic sites (see Theme 3).

3.33 However, the heath, grassland, and woodland habitats of The Breckland SAC is particularly sensitive to recreational pressure, including trampling and dog walking. Associated threats include soil eutrophication from dog waste, increased fire risk, the spread of invasive non-native species (INNS), and littering or fly tipping. The Breckland SPA and Norfolk Valley Fens SAC also suffer from recreational disturbance.

3.34 The HRA for the adopted Breckland Local Plan [\[See reference 15\]](#) requires the provision of accessible forests and the protection of urban heaths from recreational impacts. It made recommendation for provisions to avoid or mitigate pressures, which led to the development of the Norfolk GIRAMS.

Air quality

3.35 There is a shared Nitrogen Action Plan (SNAP) in place for the Breckland SPA/ SAC and SSSI due to the harmful impacts of nitrate pollution on vegetation communities and local biodiversity. Trends indicate that atmospheric nitrogen oxides have gradually fallen between 1980 and 2022, however levels

of atmospheric ammonia have remained largely the same, largely due to agricultural practices. [\[See reference 16\]](#).

3.36 The impacts of air quality on people are explored in Theme 2.

Water quality

3.37 There are two nutrient neutrality catchment areas which lie within the District. The catchments of the River Wensum SAC and the Broads SAC are designated as nutrient sensitive areas. The impacts of nutrient pollution on biodiversity and the wider environment are explored in Theme 4.

Irreplaceable Habitats

3.38 Irreplaceable habitats are those habitats which take significant time to restore, recreate or replace once they are destroyed, often as a result of their age, uniqueness, species diversity or rarity. [\[See reference 17\]](#). Those found in Breckland include ancient woodland, ancient and veteran trees and lowland fen.

3.39 Lowland fens form one of the most distinctive and extensive irreplaceable habitats in Breckland. They lie along the floodplains of most of the main rivers (see **Figure 3.1**) and form the primary habitat within wetland mosaics. These fens are unique in their hydrology and composition and support substantial plant and insect diversity. These habitats are further mapped as part of Norfolk's LNRS. Habitat degradation, fragmentation and loss

3.40 Habitat loss and the associated impacts of habitat fragmentation and degradation are a major threat from development, intensive agriculture and recreational pressure. These impacts on wildlife are compounded by climate change (see Theme 5).

3.41 Much of Breckland's semi-natural habitat is fragmented, limiting the "carrying capacity" of small or isolated habitat patches (i.e. the number of living things an environment can support without being damaged). It also restricts species movement through the landscape and reduces ecosystem resilience.

3.42 Mapping shows that Breckland's irreplaceable habitats are fragmented and often in poor condition due to lack of appropriate management and the pressures of climate change. In particular, the once extensive fenland habitat is today much reduced in size due to reductions in rainfall and drying out of smaller fens. Fens have also become fragmented as a consequence of damage and loss, lack of management (leading to succession to scrub habitats) and

nutrient pollution as a result of agricultural run-off and point source pollution from wastewater treatment [\[See reference 18\]](#).

3.43 Intensive arable agriculture dominates large portions of the landscape in Breckland, with significant impacts on habitats and species. The use of pesticides and herbicides, along with the effects of livestock manure, contribute to soil, water and air pollution. This leads to widespread soil degradation and water quality issues, which, in turn, affect terrestrial biodiversity and water-dependent habitats such as fens, rivers, streams, ponds, and lakes. Water quality issues in Breckland are further explored under Theme 4.

3.44 Historic decline in the condition of Thetford Forest (Breckland Forest SSSI) has been associated with the loss of open areas which reduced species abundance and diversity of rare invertebrates, plants and birds. However, the Thetford Forest Open Habitat Project [\[See reference 19\]](#) is aiming to reverse this decline through the creation of 375 hectares of open habitat corridors.

Climate change

3.45 The impacts of climate change are significant, particularly in drought risk areas such as the chalk geology of Breckland. Through the stakeholder consultation for this study, it was highlighted that there will be more than a 20-30% rain reduction on light soils.

3.46 Impacts of drier and hotter weather and risks of flash flooding for biodiversity, include habitat degradation and threats to wildlife. Global and local species extinctions will continue to rise as a result of northern shifts in species ranges resulting in potential squeeze and loss of those species already at their northern limit. This is compounded by issues such as increasing prevalence of pests, diseases and invasive non-native species. The wider impacts of climate change and opportunities for mitigation and adaptation are explored in Theme 5.

Habitat restoration and growth in ecosystem services

3.47 There are several habitat banks, carbon and nutrient mitigation projects in development throughout Breckland. These follow regenerative land management processes to encourage nature recovery and provide climate adaptation, and include:

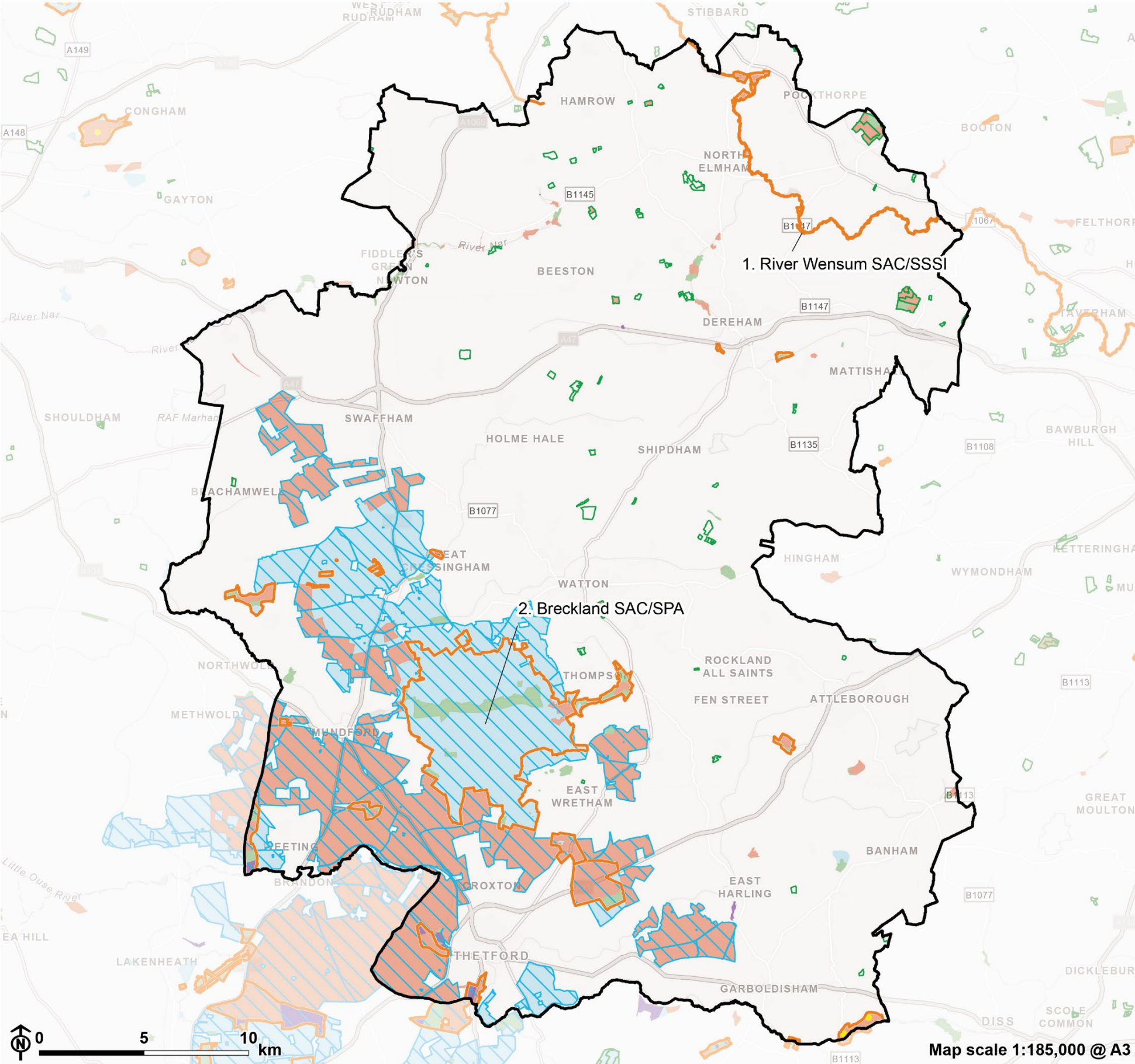
- Wendling Beck (Dereham), one of the first projects exploring blended green finance for nature recovery as a BNG pilot for Defra.

- Shropham Manor Farm (Attleborough) aims to provide over 1,000 biodiversity units through the creation of habitats of high distinctiveness such as lowland meadows, mixed deciduous woodland, reedbeds, ponds and watercourses.
- East Tuddenham (Dereham), a habitat bank of 75 acres managed by Environment Bank which aims to deliver predominately lowland meadows alongside various other habitats.

3.48 In addition, Lakenheath Fen RSPB nature reserve lies outside the District on the border between Norfolk and Suffolk. It was created on former arable land and forms part of a wider network of fenlands.

3.49 Emerging agri-environmental schemes aim to improve land management for biodiversity. The farming community in Breckland is well-coordinated, with various farm-cluster groups including the Breckland Farmers Wildlife Network (BFWN) and the Upper Wensum Environmental Cluster Group.

Figure 3.1: Protected habitats in Breckland



Breckland Green Infrastructure Study
Breckland Council



Figure 3.1: Protected habitats in Breckland

- Breckland District boundary
- Special Area of Conservation
- Special Protection Area
- Ramsar site
- Ancient woodland
- Site of Special Scientific Interest**
- Condition**
- Favourable
- Unfavourable - recovering
- Unfavourable - no change
- Unfavourable - declining
- Key designated sites**
- 1. River Wensum SAC/SSSI
- 2. Breckland SAC/SPA

Summary of key challenges

- **Condition of designated sites:** only 5% of SSSIs currently in favourable condition.
- **Shortfall in LNRs:** Breckland does not meet quantitative standards for provision of LNRs per 1,000 population.
- **Threats to functionally linked land:** “Urban effects” of development can have significant impacts on designated sites and species.
- **Recreational pressure:** Breckland SAC and SPA heath, grassland, and woodland habitats and species are highly sensitive to recreational pressure, especially from trampling, dog walking, and invasive species.
- **Agricultural impacts:** intensive farming practices degrade soil, air and water quality, negatively affecting terrestrial biodiversity and water-dependent habitats. Pollution from runoff leads to nutrient loading in key water bodies.
- **Habitat degradation, fragmentation and loss:** Fragmented landscapes limit species movement and ecosystem resilience.
- **Climate change:** presents increasing risk and severity of weather events such as flood and drought, with impacts on important habitats and wildlife.

Summary of key opportunities

- **Norfolk LNRS:** Alignment with the Norfolk LNRS to assist in the identification of opportunities for GBI to deliver proposed measures.
- **Buffering and protecting sensitive habitats:** Well designed GI holds huge opportunity to buffer and protect the most sensitive habitats against impacts of population growth, whilst providing important access to greenspace.
- **Provision of additional LNR:** 43 additional hectares of LNR in Breckland would be required in order to meet the ‘urban nature recovery’ headline standard recommended by Natural England.
- **Supporting the ‘Lost Ponds’:** Reflecting work by the Norfolk Wildlife Trust to recreate “ghost pingos and ponds” and restore unmanaged

pingos and ponds, which are both ecologically important and unique to the landscape and sense of place in Breckland.

- **Existing projects and partnerships:** Including the Brecks Fen Edge and Rivers Landscape Partnership Scheme, Breckland Farmers Landscape Recovery project, Dereham Town Council's Neatherd Moor Country Park project, existing habitat banks, carbon and nutrient neutrality mitigation schemes and the Breckland SNAP.

See Theme 4 for further emerging opportunities or ongoing projects focussed on river restoration specifically.

Theme 2: Active and healthy Breckland

Why is GBI important for active and healthy places in Breckland?

3.50 Access to green and blue spaces has long been known to benefit physical health and is increasingly linked to positive mental health. The experience of the Covid-19 pandemic from 2020 onwards only heightened awareness of these benefits. For young people, opportunities to play outside, particularly in natural surroundings, have been found to significantly reduce mental ill health. [\[See reference 20\]](#) However, an ageing population also means that open spaces need to cater for an intergenerational community and the distinct needs of each group.

3.51 GBI networks are increasingly recognised as part of preventative health care. For example, 'green social prescribing' works by linking people with local 'green' activities, such as walking groups, community gardens and food-growing projects. Natural spaces are not only forums for exercise, they also provide opportunities for people to socialise.

3.52 Natural play and playable landscapes are vital parts of a thriving GBI network — offering children of all ages the chance to explore, climb and connect with nature as part of their everyday environment.

3.53 GBI also plays a crucial role in mitigating environmental challenges, such as reducing pollution and heat exposure. Strategies like green streets, urban planting, and the prioritisation of active travel routes (for walking, cycling, and wheeling) are key components of planning for health. There is a natural synergy between planning active travel networks and expanding GBI, which can help 'green' these routes and make them more inviting. In addition, the creation of 'softer' greenways as part of the broader network improves connectivity without the need for a car.

3.54 Finally, the Institute for Public Policy Research's (IPPR) Commission on Health and Prosperity connects health and economic outcomes, asserting that a fairer society is a healthier society, and that a healthier population drives greater prosperity. [\[See reference 21\]](#)

What does national legislation and policy say?

3.55 National policy recognises the importance of green and blue infrastructure in relation to public health. The **National Planning Policy Framework (NPPF) (2024)** highlights that public access to a network of high quality open spaces and opportunities for physical activity are important for the health and wellbeing of communities (paragraph 103) [\[See reference 22\]](#). It also states that this network can deliver wider benefits for nature and support efforts to address climate change. The NPPF emphasises that planning policy should be based on robust assessments on the need for open space and recreation facilities, and should seek opportunity for new provision where possible.

3.56 The UK's **Environmental Improvement Plan (EIP) (2023)** sets out how government, landowners, communities and business can deliver goals for improving the environment and public engagement with the environment. Targets which are relevant to the need for a robust GBI network include:

- Ensuring everyone has access to greenspace within a 15-minute walk of their home; and
- Improving active travel and increasing the number of journeys cycled or walked to 50%.

3.57 Natural England's ANGSt standards support this ambition – they set out a number of core benchmarks to ensure everyone has regular, nearby access to nature. While not a statutory requirement, they can help to guide policy. The **Natural England GI Framework** uses these ANGSt standards as a starting point to develop its Accessible Greenspace Standard as one of its five Headline Standards – broadening the scope to include various types of publicly accessible green spaces [\[See reference 23\]](#).

3.58 The **EIP** also sets out guidelines in relation to air quality, with emphasis on reducing levels of fine particulate matter (PM_{2.5}), one of the most harmful pollutants to human health. The accompanying **Air Quality Strategy Framework for local authority delivery (2023)** provides guidance to local authorities in meeting these targets and reducing PM^{2.5}. [\[See reference 24\]](#) It states that all local authorities must take proactive action to improve air quality whether or not they have an Air Quality Management Area (AQMA).

3.59 The UK's **Health and Social Care Act 2012** also emphasises the role of local authorities in improving public health and supporting the creation of healthy places, encouraging integrated planning between public health and planning authorities.

3.60 England has not had a National Play Strategy since the previous one was abolished in 2010. However, the ‘Raising the Nation’ National Play commission has called for a national strategy and a statutory play sufficiency duty for local authorities (as is the case in Wales and Scotland). The report notes the role of play in natural environments to reduce stress and contribute to wellbeing, but that access is uneven across socio-economic groups and geographies. [\[See reference 25\]](#)

What does local policy say?

3.61 In Breckland’s current (adopted) Local Plan:

- **Policy ENV 04 (Open space, sport and recreation)** also explicitly includes water bodies and highlights the multi-functionality of open space. This policy also sets out requirements and quantitative standards for children’s play areas, but does not make any specific references to natural play features.
- **Policy COM 02 (Healthy Lifestyles)** requires development to facilitate enhanced health and wellbeing and the reasoned justification [\[See reference 26\]](#) notes the need to safeguard and enhance green infrastructure, provide a comprehensive network of open spaces and encourage walking and cycling.
- **Policy TR 01 (Sustainable Transport Network)** requires development to encourage walking and cycling and the accompanying text highlights cycling trails such as the Peddars Way and Nar Valley Way. [\[ibid\]](#)

3.62 Active Norfolk is an Active Partnership organised by Sport England, aimed at providing a strategic approach to the development of sport and physical activity in Norfolk. In 2021, the partnership released its strategy **Getting Norfolk Moving: Active Norfolk’s 2021-2026 Strategy**. [\[See reference 27\]](#) . Key priorities for the county with relevance to the GBI network include:

- Improving and increasing the use of green and blue spaces.
- Increasing physical activity’s prominence in local policy – promoting good design decisions that help people to move more.

3.63 Advocating for walking and cycling to be the first choice for short journeys. In support of these aims, the **Norfolk Countywide Local Cycling and Walking Infrastructure Plan (LCWIP)** is working in partnership with the local authorities to increase active travel across the county. [\[See reference 28\]](#) It highlights the

five market towns within Breckland as new active travel planning areas, with proposed connections between and within them.

3.64 Breckland previously had one AQMA at Swaffham due to elevated levels of nitrogen dioxide (NO₂). However, after 5 years of compliance with national air quality standards the designation was revoked in July 2024. The priorities set out in Breckland's most recent **Air Quality Status Report (2024)** [\[See reference 29\]](#) include ambitions to increase urban planting in Swaffham in order to tackle poor air quality, as well as ensuring that active travel is a priority.

3.65 The **Breckland Health and Wellbeing Partnership Strategy 2023-2025** [\[See reference 30\]](#) outlines a vision for a place where people can thrive and where people have access to the right opportunities to enhance their overall health and wellbeing.

3.66 Breckland's emerging **Open Space Study** (still in draft at time of writing) will replace that produced in 2015. [\[See reference 31\]](#) The assessment considers both the quantity and quality of amenity green spaces, natural and semi-natural greenspaces, parks and gardens, as well as areas designated for children and young people.

3.67 The **Breckland Design Guide** (adopted 2024) [\[See reference 32\]](#) requires that new development provides better access to nature and emphasises the provision of safe, green, high quality public open spaces that are multifunctional, serving for play and social activity.

What are the assets, challenges and pressures for an active and healthy Breckland?

3.68 With a similar story to many other rural areas of the country, Breckland has an ageing population. Approximately 25% of the District is above the age of 65. This trend is particularly pronounced in the centre of the District near Swaffham and Watton. [\[See reference 33\]](#)

3.69 However, despite an older age profile, data from the most recent Sport England's annual **Active Lives Adult Survey** shows that residents of Breckland have seen one of the largest average increases in physical activity since the survey began in 2016. [\[See reference 34\]](#) . The data shows that Breckland has roughly 8% of adults with two or more characteristics of inequality and who are inactive and roughly 60% of adults are 'active' (at least 150 minutes of physical activity a week). [\[See reference 35\]](#)

Access to open space

3.70 Registered common land in Breckland (as shown on **Figure 3.2**) is land recorded in a legal register where certain people (called “commoners”) have traditional rights, like grazing animals, and the public may have access for walking. There are large areas of common (open access) land in the south around Thetford. However, there are also important areas of common land also around key settlements like Dereham and smaller villages.

3.71 The history of common land in England stretches back over a thousand years and is rooted in the development of the rural landscape and traditional land use systems. However today it often provides valuable public access, especially in rural or edge-of-settlement areas where it links with other open spaces or nature sites.

3.72 Breckland’s draft Open Space study (2025) sets out that the largest contributor to open space within the District (excluding Thetford Forest) is natural/semi-natural greenspace (930 hectares), which accounts for 84% of provision. In terms of quality, the report found a mixed picture across all typologies. 46% of open space sites fell below the typology quality threshold, while 54% met or exceeded it.

3.73 In terms of the *value* [See reference 36] of the open space typologies, 95% are assessed as being above the threshold for value, reflecting the role and importance of open space provision to local communities and environments.

3.74 Mapping of access to open space is provided in **Figure 3.2**, based on Breckland’s 2024 open space assessment. Of the five market towns, Attleborough has the poorest existing access to public green space within the town itself, despite being surrounded by large scale green spaces, however this will be remedied to some degree by the delivery of the linear park planned as part of Attleborough’s approved urban extension. Thetford, in contrast, appears relatively well-provisioned.

3.75 Some villages have poor access to green space of all types, including Clint Green, Saham Hills and North Elmham. However each settlement must be analysed closely in turn to fully understand key areas of deficiency from the mapping.

3.76 Proactive local initiatives have had significant local impacts. As an example, Neatherd Moor Countryside Park is an area of 160 acres of accessible green space on the edge of Dereham that is led and largely owned

by Dereham Town Council as land has been gradually been acquired since 2021. The idea for the Park was set out in a local GBI study commissioned by the Town Council and it is included in the open space mapping in (**Figure 3.2**).

3.77 The Stanford Training Area is a large expanse of military training area north of Thetford Forest with limited access. This acts as a barrier between the larger surrounding areas of accessible open space. Other key barriers include roads like the A11 and A47 and the Breckland railway line.

3.78 While not within the District's boundaries, Knettishall Heath to the south is the only formally designated Country Park [\[See reference 37\]](#) of relevance to Breckland and lies along both the Peddars Way and Norfolk Coast Path (see **Figure 3.2**).

Access to woodlands

3.79 Access to woodlands varies across the District. The larger-scale green spaces in the south of the District, such as Thetford Forest and The Brecks, contain extensive woodland areas. However, not all of this woodland is publicly accessible. Thetford Forest is generally open to the public but large areas of the Brecks are inaccessible (noting the role of these limitations is to protect sensitive ecological habitats).

3.80 Across the rest of the District, Natural England data highlights that a general lack of woodland coverage is layered with lack of public access, particularly in the centre and north. [\[See reference 38\]](#) This uneven distribution is illustrated in mapping provided by Climate Just, which documents heat vulnerability (see **Figure 3.6**). Elevated levels of the socio-spatial heat vulnerability index are identified near Swaffham and North Elmham in the centre and north of the District where tree coverage is lower, and in the urban centres of Watton and Thetford.

Access to walking and cycling paths

3.81 Despite its rural character and large areas of green space, Breckland has a relatively disjointed network of footpaths, cycle paths and open access land – particularly in the centre of the District. Much of the District is in agricultural use, with limited public rights of way (PRoW) or connectivity in the more rural parts of the landscape.

3.82 However, there are a number of longer distance footpaths (shown on **Figure 3.2**) which provide valuable access to the tranquillity and remoteness of

the Breckland countryside, as well as value for the visitor economy (see Theme 3).

3.83 In addition, there are two dismantled railway lines in the District which connect key settlements. The old Thetford branch line aligns with the Great Eastern Pingo Trail (with parts designated as a Local Nature Reserve – see Theme 1) and is already in use as a well-known footpath.

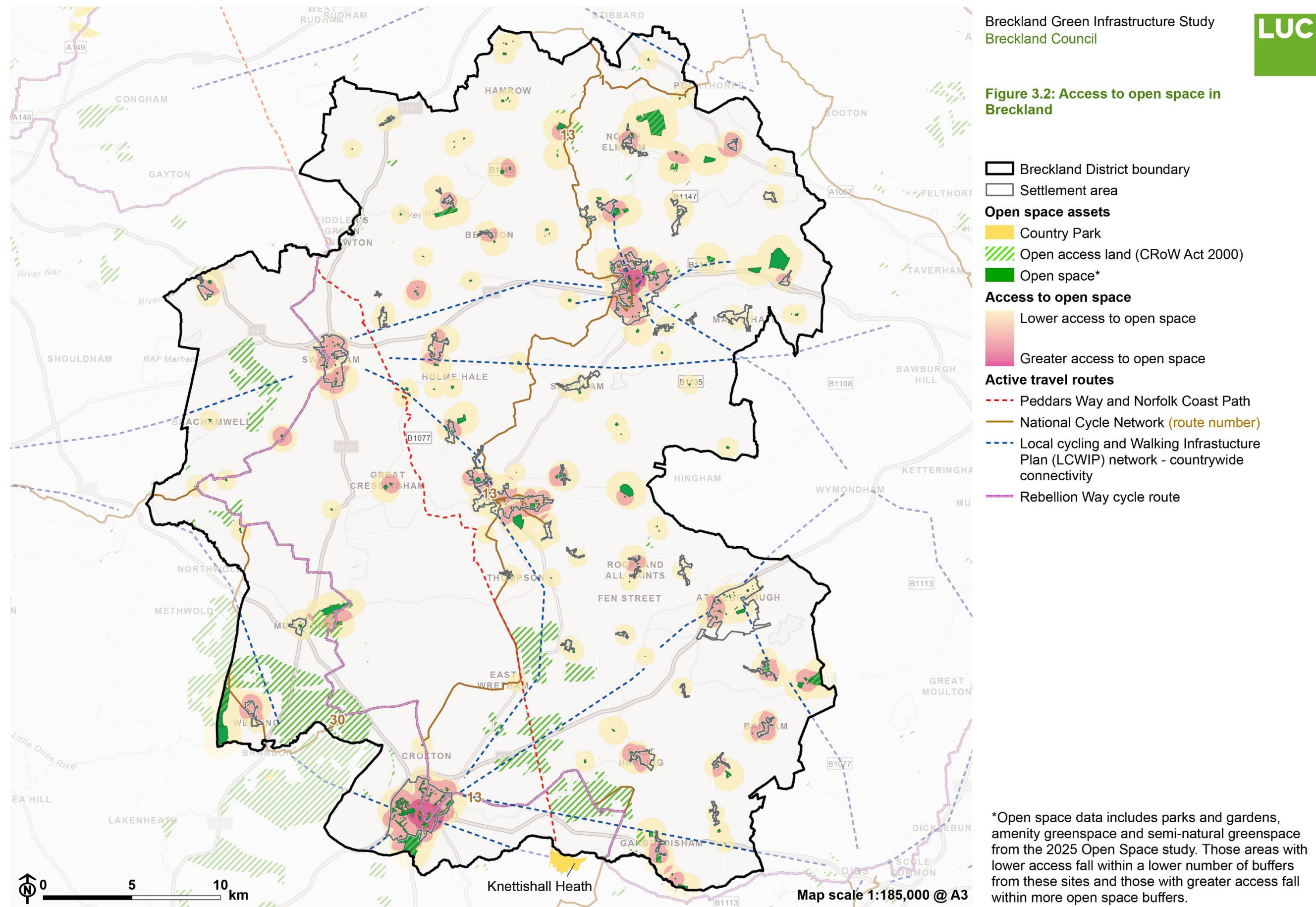
3.84 There are multiple cycle routes through the District, including National Cycle Network (NCN) Routes 13 and 30 and the Rebellion Way long distance cycle route, which provides connections to the rest of Norfolk (see **Figure 3.2** for both).

Air and noise quality

3.85 Considering the rural nature of the borough and relatively few major transit corridors, air quality in Breckland is generally above the national average. There was previously an AQMA at Swaffham, however the designation was removed in 2024 as pollution levels had fallen beneath the threshold for several years.

3.86 Areas of concern remain around major road infrastructure, including the A11 corridor in the south the A47 corridor, and a short section of the A134 north of Thetford. **[See reference 39]**

Figure 3.2: Access to open space in Breckland



Summary of key challenges

- **Ageing population:** High proportion of over-65s, especially around Swaffham and Watton. Needs considering as part of GBI design e.g. accessible footpaths.
- **Mixed access to the wider countryside:** Larger areas of open access/common land around settlements in the southwest. Elsewhere, access largely reliant on public rights of way network.
- **Mixed access to green space across residential areas:** Thetford and Dereham are relatively well provided for, with some gaps around other settlements.
- **Mixed quality of open space:** 46% of open spaces fall below quality standards. However, 95% of these open spaces exceed the standard threshold for value, indicating that these spaces are well used and maintained by the local community.
- **Limited woodland access:** Many areas, especially in the north and centre, lack accessible woodland.
- **Disconnected paths:** Footpath and cycle networks are fragmented and often feel unsafe, especially in central areas and links between market towns and villages.
- **Movement barriers:** Roads, rail lines and sometimes military infrastructure disrupt access to open spaces.
- **Access vs habitat integrity:** Some areas restricted to protect sensitive habitats.
- **Pollution hotspots:** A11, A47 and A134 corridors still experience air and noise issues

Summary of key opportunities

- **Local energy for building GBI:** Building on proactive work done at the local level – particularly related to the GBI strategy and associated Countryside Park in Dereham, led by the Town Council.
- **New active travel links, building on existing assets:** Disused railway lines (and improved connections between them) provide opportunities for new active travel paths in the centre and south of the District,

including across administrative boundaries. To include high quality links across major barriers e.g. roads.

- **Increased urban greening in market towns:** New green corridors within the market towns would support walkable neighbourhoods and improve air quality, particularly in proximity to busy roadways.
- **Need for better intra-town cycling and walking infrastructure:** While GBI can support this, on-road cycling improvements should mainly be driven by transport strategies. This also includes developing “quiet lane” networks and cycling infrastructure that can help extend the tourism season.
- **Integration with health and wellbeing boards and physical activity strategies:** Consider existing efforts that promote active lifestyles and address health inequalities.
- **Co-locating GI with other infrastructure, such as GP surgeries, schools, active travel routes:** Strategic location supports healthier communities and more efficient land use.

Theme 3: Thriving and prosperous Breckland

Why is GBI important for shaping thriving and prosperous communities in Breckland?

3.87 As highlighted in Natural England's GBI Framework, our communities have become increasingly disconnected from nature, even though our economies, livelihoods, and well-being depend on it. A recent House of Commons Committee report has set out that nature and ecosystem services underpin both the domestic and the international economy, yet the UK is one of the most nature-depleted countries in the world [\[See reference 40\]](#).

3.88 GBI plays a role in shaping thriving and prosperous communities in a number of ways. Firstly, it creates high-quality environments that attract businesses and investors, supports retail and high street regeneration, and encourages visitors to linger. In areas like Breckland, the GBI network is particularly central to the visitor economy, drawing people to explore landscapes and historic sites along linear assets like walking and cycling routes.

3.89 GBI also creates green jobs, from experts in ecology to roles in land-based industries like food production and forestry. A 2021 report on Valuing Nature by the Centre for Ecology and Hydrology (CEH) and Bournemouth University [\[See reference 41\]](#) showed that many local businesses rely on having a healthy and attractive local environment. This applies not only in tourism, recreation and agriculture, but also to other businesses such as manufacturing and construction, which require clean water, natural materials and a hazard-free environment.

3.90 Moreover, a strong GBI network helps mitigate flood risks and reduce the economic impacts of climate change. The Climate Change Committee has warned that unchecked climate change could impact UK economic output by up to 7% of GBP by 2050, creating challenges for driving sustainable growth nationally and regionally. [\[See reference 42\]](#)

3.91 Finally, as regions compete for talent to meet their economic goals, access to nature will be crucial in providing the quality of life that attracts and retains skilled workers in an area like Breckland.

What does national Legislation and policy say?

3.92 The national policy agenda is increasingly recognising the role of GBI and the natural environment in high quality design and as part of wider economic regeneration agendas. This is led by the UK's **Environment Act 2021**, which highlights how environmental sustainability is inherently tied to economic prosperity.

3.93 The **National Planning Policy Framework (NPPF)** [\[See reference 43\]](#) sets out that planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt (paragraph 85). In rural areas in particular, decisions should enable sustainable rural tourism and leisure developments which respect the character of the countryside (paragraph 88). The NPPF also sets out the important role of trees for the quality of urban environments (paragraph 136) and supports measures to ensure the vitality of town centres (Chapter 7).

3.94 Finally, England's **National Design Guide** [\[See reference 44\]](#) outlines ten characteristics that create a well-designed place. One of these emphasises the importance of the provision of a network of high quality, green open spaces with a variety of landscapes and activities, including play.

What does local policy say?

3.95 In Breckland's current (adopted) Local Plan:

- **Policy EC 01 (Economic Development)** focuses on the allocation of employment land, however other parts of the plan references the importance to the local economy of a healthy rural economy, tourism assets (including the Brecks and traditional market towns) and networks of footpaths and cycle ways
- **Policy EC 05 (Town Centre and Retail Strategy)** itself primarily focuses on retail capacity and location, however the supporting text highlights the importance of public realm and streetscape to the success of these centres, as well as improvements in the pedestrian and cycle environment. [\[ibid\]](#)

3.96 The **Breckland Corporate Plan** [\[See reference 45\]](#) outlines several themes, including Thriving Places. This theme sets out how the Council will play an active role in creating the right conditions for existing and new businesses to thrive. It includes a goal to help towns and villages reach their unique potential

and support their positive growth in the future, with a focus on high street health where the Council seeks to drive footfall and attract new visitors.

3.97 The Future Breckland Programme [See reference 46] was finalised in 2021, looking at the next 10 years' priorities for each of Breckland's market towns and their surrounding areas, based on the specific tangible projects local communities want to see brought forward. It notes that Breckland's "place assets" (including agriculture areas, woodlands, villages and the five market towns) are under recognised. The strategy also sets out that as a predominantly rural area, Breckland has connectivity limitations, meaning that residents and visitors are heavily reliant on private cars.

3.98 The programme also sets out that there is significant potential for improving perceptions of towns like Thetford through "place branding", raising the opportunity for potential GBI benefits to be included in this place branding, particularly given links with Thetford Forest.

3.99 The Breckland Town Delivery Plans Evidence Base [See reference 47] sets out priority areas for investment, including social and green infrastructure. It highlights a need to create market towns that champion local strengths, noting that Breckland benefits from a wide range of natural and heritage assets, but that Breckland's market towns are the worst performing neighbourhoods for access to healthy assets. Town delivery plans offer the opportunity to connect market towns to the natural environment.

3.100 The Breckland Design Guide (adopted 2024) [See reference 48], sets out that GBI features play a fundamental role in creating high quality, attractive and thriving places that contribute to a high quality of life for communities. It explicitly states that new development 'must integrate sensitively into the landscape', incorporating existing landscape features and providing better access to nature.

3.101 Finally, the local **Greening our Community Fund** [See reference 49] supports communities in Norfolk to take action to improve their local environment. This might include improvements to publicly accessible sites or developing community allotments/food growing schemes.

What are the assets, challenges and pressures for a thriving and prosperous Breckland?

Town and village centres

3.102 The challenges facing town and village centres in Breckland mirror broader trends seen across rural and semi-rural areas in the UK. These centres are grappling with declining footfall, resulting in empty shops and vacant properties, driven by shifting consumer behaviours and the growth of online shopping [See reference 50]. Additionally, many villages in Breckland are small and remote from major urban areas, limiting economic activity. This situation is further compounded by poor public transport options and a lack of investment in the public realm.

3.103 Agricultural villages typically maintain a strong connection with surrounding farmland, shaping their rural identity however, they often lack accessible public open space within the settlement itself. Green gaps are usually private farmland or woodland, offering limited functional connectivity. Infill development can erode these gaps, increasing urbanisation. Public green infrastructure is usually restricted to churchyards or small areas near village halls, limiting opportunities for recreation and ecological links [See reference 51]

3.104 Natural England's 'Greenness Grid' [See reference 52], which measures the percentage of manmade area, reveals that much of the Breckland District is sparsely developed and benefits from expansive green areas. The main exceptions are around the five market towns, especially Dereham and Thetford (see Growth Area profiles in **Chapter 5** for more detail).

3.105 Local stakeholders consulted for this study set out that there is a need, within and beyond this study, for detailed GBI mapping and guidance focusing on market towns to identify local needs and inform growth strategies, supporting rural businesses and tourism.

Visitor economy

3.106 Given the rural nature of Breckland and its landscapes, the GBI network is central to the region's quality of place for both residents and its visitor economy. However, Breckland's network of ecologically designated sites overlaps with areas important for the visitor economy, particularly around Thetford Forest. With ongoing concerns about recreational pressure on these

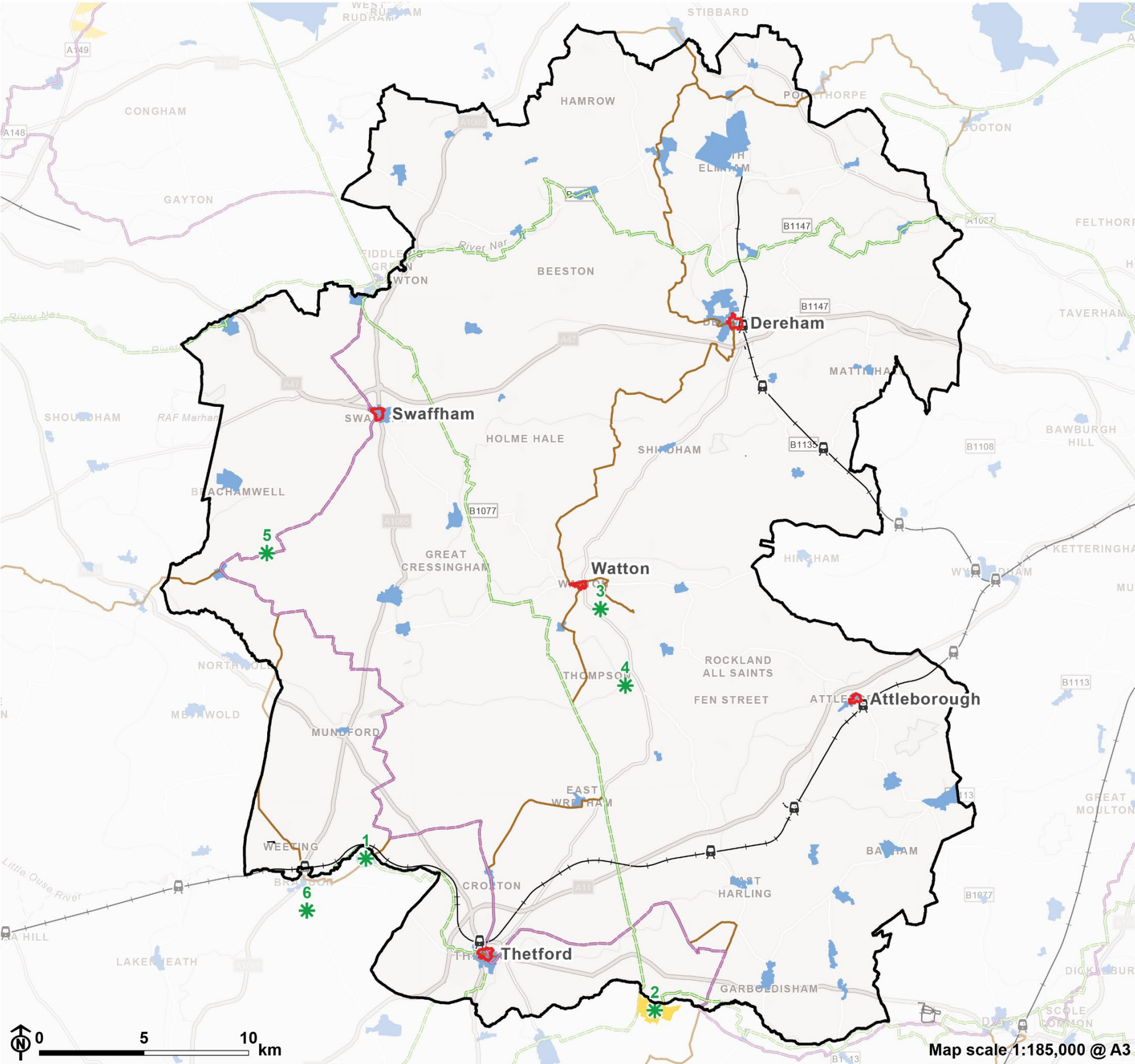
sensitive sites (see Theme 1), any future plans for the GBI network must balance the needs of both the visitor economy and the nature recovery network.

3.107 Given the fragmented nature of walking and cycling routes across the District (see Theme 2), there are also opportunities to improve connectivity between the five market towns, which would make a strong contribution to a nature-based visitor economy. The Future Breckland Programme highlights the development of 114 miles of new walking and cycling routes. For example, the Rebellion Way long-distance cycle route, a 232-mile loop around Norfolk, follows Roman roads and connects the District's rich history (see **Figure 3.3**). Other routes, including Peddars Way and Angles Way, provide important connections to the wider Norfolk area. These routes not only enhance local connectivity but also present significant opportunities for the visitor economy, linking towns and rural sites.

Eco-services jobs

3.108 Breckland has a blossoming eco-services sector. The emerging habitat banks, wildlife-friendly farming initiatives and landscape recovery projects in the District, like that at Wendling Beck, present an opportunity to create high quality jobs as an integral part of the local economy.

Figure 3.3: GBI, landscape and placemaking in Breckland



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Breckland Council



Figure 3.3: Green Infrastructure, landscape and placemaking in Breckland

- Breckland District boundary
 - Conservation area
 - Country park
 - Market town
 - Norfolk Trails network
 - Rebellion Way cycle route
 - National Cycle Network
 - Railway track
 - Railway station
 - Key nature-based visitor economy site
- 1: Thetford Forest
 - 2: Knettishall Heath Country Park
 - 3: Wayland Wood
 - 4: Thompson Common and Pingo Trail
 - 5: Gooderstone Water Gardens
 - 6: Brandon Country Park

Summary of key challenges

- **Balancing visitor economy & nature recovery:** Need to address recreational impacts on ecological sites, particularly in areas like Thetford Forest.
- **Improving connectivity:** The GBI network needs to better connect Breckland's five market towns and rural areas, including through walking and cycling routes.
- **Managing urban expansion:** Some market towns (and other settlements) are likely to experience significant housing growth, creating pressure on GBI and the need for GBI-led placemaking.
- **Supporting town centres:** The GBI network must help enhance town and village centres and encourage footfall, especially around less green centres like Dereham and Thetford.

Summary of key opportunities

- **Greening town and village centres:** Improving the GBI network in Breckland's villages and town centres to address challenges and improve quality of place.
- **Improving connectivity along green routes:** Further developing the District's network of green walking and cycling routes to better connect the five market towns and visitor destinations, boosting the local economy and regional connectivity.
- **Balancing Visitor Economy & Nature Recovery:** Developing a GBI network that supports both ecological recovery and sustainable tourism, especially in sensitive designated areas like **Thetford Forest** and the remainder of the mapped local Nature Recovery Network which supports them.
- **Integration of high quality GBI into new development:** Use growth coming through the Local Plan to strengthen the GBI network and place quality in and around the market towns and around new allocated sites.
- **Maintenance of green spaces:** particularly in towns and village centres, can be improved through community projects - building on the work of Greening our Community Fund.

- **GBI-led “place branding”:** particularly around the market towns – highlighting their role as ‘gateways’ to the countryside or to surrounding woodland areas.
- **Supporting GBI contribution to Future Breckland High Potential Projects:** Support GBI contribution where applicable in the projects set out in the Future Breckland strategy. These include the revitalisation of Loch Neaton Lake and surrounding green spaces, as well as reinvigorating and reconfiguring town centres and spaces including Dereham Marketplace, Swaffham Marketplace and Watton.

Theme 4: Understanding and managing Breckland's water environment

Why is GBI important for an improved water environment in Breckland?

3.109 GBI plays a critical role in improving water management within Breckland. It can be designed to:

- Reduce flood risk by managing water flows effectively;
- Improve water quality through natural filtration processes;
- Maintain the natural water cycle and promote sustainable drainage at both local and catchment levels;
- Deliver a range of amenity, biodiversity, economic, and other benefits

3.110 GBI serves both strategic and local roles in positive water management. When properly planned and implemented, it functions as a nature-based solution (NbS), significantly reducing the speed and volume of water flowing into drains, sewers, and watercourses. This process not only mitigates the risk of flooding and stormwater overflow but also puts excess water to beneficial use, improving resilience to extreme weather events.

3.111 GBI also enhances natural water filtration processes, helping to recharge groundwater and prevent unnecessary runoff into drainage systems. Vegetation within GBI can capture, filter, and reduce contaminants, ultimately improving overall water quality. This aligns with the principle of multifunctionality—where GBI not only addresses environmental challenges but also delivers social, economic, and health benefits through its integration into urban and rural landscapes.

What does national legislation and policy say?

3.112 Water management is closely integrated into the planning policy landscape. Concerns over future climate resilience and the deteriorating quality of the UK's rivers are leading to an increasingly prominent policy position.

3.113 The core aim of the UK's **Water Framework Directive (WFD)**, which was retained in UK law post-Brexit, is to protect the country's water environments by preventing their deterioration and improving their quality. The planning system

is required to consider this, guided by a series of River Basin Management Plans (RBMP). The relevant Plan for Breckland is the **Anglian RBMP** [See reference 53] and the NPPF requires all new development in the relevant area to take account of it.

3.114 The UK's **Environment Act 2021** also sets out ambitious targets for improving water quality in England's watercourses, including reducing pollutants like phosphorus, nitrates and microplastics. In general, national policy adheres to a **Catchment-based approach (CaBA)**, led by the Environment Agency, which aims to improve water quality and watercourse health by considering the whole area that feeds into the river, not just the river itself.

3.115 In support of these aims, the UK government's initiative 'Nutrient Mitigation Fund' provides funding for the development of nature-based solutions which improve water quality [See reference 54]. This and the Nutrient Mitigation Scheme, which seeks to create new wetlands to combat pollution, highlight the growing support local authorities have to tackle water management and nutrient mitigation.

3.116 The **NPPF** [See reference 55] requires that new developments should manage surface water effectively on site and protect watercourses from contamination. SuDS features should be multifunctional wherever possible, in part to improve water quality. Additionally, Planning Practice Guidance (PPG) [See reference 56] states that GBI can contribute to the protection of water quality and other natural resources.

3.117 National policy in England is evolving to promote the wider adoption of Sustainable Drainage Systems (SuDS). The establishment of a SuDS Approval Body (SAB) was planned through **Schedule 3 of the Flood and Water Management Act** in 2024. However, at the time of writing, the policy has not yet been fully implemented.

3.118 Finally, the UK's **National Design Guide** [See reference 57] includes a policy to improve and enhance water management, noting the importance of effective SuDS. In well-designed places, it notes, water features form part of an integrated system of landscape, biodiversity and drainage.

What does local policy say?

3.119 In Breckland's current (adopted) Local Plan:

- **Policy ENV 09 (Flood Risk & Surface Water Drainage)** requires development to minimise flood risk by incorporating SuDS and encourages

river restoration, enhancement and the reinstatement of functional floodplains to manage surface water. [\[ibid\]](#)

3.120 Breckland District Council works closely with the Environment Agency (EA), Norfolk County Council, and other local authorities to manage flood risks in the region.

3.121 Breckland works in line with the **Norfolk Local Flood Risk Management Strategy (LFRMS)**, developed by Norfolk County Council. It notes that Breckland District is the place of origin for many of Norfolk's major rivers. The dispersed population centres, undulating topography and multiple river sub-catchments means that surface water drainage in the District is complex, with most flood risk issues affecting relatively small areas. The Strategy also sets out the opportunity for SuDS in all new development and notes that a Surface Water Management Plan has not yet been undertaken for any of Breckland's settlements and reliable information on surface water flooding is diffuse.

3.122 The Breckland District Council **Level 1 Strategic Flood Risk Assessment Update** [\[See reference 58\]](#) provides further guidance for SuDS. The Update sets out that the application of SuDS is not limited to a single technique per site. Often a successful SuDS solution will utilise a combination of techniques, providing flood risk, pollution and landscape/wildlife benefits.

3.123 The **Breckland Design Guide** (adopted 2024) [\[See reference 59\]](#) embeds the water environment into its principles for high quality places. It sets out that new development must be designed around existing high quality landscape features, including ponds and streams, which should be integrated into public or private areas as "positive opportunities" rather than constraints. It should also be flood resilient, with well designed drainage systems, including natural features where possible, and minimising hardstanding areas. Breckland's low-lying topography means that surface water management should be included in the design and layout of new development from the earliest stages.

What are the assets, challenges and pressures for Breckland's water environment?

Water quality and links to biodiversity

3.124 In line with a catchment-based approach to water management, Breckland District falls within several river basins, all part of the larger Anglian River Basin District. See **Figure 3.4**.

3.125 Breckland's blue infrastructure (mapped on **Figure 3.4**) includes its network of chalk rivers and streams, such as the River Thet, Black Bourn, Wissey, and Little Ouse. The River Nar (a tributary of the Great Ouse) has a SSSI designation in recognition of its unique habitat compositions and has been the focus of restoration initiatives in collaboration with the Norfolk Rivers Trust [\[See reference 60\]](#). The River Wensum corridor (home to another SSSI) is a complex meadow and floodplain grazing marsh habitat, including one of the most extensive reedbeds in England. These globally rare chalk rivers are ecologically valuable, supporting species like the European eel, water vole, and aquatic invertebrates. Where they retain natural meanders, connected floodplains, and riparian vegetation, they provide diverse habitats.

3.126 The Brecks is also nationally recognised as an Important Freshwater Area, a designation for regions of significance to freshwater biodiversity. [\[See reference 61\]](#).

3.127 Source Protection Zones (SPZs) are areas around important drinking water sources, which help to protect water from pollution – like “safety zones” where water supply is protected from farming, waste disposal and construction. In Breckland, which is rich in chalk aquifers and porous underlying geology, these are important. Particularly sensitive areas (zones 1-2) can be seen within the settlements of Thetford and Watton (see **Figure 3.4**).

3.128 Breckland's watercourses face significant pressures. Many have been modified, reducing habitat complexity and flood resilience. Agricultural runoff and sedimentation degrade water quality, as do poorly functioning water treatment works and leaks from septic tanks [\[See reference 62\]](#). While wetlands and seasonal ponds, critical for amphibians and invertebrates, are scarce or poorly connected.

3.129 The ecological classification of Breckland's rivers (in line with the Water Framework Directive) is shown on **Figure 3.4**. This data highlights poor water quality in particular along Wendling Beck in the north and the Blackwater in the

east. Since 2019, all rivers in Breckland (and the rest of England) have failed their chemical classification due to the presence of Persistent, Bio-accumulative, and Toxic substances (uPBTs).

3.130 In March 2024, Natural England informed Breckland District Council that the **River Wensum** and the **Broads SAC** was in an “unfavourable condition” due to nutrient pollution (nitrogen and phosphorus). This pollution, primarily from wastewater, inefficient treatment works, and agriculture, has led to a moratorium on some planning applications until mitigation measures are in place. [\[See reference 63\]](#) The Council has worked closely with its neighbouring authorities, as well as with Natural England and Anglian Water, to provide a platform which will enable developers to buy credits to mitigate for the impact of nutrients.

3.131 The catchments of the River Wensum SAC and the Broads SAC have also been designated as nutrient sensitive areas, an area which includes Dereham [\[See reference 64\]](#).

Water supply

3.132 Research by regional body Water Resources East (WRE) estimates that by 2050, the Eastern region of England will experience a water shortfall of approximately 800 megalitres/day, due to climate change, population growth, reduced abstraction and agricultural needs. In particular water shortages pose a threat to Breckland’s fragile chalk stream network as it can reduce ‘baseflow’ to the streams. Future Water Resource Management Plans (WRMPs) will identify infrastructure investments necessary, including reservoirs, desalination plants or transfers. [\[See reference 65\]](#) Water scarcity is already impacting blue corridors in Breckland, including the Little Ouse and Wissey rivers.

Flood Risk

3.133 Flood risk and water quality are closely linked challenges in Breckland and elsewhere.

3.134 Regionally, flooding is a particular concern for Norfolk, given the large number of coastal areas and low lying land. As a result, Norfolk is known to be one of the most vulnerable counties in the UK. However, given that Breckland does not have a coastline, fluvial flood risks (from rivers) within the District are generally localised along its network of rivers and minor watercourses.

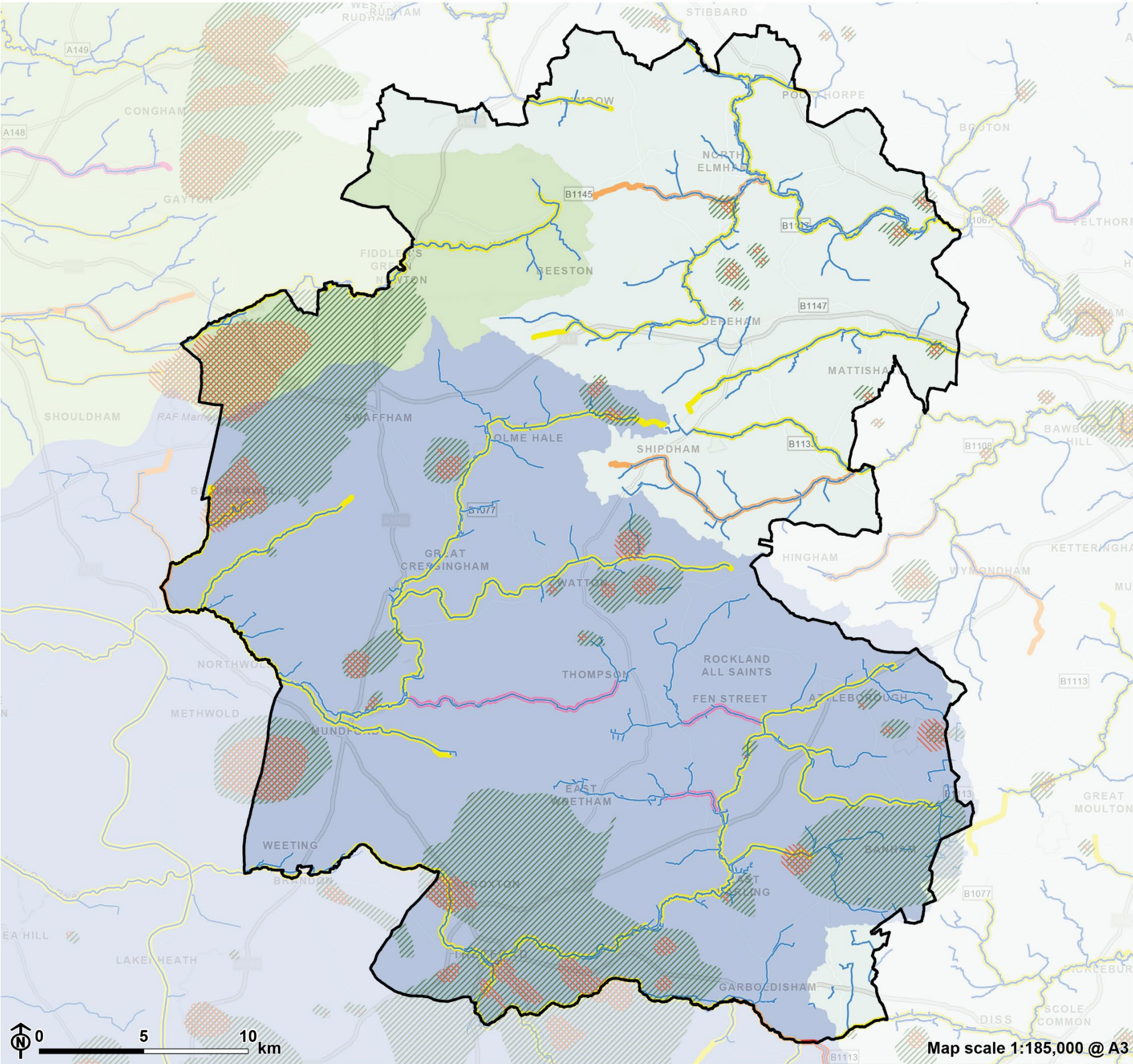
3.135 Breckland is generally not at risk from widespread fluvial flooding. Although some smaller areas, particularly in Thetford, are at risk. The primary fluvial flood risk occurs where the Rivers Thet and Little Ouse meet, and where no formal flood defences are in places.

3.136 However pluvial flooding (caused directly by intense rainfall) is a considerable threat within Breckland. The District's SFRA identifies several instances of surface water and sewer flooding across the District. In the more developed areas of the District, there has historically been a reliance on sewers for drainage and many watercourses have been extensively culverted – which can increase the speed of water flows. This has led to a number of instances of flooding, due to blockages or inadequate capacity in the drainage network [\[See reference 66\]](#).

3.137 Spatial data shows that surface water flooding is most concentrated along river corridors, particularly in Dereham, where surface runoff and fluvial flooding have caused significant impacts. The Dereham Stream, where parts have been culverted over time, has been responsible for multiple localised flooding events affecting properties. [\[See reference 67\]](#) Climate change is expected to exacerbate this risk due to increased intensity and regularity of heavy rainfall events.

3.138 Riparian planting has the potential to mitigate against downstream flooding while also improving habitat connectivity and cooling surface water temperatures (see Theme 1). See **Figure 3.5** for an indication of priority areas for riparian planting. The Breckland Farmers Wildlife Network (BFWN) is also seeking to 're-wiggle' the Little Ouse river [\[See reference 68\]](#) in collaboration with the Norfolk Rivers Trust, in order to reconnect its path with its natural floodplains.

Figure 3.4: Breckland's Blue Corridors



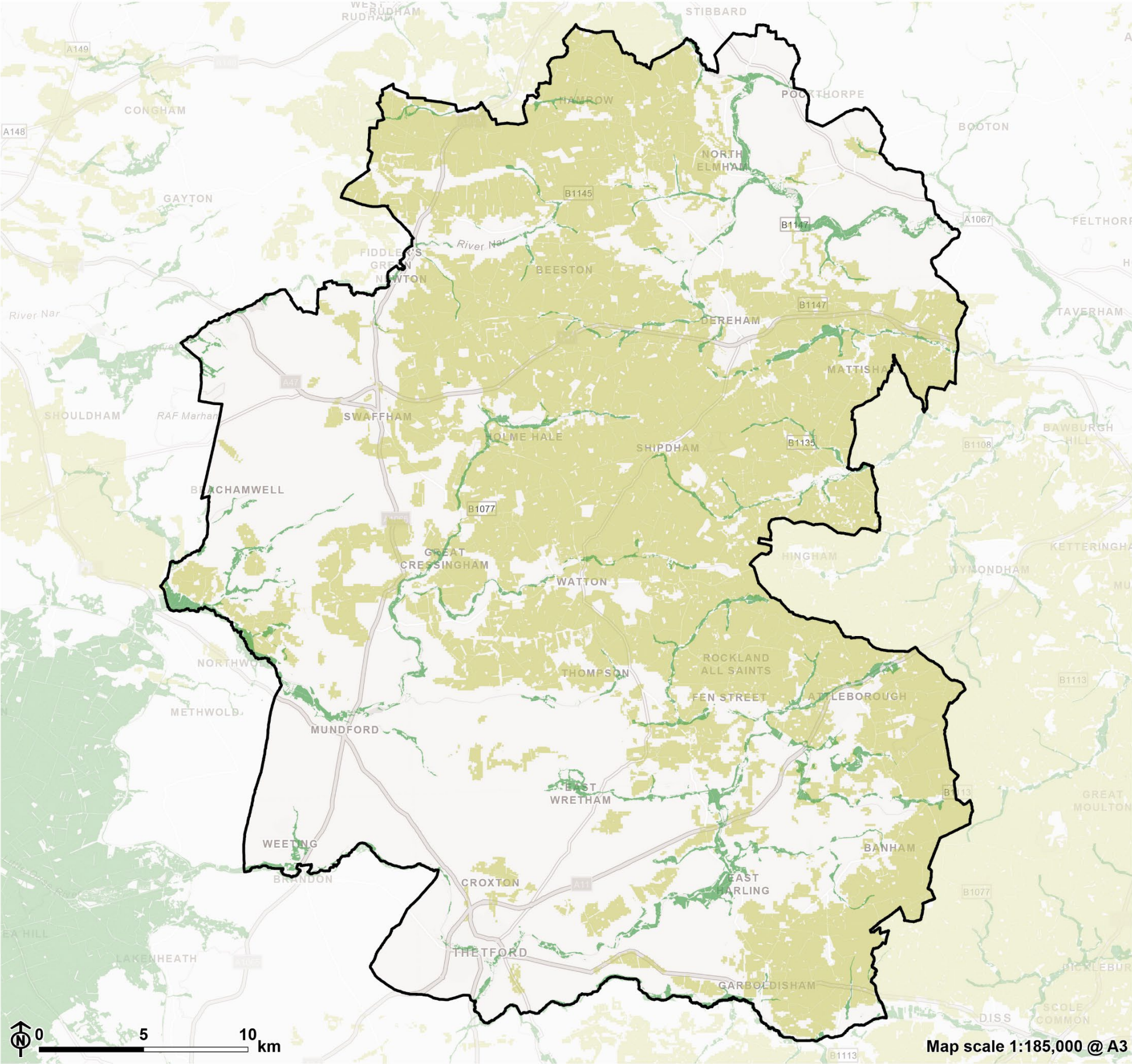
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Figure 3.4: Breckland's blue corridors

- Breckland District boundary
- River
- Source Protection Zone**
 - Zone I - Inner Protection Zone
 - Zone II - Outer Protection Zone
- Management catchment**
 - Broadland Rivers
 - Cam and Ely Ouse
 - North West Norfolk
- Water quality ecology status (cycle 3 2023)**
 - Good
 - Moderate
 - Poor
 - Bad

Figure 3.5: Floodplain woodland potential in Breckland



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Figure 3.5: Floodplain woodland potential in Breckland

- Breckland District boundary
- Working with Natural Processes
(Environment Agency 2017)**
- Wider catchment woodland potential
- Floodplain woodland potential

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Summary of key challenges

- **Pressure on watercourses:** Many rivers in Breckland have been modified, reducing habitat complexity and flood resilience.
- **Nutrient pollution:** Excess nitrogen and phosphorus (mainly from wastewater and farming) is damaging protected sites like the River Wensum.
- **Modified rivers:** Channelisation and culverting have reduced natural habitats and flood resilience.
- **Reduced water availability:** Water supply-demand gap worsened by climate pressures.
- **Decline in wetland habitats:** Critical for amphibians and invertebrates, but scarce and poorly connected.
- **Localised flood risk:** Risk concentrated along rivers (e.g. Thet, Little Ouse) and in towns like Thetford and Dereham.
- **Surface water and sewer flooding:** Inadequate drainage and blockages causing repeated flooding in urban areas, exacerbated by extensive areas of impermeable surfaces.
- **Climate change pressure:** Increased flood risk expected from more intense rainfall and runoff.

Summary of key opportunities

- **Catchment-based approach to flood risk:** Considering the multiple functions of river corridors in GBI terms.
- **River corridor restoration initiatives:** Reconnecting rivers to floodplains is needed to manage water quality, flood risk, and habitat loss. This should include support for ongoing work by the Norfolk Rivers Trust and BFER on 're-wiggling' and restoration of the Little Ouse and River Nar [\[See reference 69\]](#) [\[See reference 70\]](#), as well as restoration work at Wendling Beck [\[See reference 71\]](#). Interventions could reduce flood risk in downstream towns such as Thetford.
- **Pollution mitigation:** Addressing nutrient pollution (nitrogen and phosphorus) and supporting ongoing work by the Norfolk Rivers Trust, could improve the health of the River Wensum and Broads SAC and

allow for development to move forward [\[See reference 72\]](#). This could include support for the Cam and Ely Ouse Catchment Partnership on increased monitoring of water quality on the Little Ouse and Thet [\[See reference 73\]](#)

- **Nature-based solutions to flood risk management:** Implementing multifunctional sustainable drainage systems (SuDS) as part of all new development could reduce surface water and sewer flooding, particularly in areas like Dereham. SuDS can also be retrofitted in priority locations.
- **Tackle flooding around the Dereham stream:** targeting localised flood risk as part of GBI interventions within Dereham, expanding water storage capacity and other nature based-solutions.
- **Embedding water considerations in all development planning:** including integrating sustainable drainage systems (SuDS), restoring natural watercourses, and enhancing flood resilience, while also delivering co-benefits for biodiversity and public amenity.

Theme 5: Resilient and climate positive Breckland

Why is GBI important for resilient and climate positive places in Breckland?

3.139 In the face of increasing environmental pressures driven by climate change, resilient landscapes are those that are able to withstand and maintain their basic functions and processes. GBI is crucial in maintaining and enhancing these resilient landscapes, which both mitigate against and adapt to climate change. Climate change is a central consideration in any GBI strategy because it plays a critical role in both mitigating climate change and adapting to its impacts.

3.140 As the effects of climate change continue to intensify, a well connected and resilient GBI network can provide crucial functions including carbon sequestration (including through tree canopy expansion), flood mitigation and water retention, habitat connectivity, and shading/cooling. Theme 4 goes into further detail about Breckland's blue corridors and their role in flood mitigation. What does national legislation and policy say?

3.141 The **25 Year Environment Plan** and the UK's Climate Change Act 2008 (as amended in 2019) outline targets to reduce greenhouse gas emissions by 2050. It also sets out a goal to increase woodland cover in the UK from 13% to a minimum of 17% by 2050. [\[See reference 74\]](#)

3.142 In June 2025 the Climate Change Committee provided an update on the UK government's progress on reducing carbon emissions. the report highlights the role of nature-based solutions, including peatland restoration and woodland creation as vital to keeping the UK on track to meet targets. However, it also notes that progress on both peatlands and woodland creation are currently off track and recommends policies and incentives to ramp up these initiatives. [\[See reference 75\]](#)

3.143 The UK's **10-year Infrastructure Strategy** released in June 2025 [\[See reference 76\]](#) highlights a significant role for nature-based solutions and green infrastructure in climate mitigation and adaptation. The strategy posits a hierarchy for infrastructure design, which instructs that "first, maintain and optimise existing assets. Then, consider green and nature-based solutions where they are effective. New 'grey' solutions should only be deployed if other solutions are not viable."

3.144 The **NPPF** [See reference 77] states that the "the planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change." The NPPF and **Nature Positive 2030** report [See reference 78] also emphasise the need to use nature-based solutions to combat the impacts of climate change.

3.145 In terms of woodland cover specifically, the Woodland Trust promotes the "3-30-300" rule as a benchmark for urban greening [See reference 79]. It suggests that each person in a District should be able to:

- see at least three trees from their home.
- live in a neighbourhood with a minimum of 30% tree canopy cover, and,
- be no more than 300 metres from the nearest publicly accessible green space.

3.146 The standard is intended to guide the planning and design of urban environments that support health, wellbeing, and climate resilience.

What does local policy say?

(NB while an important element of climate resilience, flood risk policies are dealt with separately under Theme 4 on Water Management).

3.147 In Breckland's current (adopted) Local Plan:

- **Policy ENV 06 (Trees, Hedgerows and Development)** highlights that trees and significant hedge and shrub masses form part of the GBI network. It requires new development to retain existing trees and significant hedgerows as an integral part of design. [ibid]

3.148 Breckland District Council declared a climate emergency in September 2019 and has committing to reducing the level of greenhouse gases within the District [See reference 80]. The **Breckland Sustainability Strategy** was a result of this climate declaration and lays out the Council's intent to use their regulatory powers to influence behavioural change and drive positive change within the environment.

3.149 Norfolk County Council's **Tree Planting and Resilience Strategy** sets out that land use change in Norfolk (including residential development) is impacting existing trees and hedgerows. The focus of the strategy is to increase the resilience of tree, woodland and hedged landscape and help Norfolk adapt

to future climate change, pests and diseases through natural regeneration and rewilding. The strategy principles include an intention to support existing local businesses within the rural economy to create employment opportunities in the lifelong care of trees and woodlands. It also highlights the opportunity to connect fragmented woodland and create new ‘stepping stone’ woodlands across the District and beyond. [\[See reference 81\]](#). Stakeholders consulted when developing this study voiced strong support for expanding tree canopy cover, particularly in urban areas.

3.150 The **Breckland Design Guide** (adopted 2024) [\[See reference 82\]](#) highlights the role of GBI as fundamental for boosting climate resilience within new development, alongside intelligent building design. It sets out that that new development must “manage water responsibly” and should minimise hardstanding. The Guide also highlights how new tree planting can be used to create natural shading and protect against overheating – encouraging tree-lined streets, green roofs and green walls.

What are the assets, challenges and pressures for a resilient and climate positive Breckland?

3.151 Breckland has robust existing assets which contribute to climate resilience in the landscape. However, these assets are disproportionately concentrated in the south and west of the District.

Carbon storage

3.152 There are significant existing carbon sinks within the District, including within Thetford Forest, concentrated in the south of the District. Thetford Forest is currently the focus of research attempting to ‘future-proof’ the forest, working in collaboration with the Forest Commission [\[See reference 83\]](#). Well-designed and adaptable forestry strategies are critical in managing resilient forests, which should be able to continue providing important ecosystem services despite intensifying climate change.

3.153 There are opportunities to expand the carbon storage capacity of the District. These include riparian woodland planting along watercourses and bolstering hedgerow networks and existing woodland within the extensive arable fields in the centre and northern areas of the District.

3.154 Intensive farming practices in Breckland undermine the ability of soils to act as an effective carbon store. There are opportunities to enhance carbon soil

sequestration within the arable fields within the District, in collaboration with local farmers. The Breckland Farmers Wildlife Network (BFWN [\[See reference 84\]](#)) is in the process of developing a Landscape Recovery Project, aimed at creation of new Brecks habitats on arable land which will both increase carbon sequestration and support priority habitat (see Theme 1).

Canopy cover and heat mitigation

3.155 According to 2011 data, tree cover across the Breckland District sits at approximately 19%, which is within the top third of local authorities nationwide and above the 16.5% goal set out in the government's Environmental Improvement Plan. [\[See reference 85\]](#) However, the coverage is unevenly distributed. Data from the National Forest Inventory (NFI) shows that large areas of woodland in the south are outliers, while coverage in the north and centre is more sparse.

3.156 The UK Woodland Trust *Tree Equity Score* website sets out woodland coverage in urban areas compared against the national standard. The mapping aims to assist with the identification of areas of greatest need, and provides indicators of heat disparity and air pollution [\[See reference 86\]](#). The mapped data highlights specific priority Lower Super Output Areas (LSOAs) where increased coverage would provide greatest benefit – in Breckland these are found in central/southern Dereham, the south of Attleborough and areas to the north and south of Thetford. Breckland Council currently has funds set aside to increase the canopy cover across the District, as part of its 2023 Sustainability Strategy.

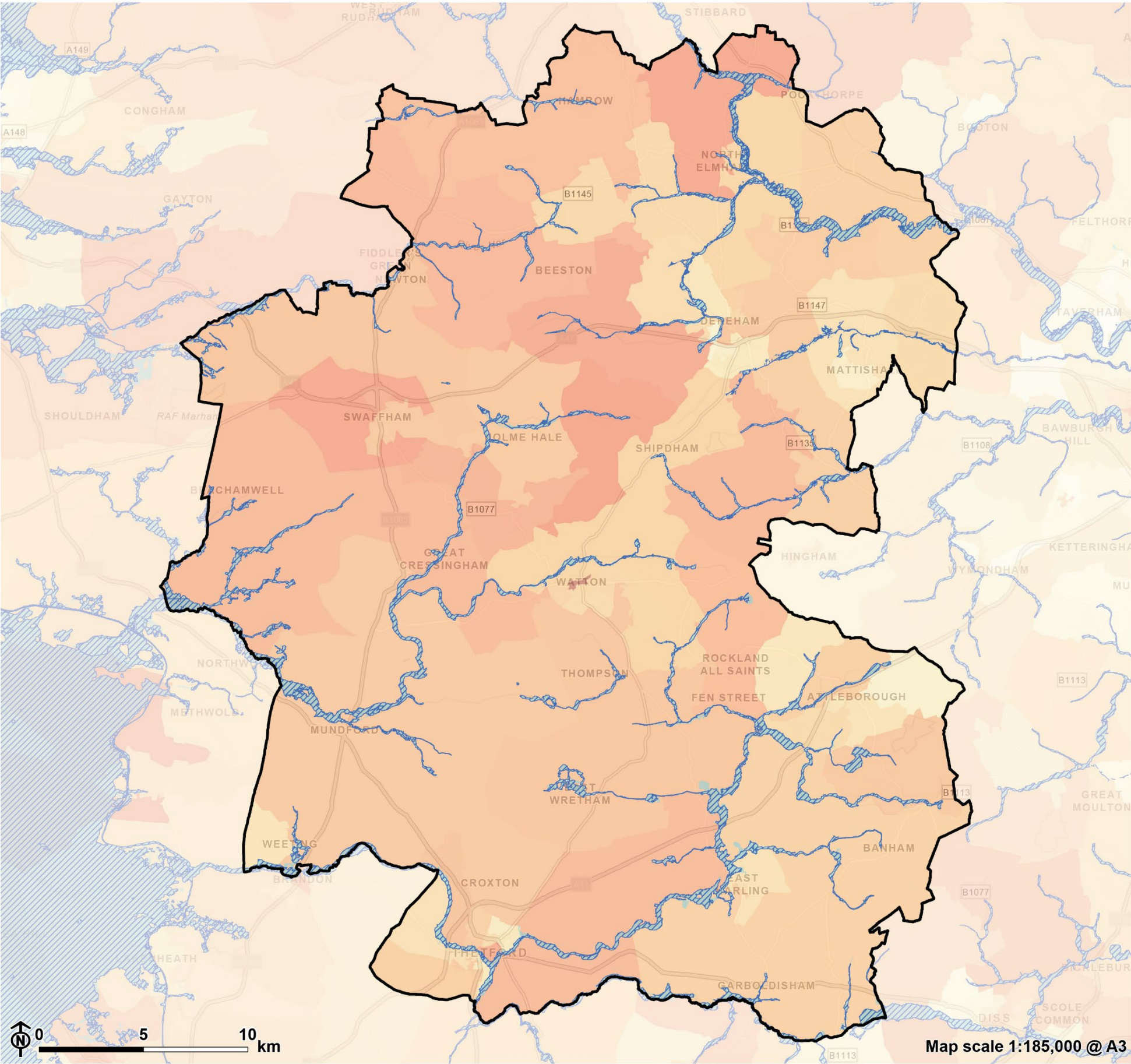
3.157 However, identifying locations for tree planting should be done with care, as there are risks to harming open habitats through poorly located tree planting.

3.158 Information tool *Climate Just* uses socio-spatial vulnerability maps to identify how social vulnerability interacts spatially with climate change impacts, with a particular focus on heat vulnerability [\[See reference 87\]](#). This allows for targeted mitigation and adaptation efforts. This data for Breckland is shown on **Figure 3.6** and highlights a particular area of vulnerability in the centre of the District and concentrated vulnerabilities in the settlements of Swaffham and Dereham. The tool also highlights the vulnerability to heat of older populations, which are concentrated in areas south of Attleborough, Watton and Swaffham.

Flood risk

3.159 Nature-based solutions to flood risk are a central plank of how GBI can contribute to greater climate resilience in Breckland. For the purposes of this report, these are dealt with under Theme 4 (Understanding and Managing Breckland's Water Environment).

Figure 3.6: Climate vulnerability in Breckland



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Figure 3.6: Climate vulnerability in Breckland

- Breckland District boundary
- Flood zone 2
- Flood zone 3
- Socio-Spatial Heat Vulnerability Index***
 - Low vulnerability
 - High vulnerability

*Socio-spatial heat vulnerability refers to mapped social vulnerability with respect to heat-related hazard, Source: L.S.J., et al (2011) "Climate change, justice and vulnerability", Joseph Rowntree Foundation Report, York, derived from UKCP18 Crown Copyright 2018, Met Office.

Summary of key challenges

- **Severe weather impacts:** Climate change presents increasing risk and severity of weather events such as flood and drought, with significant impacts on important habitats and wildlife.
- **Carbon storage capacity:** is underused in the central and northern arable areas.
- **Uneven woodland coverage:** Breckland's relatively high overall woodland coverage is skewed by a high concentration in the south.
- **Heat vulnerability:** High in certain areas, including risks for older populations.
- **Canopy cover:** Low within several key settlements, including Dereham, Attleborough and Thetford.

Summary of key opportunities

- **Expanded woodland cover and hedgerows:** guided by priorities set out in County's tree planting and resilience strategy. To include riparian planting along river corridors to provide multiple ecosystem services. Utilising allocated council funding to support canopy expansion
- **Increased tree planting within key settlements:** focussed on those areas highlighted as priorities by Tree Equity mapping.
- **Heat mitigation:** Focus GBI investment (including as part of new development) in those areas highlighted as high risk by the Climate Just tool.

Chapter 4

A vision for the future of the network

Through the planning process and in collaboration with partners, Breckland Council will shape a connected, resilient, and inclusive green and blue infrastructure network. The network will protect and enhance Breckland's rich natural heritage and protected sites, support healthy and thriving communities and market towns, strengthen climate resilience and celebrate the District's unique landscape identity - ensuring benefits for people of all ages and background, local economies and nature for generations to come.

Strategic objectives

4.1 The following six strategic objectives will help to deliver on this vision. They are driven by the findings of the baseline research in **Chapter 3** and each one relates to one of the GBI themes used for the study. Together with the vision, they should act like a 'golden thread' for decision making on GBI and guide the opportunities identified later in this report:

1. To **restore and reconnect irreplaceable habitats**, reduce growing pressures on **sensitive ecosystems**, and **champion distinctive landscape features** - ensuring biodiversity recovery and ecological resilience across Breckland, guided by the emerging Norfolk LNRS.
2. To create a **well-connected network of accessible green spaces**, **'playable landscapes'** and **active travel routes** within and between key market towns that promote physical and mental wellbeing, with a focus on underserved areas and designed around the needs of ageing communities. This should support the wider active travel agenda in Breckland and in creating truly walkable neighbourhoods.
3. To fully embed GBI into the **revitalisation of Breckland's market towns as well as within new developments** as settlements grow, and to support nature-rich visitor destinations in order to strengthen local economies, celebrate local character, and support sustainable growth.
4. To **support Breckland's key blue corridors** in playing a full and multifunctional role in the wider GBI network, by bringing water quality

on all rivers in line with WFD objectives, restoring natural hydrology, and implementing nature-based flood management solutions to create a healthy and resilient water environment.

5. To **expand tree and hedgerow cover** to meet national targets with a focus on less wooded areas, to support **carbon storage and heat mitigation** and to integrate **nature-based solutions** to climate resilience into both new development and land management across the District.
6. To set a **new standard for 'landscape-first' development in Breckland** by embedding high-quality, multifunctional GBI from the earliest stages of design - guiding layout and place-shaping in line with the Breckland Design Guide.

Chapter 5

GBI opportunities within key growth areas.

5.1 Growth coming through Breckland's emerging Local Plan will be focussed on the following six key growth areas:

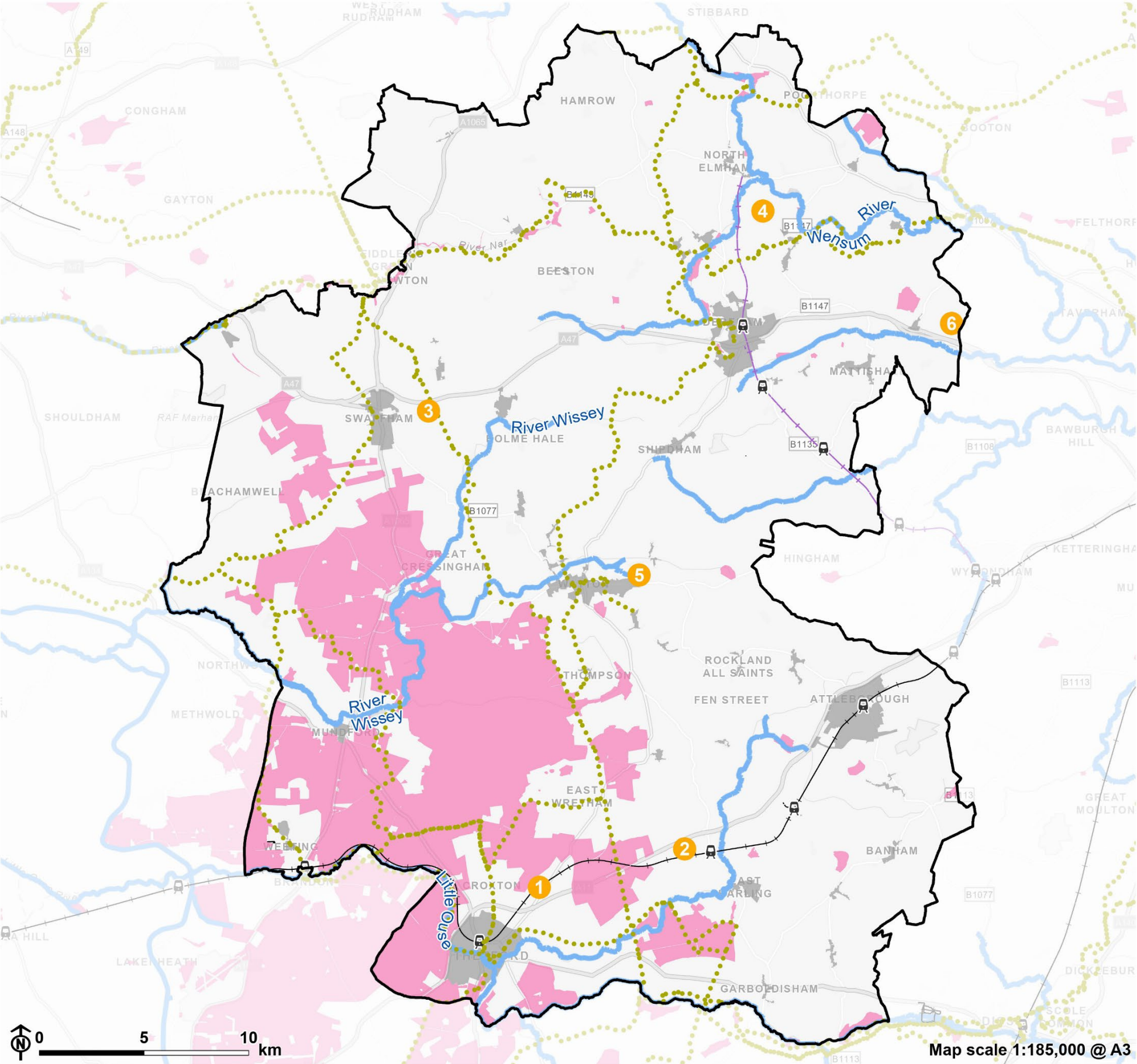
1. Thetford (including the Kingsfleet Grove development)
2. Roudham/Larling
3. Swaffham
4. Swanton Morley
5. Watton
6. East Tuddenham

5.2 It is important that high-quality green and blue infrastructure (GBI) is delivered within and alongside all new development across the District, wherever growth takes place (see **Chapter 6** for further detail on delivery). However, these six identified growth areas provide a valuable opportunity to consider the GBI network at a more local scale in parts of the District that are set to absorb the most growth.

5.3 Understanding how the GBI network in these areas currently functions, where there are gaps or pressures, and where there is potential for enhancement will enable developers and the Council to use development as a force for good to enhance the GBI network.

5.4 4.3 The following six Growth Area profiles set out the key characteristics, challenges and opportunities for GBI within each of the main growth areas. They are intended to inform the planning and design of future development, ensuring that proposals respond positively to the local GBI context and help to deliver on the priorities identified in this Strategy. Each profile includes a GBI summary map of the area, a short description of the GBI context, a summary of key challenges and a summary of key opportunities.

Figure 5.1: Overview of Breckland's GBI network and key growth areas



Breckland Green Infrastructure Study
Breckland Council



Figure 5.1: Overview of Breckland's GI network and key growth areas

- Breckland District boundary
 - Settlement area
 - Internationally designated biodiversity site (see Theme 1)
 - ... Key recreational route (see Theme 2)
 - Key blue corridor (see Theme 4)
 - Railway track
 - Mid-Norfolk heritage railway
 - Railway station
- Key growth area**
- 1 Thetford
 - 2 Roudham/Larling
 - 3 Swaffham
 - 4 Swanton Morley
 - 5 Watton
 - 6 East Tuddenham/Hockering

Growth Area 1: Thetford

Overview of the GBI context

5.5 Distinctive landscape setting: Thetford sits within a distinctive and ecologically rich landscape, shaped by the dry, sandy soils and open heathlands characteristic of the Breckland National Character Area. The town is encircled by extensive natural assets, most notably Thetford Forest - one of the largest lowland pine forests in the UK and designated as an SAC, SPA and SSSI for its habitat and bird populations. Thetford is located immediately adjacent to the Breckland Forest SPA, so any new development must consider the potential impacts of increased recreational activity on the protected bird species within the site.

5.6 Growth and Land Use: The Kingsfleet SDA, set to extend the settlement to the north and east, is the focus of growth in Thetford within the Local Plan. Alongside a number of employment sites allocated to the west – extensions of the existing Fison Way and Burrell Way Industrial Estates.

5.7 Role of woodlands: The settlement's proximity to Thetford Forest supports its role as both a key visitor destination and one of the District's main market towns. The town also contains a high density of trees outside woodland areas, particularly along river corridors, the road and rail network, and within green spaces and gardens.

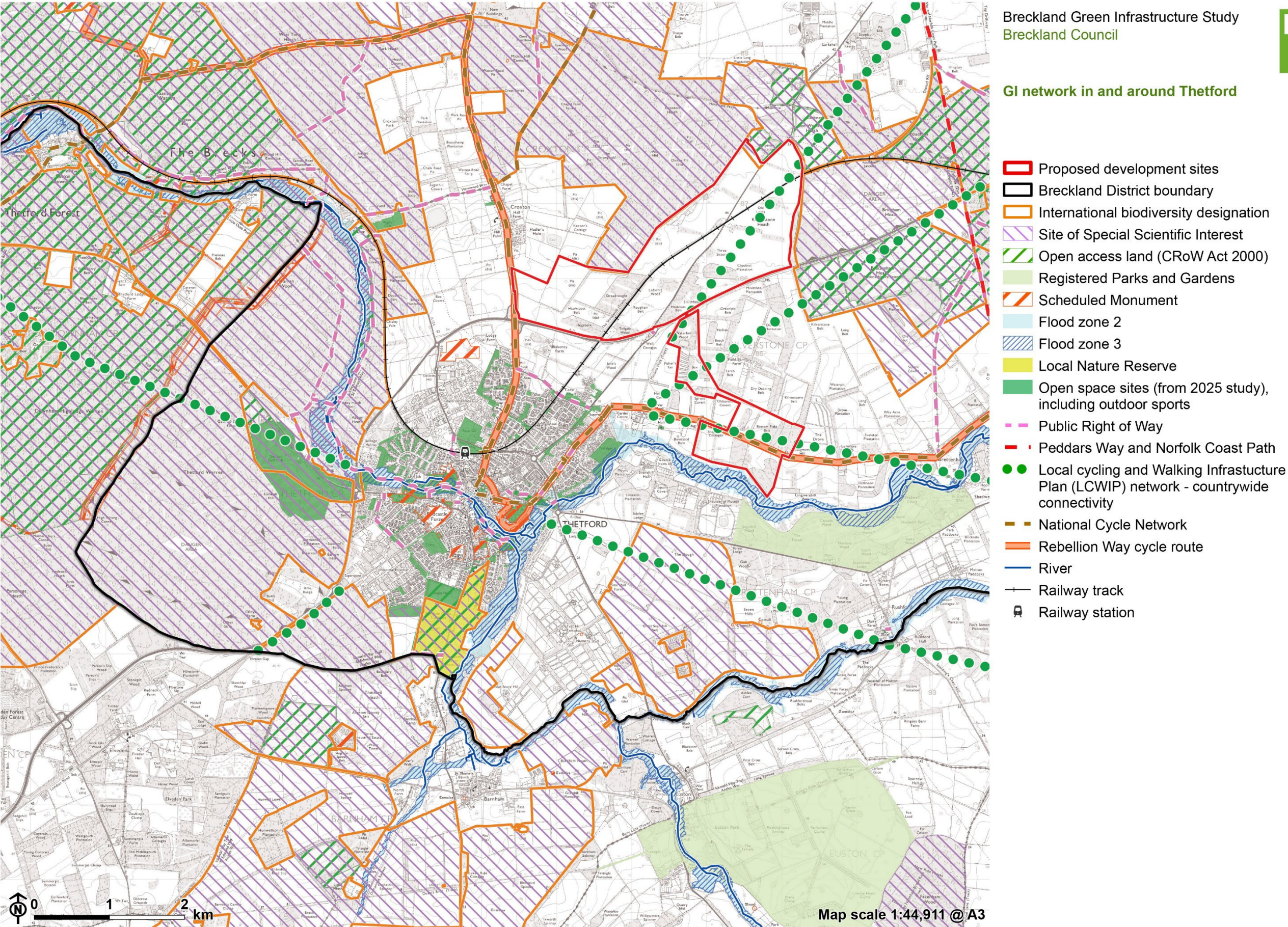
5.8 Ecology and recreation: The surrounding landscape supports nationally important habitats and species, while also offering significant opportunities for informal recreation – two uses which need to be carefully balanced. Permissive paths and trails weaving through parts of the forest and heathland. Thetford also sits at the confluence of the River Thet and Little Ouse, both of which form important blue - green corridors through the settlement, contributing to both the ecological character and recreational offer.

5.9 Access and connectivity: The town's landscape setting is further complemented by a growing network of strategic recreational routes. Designated cycle paths, including National Cycle Network Route 13 and the long-distance Rebellion Way, link Thetford to the Kingsfleet Grove strategic growth site to the north-east and beyond.

5.10 While the Public Rights of Way (PRoW) network remains relatively fragmented - particularly to the south-west - there are several notable footpaths providing access into the wider landscape, including the Sheepwalk Track

(crossing under the A11), the Hereward Way to the north and the Peddars Way to the east. The “Thetford Loops” initiative is establishing a series of circular walking and cycling routes that connect the town centre with surrounding countryside and forest landscapes, improving access, wayfinding and recreational opportunities for both residents and visitors.

Figure 5.2: GBI assets in and around Thetford



Key challenges by GI theme

Table 5.1: Key challenges for GI in and around Thetford

GBI theme	Key challenges
Nature-rich Breckland	■ Varied condition of surrounding designated sites; Breckland Forest SSSI contains features such as the woodlark population and vascular plant assemblage which are currently in “unfavourable-recovering” condition but with management plans in place which aim to improve the condition of the site. ■ Breckland SPA and SAC are at risk from recreational pressures resulting from local growth, and air pollution from agricultural practices. ■ Climate change poses risks to the condition and management of Breckland Forest, due to low rainfall, risk of drought, low water holding capacity of soils and a mosaic of fairly extreme soil conditions. ■ Habitat connectivity fragmented by intensive agriculture and local biodiversity influenced by presence of large-scale conifer plantations. ■ Recreational and agricultural pressures need mitigation to support habitat condition and ecological connectivity.
Active and healthy Breckland	■ Weaker access to different scales of open space in residential areas to north of settlement. ■ ‘Hotspots’ in north and west where poor access to ‘doorstep’ green space overlaps with relatively high socio-economic deprivation. ■ Weaker PROW connections to the north-east towards Kingsfleet Grove site; limited PROW links to wider countryside.
Thriving and prosperous Breckland	■ Limited accessible open spaces within the urban area; main accessible greenspaces located on the

GBI theme	Key challenges
	eastern edge (e.g. Barnham Cross Common, Melford Common). ■ Fewer public green spaces in the west and north (although “pocket park” initiatives underway in denser areas). ■ Moderately walkable, but green corridors are limited to the Little Ouse corridor through the town centre.
Understanding and managing Breckland’s water environment	■ River Thet and Little Ouse both present localised flood risk. ■ Little Ouse is partially channelised through the urban area (while wider floodplains with natural meanders occur upstream and downstream). ■ Both watercourses are classed as ‘moderate’ water quality under the Water Framework Directive and are increasingly affected by water shortage challenges. ■ Public access is good along the Little Ouse via Icknield Way, St Edmund Way and adjacent public meadows. Access to the River Thet to the east is more limited.
Resilient and climate-positive Breckland	■ Large areas of impermeable/manmade surfaces within industrial estates and central areas around King Street (Natural England’s greenness grid’). ■ Tree cover concentrated along watercourses but is sparse within the urban core. Garden vegetation and some street trees provide limited additional canopy. ■ Main roads create barriers, limiting additional green-blue connectivity across the settlement to encourage low-carbon forms of transport.

Key multifunctional GI opportunities

- **Brand Thetford as a ‘gateway’ to the Forest and surrounding landscapes:** Capitalise on Thetford’s unique position on the edge of

Thetford Forest and at the confluence of the River Thet and Little Ouse to strengthen its identity as a recreational and cultural hub, helping to increase footfall in the town centre. Enhance connections between neighbourhoods, the town centre, riverside spaces, heritage assets and the wider countryside (avoiding areas of high ecological sensitivity), in line with the Thetford Town Delivery Plan and Heritage Masterplan - which highlight the importance of reconnecting the town to its riverside and historic environment.

- **Create high quality new multifunctional green space at Kingsfleet Grove:** Provide a larger-scale open space to serve northern neighbourhoods, supporting local recreation while helping to relieve visitor pressure on surrounding designated habitats within Thetford Forest as population grows. 'Functions' to be considered should include
 - food growing (through community gardens, potentially co-located with GP surgeries, health centres or schools),
 - biodiversity (through ecological features including heathland and acid grassland mosaics),
 - high quality nature-based play strategy throughout site, and
 - walking and cycling routes connecting to out to wider countryside (avoiding sensitive habitats) and the NCN/Rebellion Way strategic route.
- **Enhance and extend the Thetford Loops network:** Build on the existing initiative to strengthen circular walking and cycling routes linking the town centre, surrounding neighbourhoods, Thetford Forest and key blue -green corridors. Improve surfacing and signage, fill gaps (particularly to the south-west and east), and integrate habitat enhancements and tree planting to support active travel, biodiversity, tourism and community access to nature.
- **Increase urban greening and canopy cover in the town centre:** Introduce more street trees, multifunctional SuDS around King Street and greening interventions to create a more walkable, attractive and climate-resilient town centre, supporting the ambitions of the Thetford Town Delivery Plan, and Heritage Masterplan and LCWIP network "walking zone". Linear GBI features should be focussed along NCN route 13 through the town centre.
- **Increased tree cover within amenity greenspaces:** Increase cooling and shading within residential areas, and expand tree cover along existing woodland edges such as the amenity areas between streets off

Canterbury Way and between Canon's Walk and Saint Martin's Way. Species should be selected to maximise biodiversity value. The '3-30-300' rule promoted by the Woodland Trust (see Theme 5) should support this initiative.

- **Develop north - south green corridors:** Extend corridors north and south from the Little Ouse footpaths to improve connectivity across the A1066 and create an integrated access network linking the riverside, town centre and wider landscape.
- **Upgrade the Sheepwalk corridor:** Formalise the "Sheepwalk" footpath as a surfaced, multi-modal green corridor, creating a key non-vehicular route north towards the Kingsfleet Grove development and strengthening ecological links through the urban area.
- **Enhance flood storage and riparian habitats along the Thet and Little Ouse:** Increase floodwater holding capacity by creating additional grazing marsh, fen habitat and retention ponds and expanding floodplains, integrating public access and recreation where appropriate.
- **Restore and enhance coniferous woodlands, heathlands, acid grasslands and scrub habitats:** Restore existing and create new habitats, which are appropriate to the local soils and enhance ecological connectivity.
- **Reversion of arable and other intensive agricultural land:** Arable reversion within this area offers opportunities to alleviate air pollution impacts, with benefits for sensitive habitats within Thetford Forest.

Key stakeholders/delivery partners

- Developers and masterplanners of key sites
- Breckland District Council
- Thetford Town Council (and 'Thetford Loops' project)
- Brecks Fen Edge & Rivers Landscape Partnership Scheme (BFER)
- Norfolk Rivers Trust
- Norfolk Wildlife Trust
- River Restoration Centre
- Walk Wheel Cycle Trust (formerly Sustrans)
- Forestry England

- British Trust for Ornithology (BTO)
- Natural England
- Environment Agency

Growth Area 2: Roudham / Larling

Overview of the GBI context

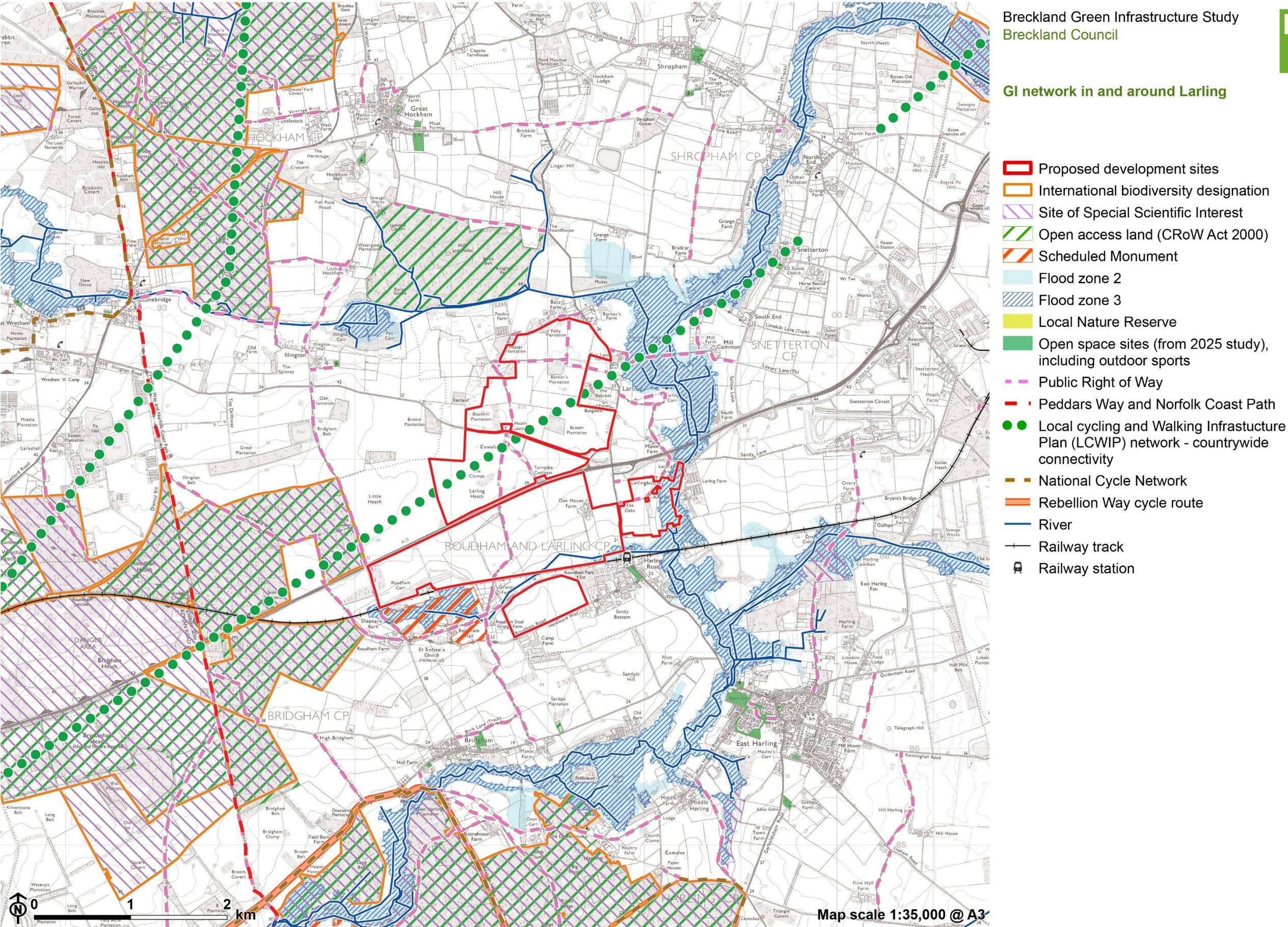
5.11 Landscape Setting: Roudham and Larling are small rural settlements located to the north eastern of Thetford Forest, either side of the A11. They sit within the Breckland National Character Area, a landscape defined by light, sandy soils, arable fields interspersed with woodland blocks, and remnant areas of heath and fen. The River Thet runs north-south along the eastern edge of the settlements, forming a key blue corridor with associated floodplains that support grazing marsh and areas of deciduous woodland. To the south of the railway line lies the Scheduled Monument of Roudham Deserted Medieval Village, which contributes to the historic landscape character of the area.

5.12 Growth and Land Use: This growth area is the focus of two large strategic sites within the Local Plan alongside smaller residential and employment sites. While the existing population is relatively small, the area has strategic significance due to its position along the A11 corridor, proximity to Thetford, and its relationship with nationally important ecological and historic assets.

5.13 Ecological Designations: The area lies immediately adjacent to Breckland Forest SSSI and relatively close to Breckland Forest SPA/SAC. East Harling Common SSSI to the east of the area supports a rare pingo system of ponds and fens with important plant and invertebrate communities. While the fens and grasslands of the Middle Harling Fen SSSI to the south support rare plants and breeding wetland birds such as snipe, reed warbler and sedge warbler.

5.14 Access and Connectivity: There are large expanses of designated open access land to the north of the area toward Hockham. The Public Rights of Way (PRoW) network between Roudham and Larling is relatively strong. It includes the Hereward Way, which links to Thetford, terminates near Roudham, and connects westwards to Peddars Way and the Norfolk Coast Path — a key strategic recreational route running through the wider Breckland landscape. There are currently no dedicated cycle routes in the immediate vicinity, although National Cycle Network Route 13 passes through Bridgham to the south, providing a potential connection to the wider strategic network.

Figure 5.3: GBI assets in and around Roudham/Larling



Key challenges by GI theme

Table 5.2: Key challenges for GI in and around Roudham/Larling

GBI theme	Key challenges
Nature-rich Breckland	■ Proximity to Breckland Forest SSSI and SPA means any new development must carefully manage potential recreational impacts on protected bird species. ■ Adjacent designated sites (Breckland Forest SPA and SSSI) are currently in “unfavourable recovering” condition, largely due to habitat fragmentation and poor management, though initiatives such as the Thetford Open Habitat project are working to improve this. [See reference 88] ■ Ecological connectivity is limited. While the River Thet and associated grazing marshes, fens and woodland provide important links to Thetford Forest and the town, elsewhere the landscape is dominated by arable fields, improved pasture and conifer plantations, with few remaining semi-natural habitats.
Active and healthy Breckland	■ Existing areas of local open space are currently limited to small amenity spaces within existing villages – new development will need to provide significant strategic open space assets to serve a new population. ■ The PRoW network is relatively dense within both Roudham and Larling, including longer footpaths which offer connections to the wider landscape. A paved public path crosses from Roudham under the A11 to the north, forming a critical piece of the public network. However, connections to the areas of open access land to the north are weaker. ■ Upgrades to the quality of the PRoW network (including wayfinding) will be required to support new communities.

GBI theme	Key challenges
Thriving and prosperous Breckland	■ Given the scale of existing settlements, there is no significant local centre in this area. Growth will need to be accompanied by a GI-rich local centre that will allow the new community to thrive.
Understanding and managing Breckland's water environment	■ The River Thet runs along the eastern edge of the area and is classed as 'moderate' under the WFD, with elevated phosphate levels from agricultural run-off. ■ The main river corridor is relatively natural, but many tributaries running through arable land are highly channelised, particularly near Roudham. Public access to the watercourses is limited. ■ Biodiversity enhancement work is underway along the floodplain and surrounding fen habitats, including BNG initiatives at Manor Farm. [See reference 89]
Resilient and climate-positive Breckland	■ Tree cover is limited, with hedgerows and scattered conifer blocks the main features in the agricultural landscape. Grazing marsh provides additional carbon storage and could be expanded and enhanced. ■ Flooding occurs along the River Thet, but the floodplain remains largely functional with minimal hard surfacing. ■ A relatively good footpath network exists, though dedicated cycle routes are lacking.

Key multifunctional GI opportunities

- **A New Green Heart for Growing Communities:** Deliver a high-quality, multifunctional green space at the centre of new development to serve the growing population. This should provide a focus for local recreation, support health and wellbeing, and help relieve visitor pressure on nearby sensitive habitats. Key components could include:

- Community food growing areas (e.g. community gardens or allotments), conceived as public health assets by co-locating them with schools, health centres or community hubs.
- Biodiversity-rich parkland with species-rich grasslands, large trees to build future veteran tree stock, woodland and scrub blocks, and ponds or pingos, in line with LNRS priorities.
- High-quality nature-based play integrated throughout the development site(s).
- Well-designed walking and cycling routes connecting to the wider countryside, the railway station, planned LCWIP network, and Peddars Way, while avoiding sensitive habitats
- Spaces for both active exploration and quieter areas left undisturbed for wildlife, developed in consultation with Natural England, Forestry England and BTO.

■ **River Thet Blue–Green Corridor**

- Strengthen and celebrate the River Thet as a multifunctional landscape corridor.
- Enhance riparian habitats by reconnecting the river to its floodplain and expanding wetland mosaics such as wet grassland, grazing marsh, fens, ponds and pingos.
- Improve and waymark riverside footpaths to provide public access (where appropriate) between the growth area, nearby villages (East Harling, Shropham, Great Hockham), and strategic routes including Peddars Way, NCN 13 and the Norfolk Coast Path.
- Use existing PRoWs to connect to Thetford and the wider countryside, while carefully managing recreational pressure on adjacent Breckland Forest.

■ **Strengthening the Ecological Fabric**

- Create a more connected and resilient landscape by enhancing habitats around the growth area, in line with priorities set out in the Norfolk LNRS.
- Restore and expand deciduous woodland, and create grassland–scrub mosaics suited to the area’s diverse soils.
- Establish wildlife corridors through intensive farmland via field margins and strengthened hedgerow networks, including gapping up and planting in-field trees.

- Keep these wildlife corridors free from recreational access to provide undisturbed movement and refuge for species.

■ **Green Active Travel Corridors**

- Design active travel routes that double as ecological corridors.
- Align new walking and cycling routes with existing linear features such as hedgerows, treelines and woodland shelterbelts, targeting areas where these features are currently weak.
- Integrate tree and hedgerow planting, species-rich verges and berry-bearing shrubs to create structurally diverse corridors for both people and wildlife.
- Prioritise strategic connections to Peddars Way, Knettishall Heath (across the boundary), and wider LCWIP routes to strengthen settlement-to-settlement connectivity.

Key stakeholders/delivery partners

- Developers and masterplanners of key sites
- Breckland District Council
- Norfolk Rivers Trust
- Norfolk Wildlife Trust
- River Restoration Centre
- Walk Wheel Cycle Trust (formerly Sustrans)
- Environment Agency
- Natural England
- Forestry England
- British Trust for Ornithology (BTO)
- Breckland Farmers Wildlife Network (BFWN)

Growth Area 3: Swaffham

Overview of the GBI context

5.15 Landscape Setting: Swaffham is a historic market town situated on the northern fringe of the Brecks, adjacent to the A47 with an intact historic core and high street. The surrounding landscape reflects the transitional character between the dry, sandy Breckland plateau to the south and the more gently undulating arable landscapes of north-west Norfolk. Large, open arable fields dominate the setting, interspersed with shelterbelts, hedgerows and occasional woodland blocks. The Breckland Forest SPA lies within the wider landscape, contributing to the area's ecological value. To the north, the Scheduled Monument of Great Palgrave deserted medieval village forms part of the wider historic landscape.

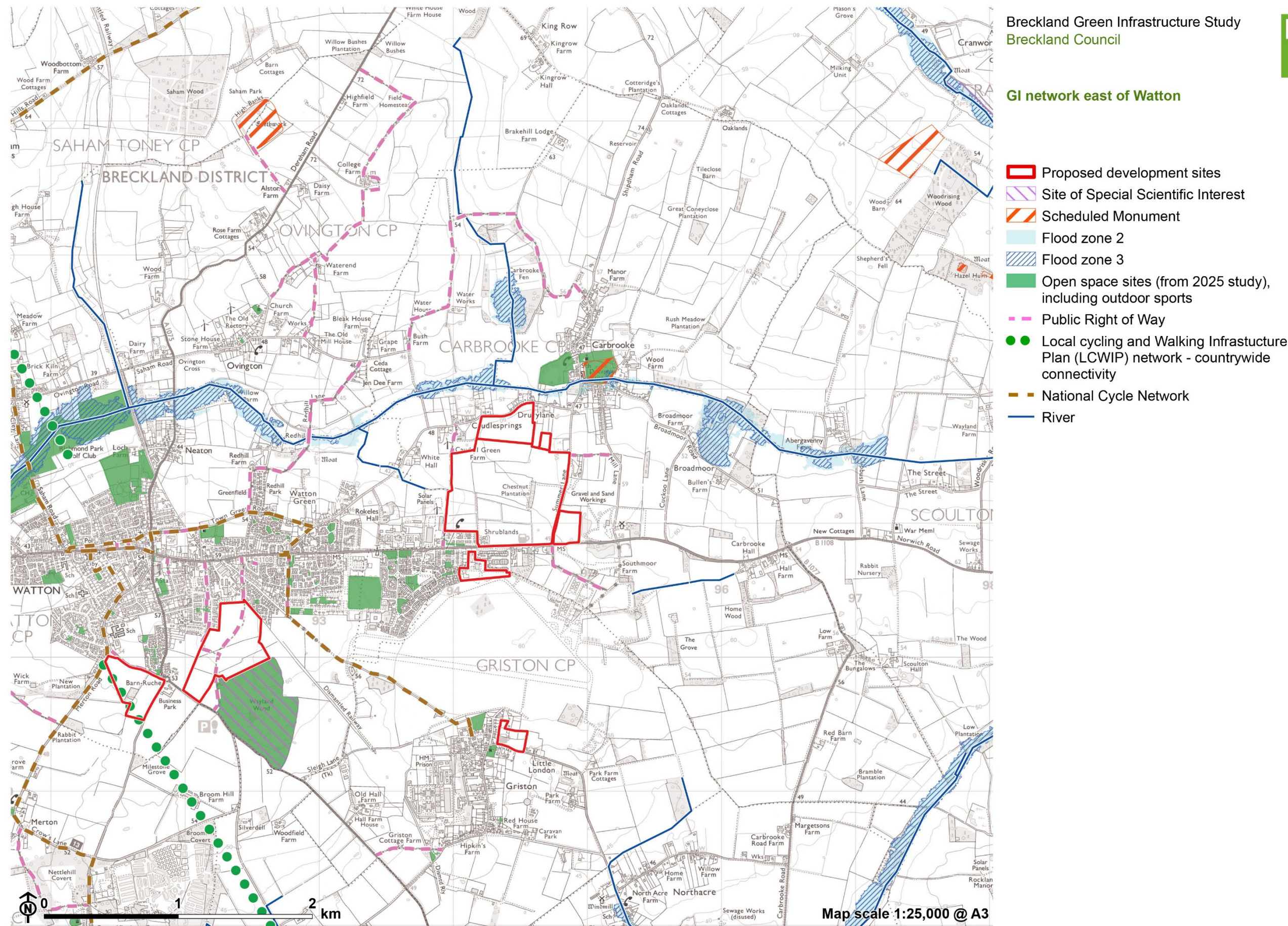
5.16 Growth and Land Use: a large strategic site allocated through the Breckland Local Plan will significantly extend the town eastwards towards the Peddars Way strategic recreational route. Additional, smaller housing sites are proposed elsewhere around the settlement, which together are likely to increase pressure on existing GI and require new provision to support the growing population.

5.17 Water Environment: There are no major watercourses within the immediate vicinity of the town. The nearest is the River Wissey to the south-east.

5.18 Green Spaces: While Swaffham lacks large-scale accessible green spaces, a number of smaller amenity areas are distributed throughout residential neighbourhoods. A small town park is located on Princes Street in the centre, and there is a publicly accessible woodland at Dulgate Lane. These spaces provide some local recreational opportunities but are limited in scale and connectivity.

5.19 Access and Connectivity: Swaffham benefits from a strong Public Rights of Way (PRoW) network, with numerous footpaths radiating out into the surrounding countryside. The town is well served by bridleways and sits at the nexus of several strategic recreational routes, including the long-distance Peddars Way and Norfolk Coast Path, the Rebellion Way cycle route and a potential new route along the former Swaffham-Watton railway line. These provide opportunities to create a recreational 'hub' in Swaffham, to enhance GI links and to connect the town to wider key heritage and landscape assets such as the Great Palgrave site in the wider landscape.

Figure 5.4: GBI assets in and around Swaffham



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GI network east of Watton

Key challenges by GI theme

Table 5.3: Key challenges for GI in and around Swaffham

GBI theme	Key challenges
Nature-rich Breckland	■ Priority habitats are limited to small areas of remnant deciduous woodland and traditional orchard. ■ Habitat connectivity is poor due to intensive agriculture, loss of grassland mosaics, and widespread arable land interspersed with low-diversity conifer plantations. ■ Within the urban area, green space is mostly small-scale amenity areas, churchyards and play spaces, with very limited semi-natural habitats.
Active and healthy Breckland	■ In the west of the settlement, the data highlights an overlap between areas of open space deficits and areas of relative socio-economic deprivation (Natural England data). ■ There is minimal existing accessible open space provided to the east of the settlement and any new growth will need to provide strategic-scale open space to absorb demand. The Natural England ANGst profile for Swaffham also highlights a lack of strategic-scale open space to the east of the settlement in the wider landscape. ■ The PRoW network is strong within and surrounding the settlement. However, there are opportunities to increase connections between towns, including improved links to a dismantled railway which extends from Swaffham towards the market town of Watton. ■ The population within Swaffham is ageing, (over 33% over the age of 65), above the District and national average. This emphasises the importance of accessible, 'doorstep' green space.

GBI theme	Key challenges
	■ The Breckland LCWIP seeks to improve walking/cycling connectivity between Swaffham and surrounding settlements including Dereham and Watton.
Thriving and prosperous Breckland	■ There is clear potential to enhance central Swaffham through increased urban greening - including tree canopy cover, pocket parks and improved public realm - supporting regeneration efforts around the historic market area led by the Town Council and encouraging footfall and dwell time. ■ While Swaffham now meets air quality standards, the A1065 has historically contributed to pollution in the town centre, prompting a focus on tree planting within the urban core to improve air quality and the local environment.
Understanding and managing Breckland's water environment	■ There are very limited flood risks in the area, owing to the absence of water features or watercourses. However, any increase in development must ensure that surface water flood risk is managed effectively, using nature-based solutions such as SuDS as a priority.
Resilient and climate-positive Breckland	■ Areas to the north and west of Swaffham are identified as hotspots of socio-spatial vulnerability to extreme heat. ■ Tree cover in the town is largely limited to street trees and garden vegetation, with few dense canopy areas. The surrounding landscape is dominated by arable fields with scattered hedgerows and small woodland blocks, while conifer plantations in Breckland Forest to the south-west provide the nearest significant carbon store.

Key multifunctional GI opportunities

■ Greening the Historic Market Heart

- Use GI features and urban greening to support ongoing local efforts to regenerate the central market area to create a more welcoming, climate-resilient and accessible space in the heart of the town.
- Reconfigure parking to prioritise spaces for those with mobility needs, freeing up space for permeable paving, street trees, seating and SuDS features.
- Enhance the wider Conservation Area with targeted urban greening to create attractive settings for the town's historic environment, supporting regeneration and boosting footfall.

■ **Strategic Green Space for a Growing Community**

- Address the current deficit of accessible natural green space to the east of the town by delivering a flagship new large-scale green space as part of the Swaffham Sustainable Urban Extension (SUE) to serve both existing and new communities.
- Retain and strengthen existing mature trees, hedgerows and treelines within the site to structure the park and enhance ecological connectivity.
- Incorporate species-rich grasslands, hedgerows, ponds and veteran trees to provide high biodiversity value, alongside areas for recreation and quiet enjoyment.
- Connect the new green space into the wider network via PRowWs, Peddars Way and the Norfolk Coast Path to make it a gateway destination for both residents and visitors.
- Incorporate a nature-based play strategy into green space design.
- Incorporate food growing space with a public health focus (through community gardens, potentially co-located with GP surgeries, health centres or schools),

■ **Rebellion Way Green Corridor**

- Use the Rebellion Way (a circular cycle route celebrating Norfolk's historic landscapes and linking key towns) as a spine for GBI enhancements through central Swaffham.
- Integrate linear greening features such as trees, species-rich verges and pollinator planting along the route through the town.
- Create nature-rich pocket parks with expanded canopy cover, seating and cycle parking to encourage stops and increase footfall in the town centre.

- Position Swaffham as a key stop on the route, supporting the local visitor economy while improving the everyday environment for residents.

■ **Crab and Winkle Greenway**

- In line with ongoing local efforts, reimagine the former Crab and Winkle railway line (Swaffham–Watton branch) as a multifunctional green corridor, creating a distinctive active travel route that celebrates local heritage while strengthening ecological and recreational connections.
- Create a well-designed trailhead at the Swaffham end, close to the former station site on the south-eastern edge of town. This should include public realm improvements, cycle parking, seating and signage.
- Establish strong walking and cycling links from the trailhead into the town centre and to other strategic routes including the Rebellion Way and Peddars Way, supported by clear wayfinding to encourage use by residents and visitors. Align delivery with priorities in the Breckland LCWIP to support everyday travel as well as recreation.
- Integrate habitat creation along the corridor through hedgerow and tree planting, species-rich verges and pollinator strips, enhancing ecological connectivity across intensively farmed landscapes.
- Draw on the historic identity of the Crab and Winkle Line to create a place-based route with interpretation features, linking to local heritage and visitor economy initiatives.

■ **Strengthening the Landscape Fabric**

- Enhance habitats and create wildlife corridors in the more intensively farmed land to the south and west of Swaffham, where tree cover and hedgerow networks are sparse.
- Focus on hedgerow strengthening through gapping up and planting additional native species, adding in-field trees, and creating arable field margins and pollinator strips.
- Restore or enhance woodland blocks and create grassland–scrub mosaics to improve ecological connectivity between the town, the new SUE and the surrounding countryside. All in line with priorities set out in the Norfolk LNRS.
- These enhancements will also support carbon sequestration and climate resilience.

Key stakeholders/delivery partners

- Breckland District Council
- Developers and masterplanners of new SUE.
- Breckland Farmers Wildlife Network (BFWN)
- Walk Wheel Cycle Trust (formerly Sustrans)
- Swaffham Town Council
- Railway Ramblers

Growth Area 4: Swanton Morley

Overview of the GI context

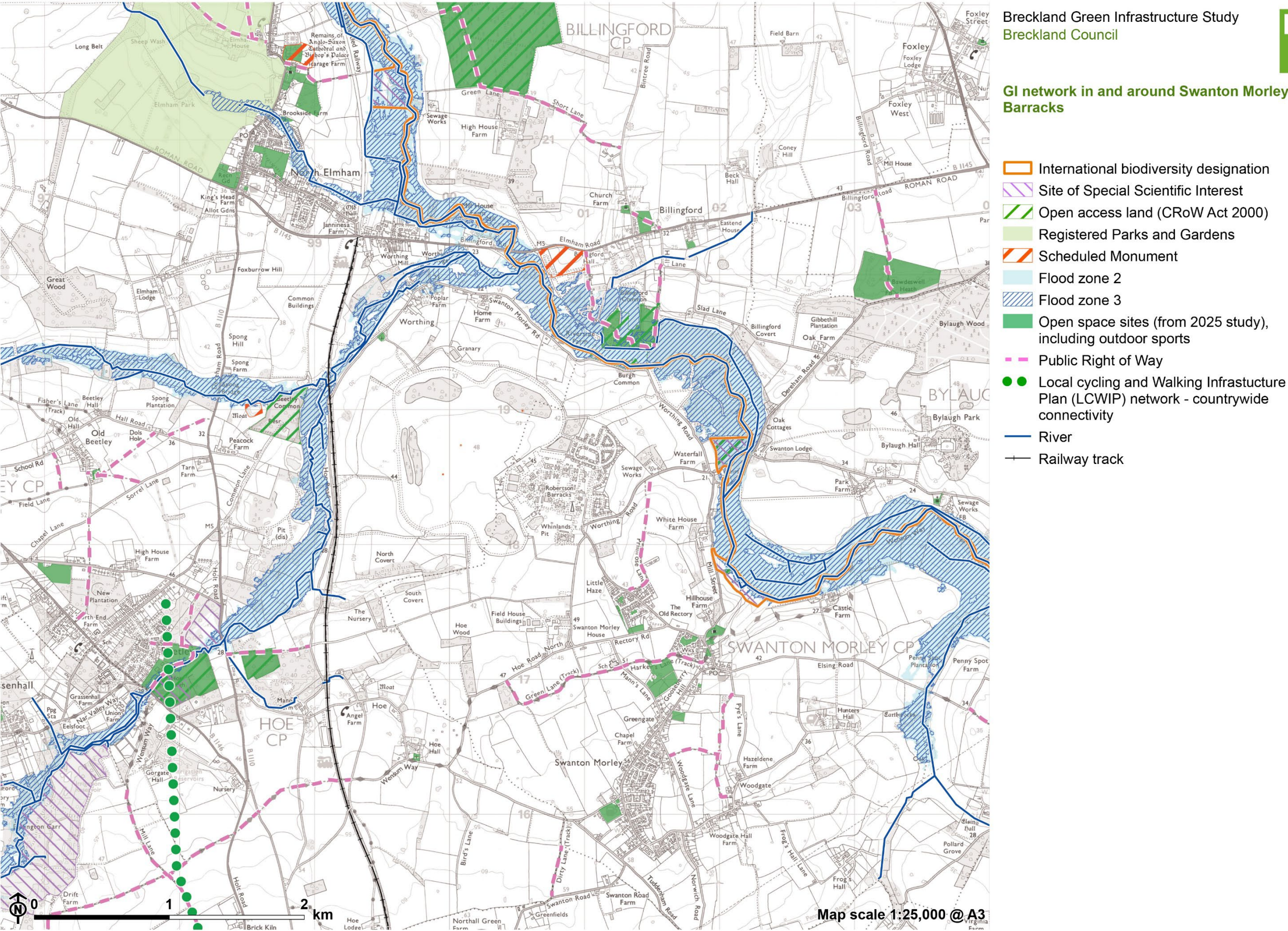
5.20 Landscape Setting: Swanton Morley is a village located in the north-east of Breckland District, just north of Dereham. It sits on a gently elevated plateau within the northern fringe of the Breckland National Character Area, overlooking the River Wensum valley, which wraps around the settlement to the north-east, north and west. This landscape is defined by open arable fields on higher ground, transitioning to riverine grazing marsh, fen and wet woodland along the Wensum corridor below. The wider river valley supports both rich ecological habitats and significant heritage assets, including the Scheduled Monument of the Roman settlement near Billingford Hall, located to the north along the Wensum corridor. Together, these features contribute to the area's strong sense of rural landscape character.

5.21 Water Environment and Habitats: The River Wensum, a chalk river of national importance, and its network of tributaries encircle the settlement in a 'horseshoe' pattern. This creates an extensive corridor of priority habitats, including grazing marsh and fen. To the west of the former Robertson Barracks, the Wendling Beck restoration project represents one of the most prominent habitat restoration and nature recovery initiatives in the district, aiming to restore riverine habitats, improve water quality, and enhance biodiversity at the landscape scale.

5.22 Access to the natural environment: Despite the settlement's close proximity to this rich riverine landscape, there are few publicly accessible green spaces within or adjoining the village itself, and no continuous footpath links extending northwards towards the river corridor. The Public Rights of Way (PRoW) network is fragmented, offering only limited connections from the settlement out into the surrounding countryside. However, the Wensum Way long-distance trail runs east - west through the area, providing a key strategic recreational route that connects to wider landscapes.

5.23 Growth and Land Use: Future growth through the Local Plan is focused around the former Robertson Barracks. This area presents opportunities to strengthen connections between the settlement, the restored habitats at Wendling Beck, and the surrounding countryside through high-quality GBI.

Figure 5.5: GBI assets in and around Swanton Morley



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GI network in and around Swanton Morley
Barracks

- International biodiversity designation
- Site of Special Scientific Interest
- Open access land (CRoW Act 2000)
- Registered Parks and Gardens
- Scheduled Monument
- Flood zone 2
- Flood zone 3
- Open space sites (from 2025 study), including outdoor sports
- Public Right of Way
- Local cycling and Walking Infrastructure Plan (LCWIP) network - countryside connectivity
- River
- Railway track

Key challenges by GI theme

Table 5.4: Key challenges for GI in and around Swanton Morley

GBI theme	Key challenges
Nature-rich Breckland	■ Designated sites near Swanton Morley and the former Robertson Barracks are concentrated within the River Wensum corridor. The river is both an SAC and SSSI and is currently in “unfavourable” condition, with several additional fen-related designations along its course. ■ Beyond the river corridor, habitat is very limited and fragmented, with large arable fields dominating the landscape and restricting ecological connectivity.
Active and healthy Breckland	■ The PRow network within the settlement is relatively limited, although existing footpaths are well-located for convenience between different parts of the settlement. The main long-distance trail is the Wensum Way, which offers connections east-west through the settlement. However, there are very limited connections north-south. ■ Given the sparsely settled nature of the area, there is no existing amenity open space, other than within the village of Swanton Morley. However, there are a number of areas of designated open access land along the Wensum corridor – including Billingford Common.
Thriving and prosperous Breckland	■ There is no significant local centre in this growth area, which is slightly isolated from services in Swanton Morley village. Growth will need to be accompanied by a GBI-rich local centre that will allow the new community to thrive. ■ Swanton Morley is not currently a major visitor destination within the wider District, but has strong links with Dereham and Norwich. However, the setting of the village, offers wide-ranging views and

GBI theme	Key challenges
	the Wensum Way offers a potential spine for local tourism infrastructure, given appropriate investment.
Understanding and managing Breckland's water environment	■ The River Wensum and its tributaries, Black Water and Wendling Beck, are in varying ecological condition. Black Water is classed as poor under the WFD due to invasive species and agricultural run-off, while the Wensum and Wendling Beck are in moderate condition, affected by multiple pollution sources. ■ The watercourses are largely naturalised, with extensive riparian priority habitats and limited channelisation. However, public access is restricted, with only a few areas of open access land along the corridor. ■ The elevated nature of the area means that there is a sense of disconnection from the River Wensum currently.
Resilient and climate-positive Breckland	■ The surrounding arable landscape, with scattered hedgerows, offers scope to increase carbon sequestration through habitat creation and tree planting. ■ There are no designated cycle routes, though quiet lanes provide potential links through the wider countryside. ■ The settlement's elevated position and permeable surfaces mean flood risk is generally low.

Key multifunctional GI opportunities

■ Strategic Green Space at the Heart of the New Community

- Deliver a flagship, multifunctional green space as a core structuring element of the new development.
- Provide accessible recreational space to serve new residents, integrating nature-based play, community food growing, and informal recreation as key health and wellbeing assets.

- Incorporate species-rich grasslands, tree planting and habitat features to support biodiversity and ecological connectivity with the surrounding landscape.
- Design the space to relieve recreational pressure on sensitive habitats in the nearby River Wensum corridor by offering high-quality alternatives close to where people live.
- Embed this green space within a clear GBI framework that shapes the layout of development from the outset.

■ **Green Active Travel Links to Swanton Morley Village**

- Create a safe, attractive walking and cycling connection between the new community and Swanton Morley village.
- Provide a green corridor that links residents to village services, schools and community facilities, helping to integrate the new development and avoid isolation.
- Use tree and hedgerow planting, species-rich verges and strong wayfinding to establish this as both a movement route and an ecological corridor.
- Where possible, connect to existing quiet lanes and the wider strategic network, including the Wensum Way.

■ **River Wensum and Billingford Common Corridor**

- Enhance and celebrate the River Wensum corridor, Billingford Common, and the Scheduled Monument of the Roman settlement near Billingford Hall as a combined landscape, ecological and heritage asset.
- Protect and enhance riparian habitats and fenland through careful access design, targeted habitat restoration, and integration with the Wendling Beck restoration project to the west.
- Explore opportunities for sensitively designed access and interpretation around Billingford Common and the Roman settlement site, strengthening its role as a focal point in the wider GBI network.
- Improve ecological connectivity between the growth area and the river corridor through new woodland, hedgerows and habitat mosaics.

■ **Woodland Walk and Landscape Integration**

- Retain and enhance existing woodland blocks and treelines within and around the former barracks site to form the backbone of a 'woodland walk' network.

- Create circular walking routes through retained woodlands to provide attractive local recreation spaces, helping to absorb visitor pressure that might otherwise fall on sensitive habitats.
- Integrate these woodland features into the GBI framework of the new development, using them to structure streets, open spaces and drainage corridors.
- **Carbon Sequestration and Landscape Enhancement**
 - Use the surrounding arable and hedgerow landscape to boost carbon sequestration and climate resilience.
 - Establish new hedgerows, in-field trees and species-rich field margins to strengthen ecological networks and capture carbon.

Key stakeholders/delivery partners

- Developers and masterplanners of key sites
- Natural Environment Investment Readiness Fund (NEIRF)
- Wendling Beck Alliance (WBA)
- Farmers/landowners (including Breckland Farmers Wildlife Network)
- Environment Agency
- Breckland Council
- Walk Wheel Cycle Trust (formerly Sustrans)

Growth Area 5: Watton

Overview of the GI context

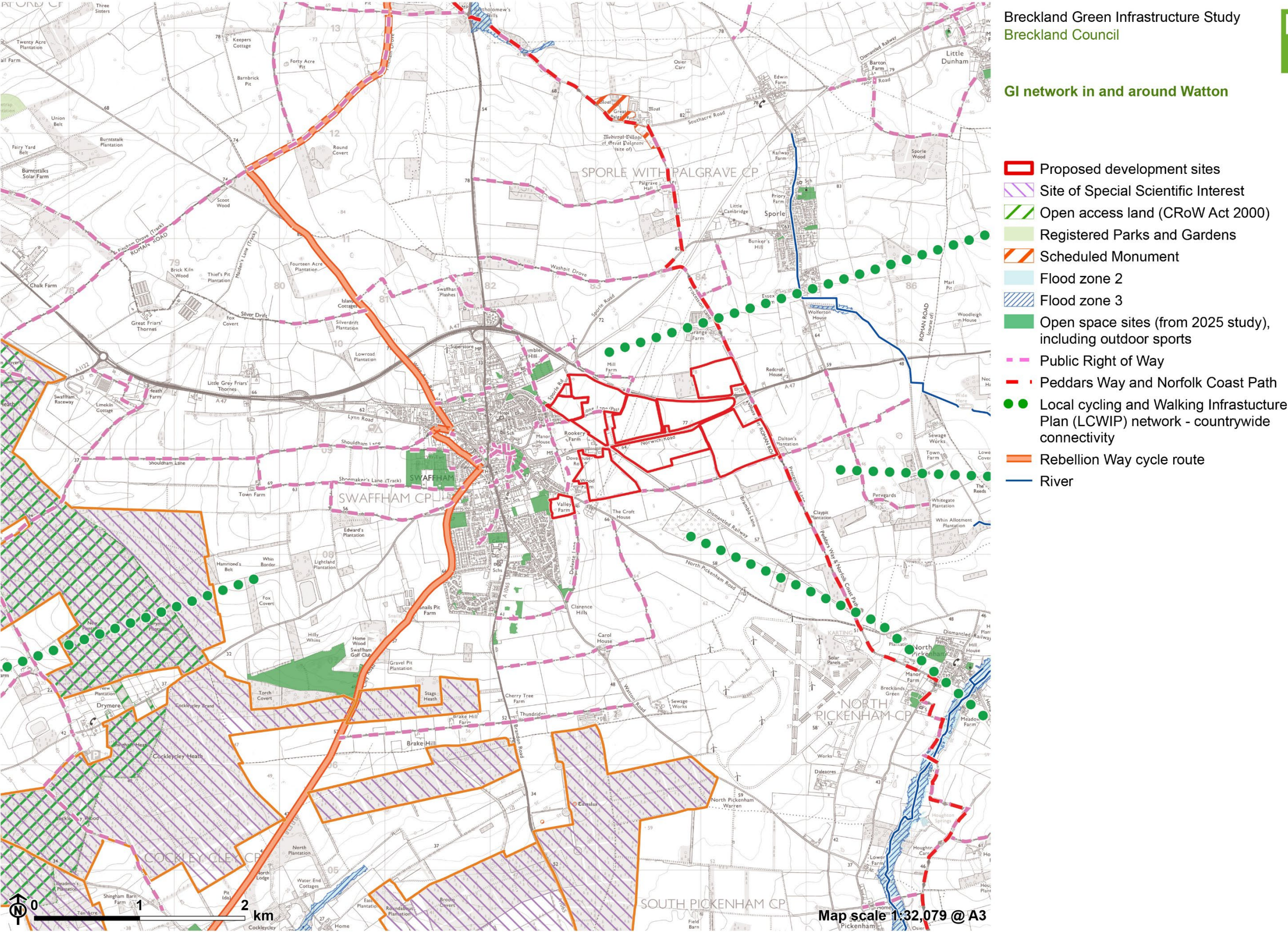
5.24 Landscape Setting: Watton is located near the geographical centre of Breckland District, forming a roughly linear settlement along the historic high street. It sits within the gently undulating Breckland National Character Area, surrounded by a predominantly arable landscape punctuated by hedgerows, small woodland blocks, and scattered farmsteads. The wider landscape also contains several Scheduled Monuments, including the Roman settlement at Woodcock Hall to the west and High Banks to the north, which together reflect the area's long history of settlement and land use. To the north, Watton Brook flows towards the River Wissey, creating a tranquil tributary valley that frames the settlement

5.25 Ecological Assets: Watton sits within a rich ecological landscape. Saham Mere, a significant wetland and wildlife site to the north-west, and Wayland Wood to the south (an ancient woodland) provide important habitats and valued recreational destinations. The nearby Breckland SPA and surrounding SSSI landscapes to the south and south-west support internationally important bird species and heathland mosaics, underlining the ecological sensitivity of the wider area. Deciduous woodland is the most extensive priority habitat locally, with floodplain grazing marsh and lowland fen also present.

5.26 Access to nature and open space: Within the settlement, smaller amenity green spaces, sports pitches and Richmond Park Golf Club (private access other than PRow) contribute to the local green space network. Watton benefits from good strategic connectivity – via NCN Route 13 and the presence of the Peddars Way and Norfolk Coast Path along the western edge. These, along with the dismantled railway line to Swaffham, offer opportunities to link the town to the wider countryside and long-distance recreational routes. The PRow network is well developed around the town centre and western edge, though connections are more fragmented to the north-west and east. The Stanford Training Area to the south-west acts as a major barrier to access assets in that direction.

5.27 Growth and landuse: Planned growth includes a large strategic site alongside several smaller housing allocations, mainly clustered to the south near Wayland Wood. Future development will need to integrate closely with the settlement's existing ecological assets and GBI network, protecting sensitive habitats and strengthening connections to the surrounding landscape.

Figure 5.6: GBI assets in and around Watton



Key challenges by GI theme

Table 5.5: Key challenges for GI in and around Watton

GBI theme	Key challenges
Nature-rich Breckland	■ The growth area lies within 1.5 km of Breckland Forest SPA, so new development must consider potential recreational impacts on protected bird species. ■ Nearby designated sites include Breckland Forest SSSI and Scoulton Mere SSSI (both in “unfavourable – recovering” condition), and Breckland Farmland SSSI, which is in “unfavourable – declining” condition due to agricultural pressures. ■ Habitat connectivity is limited, relying mainly on hedgerows, treelines and woodland shelterbelts within an otherwise intensive arable landscape.
Active and healthy Breckland	■ There is a clear deficit of larger accessible green spaces, with provision limited to scattered amenity areas (given that Wayland Wood is ecologically sensitive and the golf course is not publicly accessible). ■ This deficit overlaps with areas of higher socio-economic deprivation in the town centre, highlighting the need for well-located, inclusive green spaces. ■ Breckland’s open space study identifies a gap in provision around the strategic site between Watton and Carbrooke, emphasising the importance of delivering significant new open space as part of development. ■ The PRoW network is fragmented at the eastern and western edges, with limited links to the wider countryside, though the Peddars Way provides some strategic connectivity. ■ Planned LCWIP routes aim to improve links south to Thetford and north to Swaffham.

GBI theme	Key challenges
	■ An ageing population reinforces the need for accessible, 'doorstep' nature and green spaces for everyday use.
Thriving and prosperous Breckland	■ The town centre and high street have very limited urban greening, with few features beyond planters, creating a hard townscape. There is potential to support local businesses by combining GI with planned walking and cycling improvements, including within the designated LCWIP walking zone. ■ As one of Breckland's five market towns, Watton attracts visitors from surrounding villages, but the high street requires investment and regeneration. Green spaces, seating and planting are limited, and vacancy rates are higher than in other market towns, as noted in the 2022 Town Delivery Plan. ■ Although Peddars Way and NCN Route 13 pass close to the town, signage and supporting infrastructure to draw visitors into the centre is currently weak.
Understanding and managing Breckland's water environment	■ Watton Brook has moderate water quality under the WFD, affected mainly by phosphorus from livestock. While there is some riparian vegetation, buffers are often narrow and fragmented. ■ Public access to Watton brook is limited, though there are wide views across the tributary valley from within the settlement. ■ Water scarcity across Breckland is placing pressure on the Wissey catchment and tributaries within it, affecting both water quality and ecological health.
Resilient and climate-positive Breckland	■ Central Watton, particularly along the high street, is identified as a heat vulnerability hotspot, highlighting the need for nature-based cooling solutions. ■ Tree cover in the urban core is limited, especially along the high street. While small woodland blocks

GBI theme	Key challenges
	exist on the settlement edge, the surrounding arable landscape offers good opportunities for additional tree planting and carbon sequestration. ■ Urban greening along NCN Route 13 would strengthen its role as an attractive active travel corridor. ■ Flood risk is generally low due to the town's slightly elevated position, though there are marginally higher risks near Watton Brook at the eastern and western edges.

Key multifunctional GI opportunities

- **A Strategic Green Heart for the Watton SUE:** Create a flagship green space as part of the Watton SUE to serve both new and existing communities. This space would address identified open space deficits and should support local recreation, nature-based play, and community food growing as health and wellbeing assets, while relieving visitor pressure on sensitive habitats such as Wayland Wood and the Breckland SPA.
 - Design should build on existing deciduous woodland priority habitats, creating a connected woodland corridor or 'woodland walk' as part of the development layout.
 - Access and wayfinding should be carefully planned to ensure visitors are directed towards appropriate greenspaces and routes, rather than sensitive habitats.
 - Ecological features could include wetlands, ponds and riparian habitats, enhancing connectivity with Watton Brook and contributing to flood storage, biodiversity and amenity value.
 - The spatial framework should be informed by consultation with Natural England, Forestry England, BTO, and the Norfolk LNRS, to maximise ecological and community benefit.
- **Watton Brook and Tributary Valley Restoration**
 - Enhance the Watton Brook corridor to increase flood water storage, reduce pollutant run-off, and strengthen ecological connectivity.

- Opportunities include riparian buffer planting, wetland creation, and river corridor restoration at the eastern and western settlement edges where the brook flows close to development.
- Improved access and interpretation could be sensitively incorporated, including around the Woodcock Hall Scheduled Monument to the west, to celebrate the area's historic landscape.

■ **Loch Neaton: A Flagship Trailhead and Community Destination**

- Loch Neaton should be enhanced as a key recreational, ecological and active travel hub for Watton, building on ongoing accessibility improvements funded through the Future Breckland programme.
- Improvements could include wayfinding, interpretation, visitor facilities (e.g. seating, toilets, café), and habitat enhancements around the waterbody.
- As the proposed southern trailhead for the “Crab and Winkle” Greenway, Loch Neaton can become a flagship GBI asset, connecting the town to Swaffham via a nature-rich walking and cycling route along the dismantled railway.
- New greenway connections should also link Loch Neaton to the town centre and residential areas through clearly signed, accessible walking and cycling routes.

■ **Strengthening Active Travel and Green Corridors**

- Deliver linear GBI features (e.g. tree planting, biodiverse verges, SuDS swales) alongside new walking and cycling routes identified in the LCWIP, improving comfort, shading and ecological value.
- Explore longer-term opportunities to extend the “Crab and Winkle” route south towards Griston and Thetford, potentially linking to the Pingo Trail, recognising this will require careful feasibility work due to route fragmentation.
- Improve signage and supporting infrastructure for both NCN Route 13 and the Peddars Way, guiding users into the town centre and providing bike storage, seating and water refill points. Signage on NCN Route 13 north of Watton could direct visitors to High Banks Scheduled Monument, helping to interpret the wider historic landscape.

■ **Greening the Town Centre**

- Introduce pocket parks and green spaces along the high street and within the town centre, integrating planting, seating and SuDS features to soften the hard urban environment, support active travel, and boost

footfall for local businesses. In line with priorities set out in the Watton Town Delivery Plan.

- Target areas identified in the LCWIP walking zone, using urban greening to enhance accessibility and the quality of the public realm.

■ **Protecting Sensitive Habitats**

- Buffer and protect Wayland Wood and other sensitive habitats from recreational pressures associated with population growth.
- Use thoughtful wayfinding, landscape buffers and habitat management measures - aligned with LNRS priorities for this location - to maintain ecological integrity while accommodating growth.

Key stakeholders/delivery partners

- Developers and masterplanners of key sites
- Norfolk Wildlife Trust
- Walk Wheel Cycle Trust (formerly Sustrans)
- Watton Town Council
- Breckland Council
- Developers and masterplanners of key sites

Growth Area 6: East Tuddenham / Hockering

Overview of the GI context

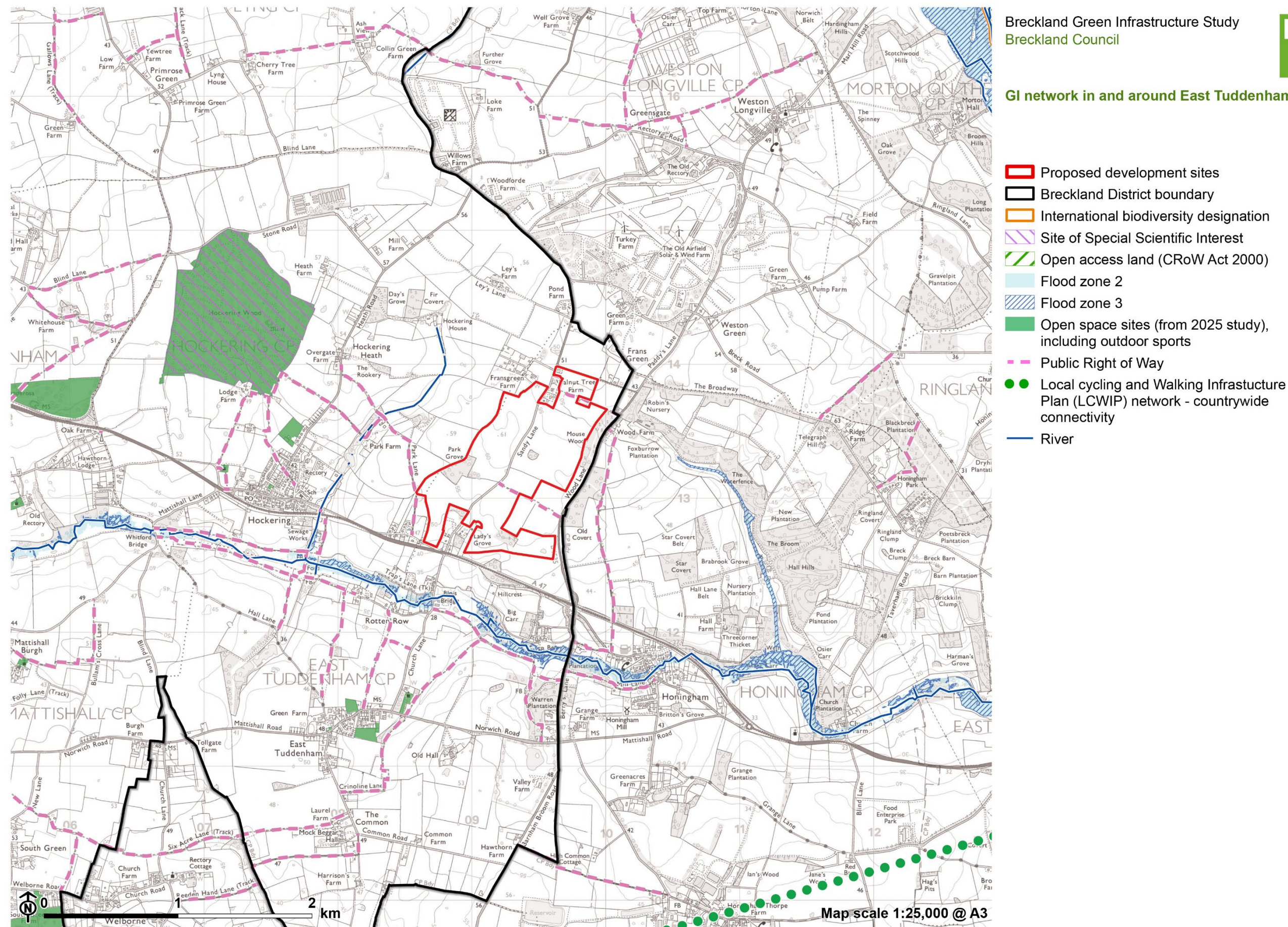
5.28 Landscape Setting: East Tuddenham and Hockering are two villages located on the north-eastern edge of Breckland District, straddling the A47 and sitting along the River Tud valley (a tributary of the Wensum). The 'land at Frans Green', to the east of Hockering, lies within a gently undulating rural landscape close to the district boundary with Broadland. The area is well connected to Norwich via the A47 corridor, which runs east - west through the landscape. The surrounding countryside is characterised by a mix of arable fields, hedgerows, wooded tributary corridors and grazing marsh along the river valley floor, creating a landscape with a strong rural structure and visible ecological networks.

5.29 Cross-boundary GBI: Across the border with Broadland District Council, there are significant areas of linear and block woodlands reaching east toward Norwich and associated with tributaries of the River Tud. These contain some ancient woodland.

5.30 Ecological Assets: The River Tud and its numerous tributaries form the backbone of the local ecological network here, which crosses east into Broadland. There are wooded stream corridors running north - south through the area and draining into the main valley. Along the river itself, there are extensive areas of grazing marsh, fenland, semi-improved grassland and deciduous woodland, which together create a diverse habitat mosaic. To the north-west of Hockering, Hockering Wood SSSI and ancient woodland provide an important ecological anchor, though there are few other designated sites in the immediate vicinity of the growth site.

5.31 Access and Connectivity: The Public Rights of Way (PRoW) network within the Tud valley is relatively strong, offering good connections between East Tuddenham and Hockering. However, connections to the Frans Green site itself are more limited, particularly to the east. The river valley landscape provides opportunities to strengthen green access links through woodland, grassland and riparian corridors, potentially connecting into existing local networks and nearby villages.

Figure 5.7: GBI assets in and around East Tuddenham / Hockering



Key challenges by GI theme

Table 5.6: Key challenges for GI in and around East Hockering and Tuddenham

GBI theme	Key challenges
Nature-rich Breckland	■ Hockering Wood SSSI, an area of ancient woodland to the north-west of Hockering, is in unfavourable–recovering condition. A narrow strip of ancient woodland also lies to the east of the Frans Green site along Wood Lane. ■ The River Tud corridor supports a network of deciduous woodland, floodplain marsh, lowland fen and semi-improved grassland along its tributaries. Beyond these corridors, habitats are more fragmented, with gaps between woodland blocks and other priority habitats.
Active and healthy Breckland	■ Accessible green space is currently limited, with no dedicated recreational areas along the River Tud. Hockering Wood offers some public access at set times, and riverside footpaths provide limited opportunities for informal recreation. ■ The PRoW network is relatively strong within the Tud valley and links to Hockering and East Tuddenham, but there are few longer routes connecting to larger settlements such as Norwich or Dereham. There are no dedicated cycle routes or long-distance trails, though quiet local roads offer some potential connections.
Thriving and prosperous Breckland	■ Given the sparsely settled nature of the area, there is currently no local centre to serve the Frans Green site. Growth will need to be accompanied by a GBI-rich local centre that will allow the new community to thrive. ■ Within Hockering village, the public realm is currently fairly basic and car-dominated, with some grass verges but no high quality multifunctional GBI

GBI theme	Key challenges
	asst and limited canopy cover (most greenery comes from private gardens).
Understanding and managing Breckland's water environment	■ The River Tud is classed as 'moderate' under the WFD, affected by diffuse pollution from sewage and agricultural run-off. Riparian buffers are inconsistent, with some fields abutting the channel, and sections are highly channelised with steep banks.
Resilient and climate-positive Breckland	■ Tree and hedgerow networks are fragmented in places, including along watercourses, and gaps in fen and grassland habitats limit carbon sequestration and riparian buffering potential. ■ There are few non-vehicular travel options to larger employment centres in the wider area. ■ Surface flood risk is limited, but fluvial flooding poses a risk along the eastern edge of Hockering and near the River Tud, though development within the floodplain is minimal.

Key multifunctional GI opportunities

- **A Strategic Green Heart at Frans Green:** Create a flagship multifunctional green space within the Frans Green site to serve both new and existing communities. This space should:
 - Integrate food growing, nature-based play, and species-rich grassland creation to support health, wellbeing and biodiversity. Explore opportunities to locate GBI assets such as community gardens alongside any newly delivered schools, GP surgeries or health centres.
 - Extend and connect existing deciduous woodland habitats within and around the site, using new woodland planting and species-rich grassland corridors to stitch together fragmented habitats. All in line with the priorities set out in the Norfolk LNRS.
 - New woodlands within the development should apply urban forest and pocket park principles, linking with community orchards and gardens via wayfinding to create a rich sequence of green spaces.

- Deliver a high-quality walking and cycling route linking the site to Hockering village and any other key services or destinations locally, while also strengthening GBI connections eastward into the adjacent landscapes of Broadland District, upgrading existing PRoWs where possible to create a coherent green access network.

■ **Buffering and Enhancing Woodland Habitats**

- Buffer and protect ancient and deciduous woodlands, particularly along the eastern edge of the site at Frans Green, through new woodland planting with understorey and edge habitats.
- This will help reduce recreational pressures (e.g. trampling, disturbance to bats, badgers and birds) and enhance ecological connectivity.

■ **River Tud Corridor Restoration**

- Undertake river corridor restoration measures along the River Tud to widen and naturalise the floodplain, introduce meanders where feasible, and strengthen riparian vegetation.
- This should be combined with the re-introduction of lowland meadow and fen habitats, increasing flood storage capacity and habitat connectivity along the river corridor.
- Opportunities exist to align this work with cross-boundary ecological networks into Broadland District, in line with the priorities set out in the Norfolk LNRS.

■ **Village-scale Greening in Hockering**

- Create small-scale green spaces within and around Hockering village, integrating seating, shelters, biodiverse planting and ponds where feasible.
- These spaces would provide accessible gathering places for residents while adding stepping stone habitats between the floodplain and other wetland features.

■ **Enhancing the Wider Agricultural Landscape**

- Introduce arable field margins with mixed scrub, wildflower and neutral grassland around the settlement.
- These margins would reduce agricultural run-off, enhance biodiversity, and provide dispersal and foraging habitat, while improving the visual character of the surrounding landscape.

Key stakeholders/delivery partners

- Developers and masterplanners of key sites
- Breckland District Council
- Broadland District Council
- Brecks Fen Edge and Rivers Landscape Partnership Scheme (BFER)
- Norfolk Rivers Trust
- Walk Wheel Cycle Trust (formerly Sustrans)
- Local parish councils

Chapter 6

Delivering GI through (and beyond) Breckland's Local Plan

Embedding GBI in Breckland's Local Plan

6.1 Natural England's Green Infrastructure Process Journey for Local Planning Authorities [\[See reference 90\]](#) sets out a six-stage approach to help councils strategically plan, embed, and deliver high-quality GBI. It supports integration into Local Plans and wider strategies by guiding authorities through:

- Stage 1: Strategic Context and Vision– aligning GBI with national and local priorities.
- Stage 2: Evidence and Mapping – using Natural England's tools to assess provision and need.
- Stage 3: Policy Development – creating strong, standards-based policies.
- Stage 4: Stakeholder Engagement and Partnerships – working with partners and communities.
- Stage 5: Implementation and Delivery Planning – identifying funding and stewardship models.
- Stage 6: Monitoring and Stewardship – setting measurable targets and ensuring long-term care.

6.2 Breckland's new Local Plan will include an updated strategic GBI policy, based on the findings of this study – recommended policy wording has been provided to the Council on the basis of this work. However, beyond the strategic policy itself, the following should also be key considerations:

1. GBI-linked vision and objectives

6.3 GBI should be integrated into the Local Plan's vision and strategic objectives, making it a core part of sustainable place-making rather than an environmental afterthought. This aligns with national policy priorities, signals to

developers that GBI is a strategic concern, and encourages early consideration in design. It also strengthens policy coherence and helps unlock investment.

2. 'Mainstreaming' GBI through the plan

6.4 GBI must be embedded across the Local Plan, not confined to a single strategic policy. Natural England advises LPAs to integrate GBI in all relevant policies and site allocations. This avoids sidelining GBI and ensures it links to other agendas such as health and the economy. References to GBI should be woven throughout the Plan to ensure it informs decisions consistently.

3. Site-specific policies

6.5 All site-specific allocation policies should require GBI to be integral from the earliest design stages. Proposals must protect and enhance existing GBI while creating multifunctional spaces that address the GBI study's themes. Allocation policies should draw on the growth location "fast-fact" profiles provided within this study to respond to local challenges and opportunities, using these to guide site design and support positive placemaking.

4. Alignment with Local Nature Recovery Strategy (LNRS)

6.6 The Norfolk LNRS (in draft at time of publishing) will map priorities for nature recovery and environmental enhancement. Once finalised, developers will need to consult it alongside this GBI Study to ensure spatial priorities are addressed. Local Plan policy should clearly set out how the LNRS and GBI Study work together to guide development, support nature recovery, and deliver environmental benefits through planning.

5. Exploring GBI standards

6.7 Natural England's Headline GBI standards provide benchmarks for delivering multifunctional GBI. Including them in the Local Plan would offer clarity, support early integration, and enable monitoring. Risks include reduced design flexibility, increased costs, and challenges around evidence and enforcement. Standards could be applied District-wide or to major developments to strengthen delivery.

6. Upskilling

6.8 Awareness of GBI planning can be low among Development Management planners. Once the new Local Plan and GBI Study are in place, targeted training will be essential. This should build understanding of GBI's benefits, Natural England's Framework, and how to apply local policy in practice. Training will support early engagement with developers and help secure high-quality GBI outcomes.

Delivering off-site GBI in Breckland

6.9 Beyond securing high quality GBI within new development sites, delivery of off-site GBI will be essential in order to build a robust strategic GBI network in Breckland that responds to all the challenges and opportunities set out in this study. Broadly, the following mechanisms are available for securing off-site GBI through the planning system:

Table 6.1: Summary of off-site delivery options for GBI in Breckland

Mechanism	Overview	Opportunities	Challenges
Section 106 agreements	Legal agreements attached to planning permissions securing developer contributions or works	Can secure direct delivery of GBI projects tailored to local priorities (aligned with the evidence and opportunities set out in the GBI study) and enforceable through legal agreement.	Harder to pool funds from multiple developments for large projects (unlike CIL, not currently charged by BDC).
Planning conditions	Conditions attached to planning permissions requiring specific actions or works.	Straightforward to secure delivery of specific off-site works e.g. habitat enhancements. No legal agreement required.	Cannot require financial contributions, and must meet specific tests of necessity, relevance to planning and the development, enforceability, precision and reasonableness.
Biodiversity Net Gain (BNG)	Statutory requirement to deliver measurable biodiversity improvements, often off-site via habitat creation or enhancement (BDC requires 10% BNG).	Clearly delivery route for off-site habitat creation/restoration and can align with LNRS priorities.	Primarily biodiversity-focused and may not deliver wider recreational or access benefits. Market availability of suitable off-site units may be limited.
Section 278 (S278) Agreements	Agreements for developers to fund or carry out works on the public highway linked to their development	Allows GBI (e.g. street trees, swales) integrated into highway works. Can help connect GBI networks.	Only applies where development affects public highways. Focus tends to be on transport safety/function rather than GBI quality

Mechanism	Overview	Opportunities	Challenges
Partnership & External Funding Blends	Pooling developer contributions with external grants and funding to deliver larger GBI projects.	Enables larger or more ambitious projects by combining multiple funding streams. Supports strategic GBI delivery.	Dependent on external funding availability and timing. Requires strong coordination among partners, which is often absent without resourcing.

Integrating GBI into the Breckland Strategic Infrastructure Plan (BSIP)

6.10 The Breckland Strategic Infrastructure Plan (BSIP) is a key tool for directing developer contributions towards priority infrastructure. Like an Infrastructure Delivery Plan, it is a “live” document identifying the projects and enabling works needed to support growth and capture funding opportunities. A future review provides a clear opportunity to align the BSIP with the priorities set out in this GBI Study.

6.11 Currently, GBI has limited coverage within the BSIP, despite its critical role in supporting planned growth. References are mainly indirect, through active travel schemes, town greening and reservoir projects. To address this, GBI should be treated as a core infrastructure category alongside transport, utilities and community facilities. This includes identifying and costing priority projects, mapping them to growth areas and allocations, and working collaboratively across internal teams and partners to mainstream GBI delivery. GBI should also be fully integrated into the BSIP’s monitoring and governance frameworks to secure long-term investment and delivery.

Appendix A

Summary of stakeholder engagement

Form of engagement: key stakeholder ‘virtual round table’

A.1 On Wednesday 9 July 2025, the project team convened a 1.5 hour virtual ‘round table. inviting key selected stakeholders (see list below for those who attended). Other than the core project team, there were 21 participants on the day, representing a range of viewpoints.

A.2 The key purpose of the round table was to:

- Firstly, gather feedback on the desktop baseline study carried out to date, including identified key strengths and key challenges and the initial mapping of network assets.
- Secondly, explore ongoing GI initiatives and opportunities the study should explore further and discuss potential delivery mechanisms for GI in Breckland.

A.3 The discussions were based around five GI themes which were used to structure this study:

- Nature-rich Breckland
- Active and healthy Breckland
- Thriving and prosperous Breckland
- Understanding and managing Breckland’s water environment
- Resilient and climate-positive Breckland

A.4 A MIRO ‘virtual whiteboard’ was used to capture conversation and results were shared with participants.

Stakeholders engaged during this study

A.5 The following national organisations took part in the stakeholder engagement process:

- Natural England

- Forestry England
- RSPB
- Environment Agency
- The Woodland Trust
- Sport England
- British Trust for Ornithology
- Environment Bank

A.6 The following local community organisations took part:

- Norfolk Rivers Trust
- Oxygen Conservation (Manor Farm Estate)
- Norfolk Wildlife Trust
- Brecks Fen Edge and River Landscape Partnership
- CPRE Norfolk

A.7 The following Breckland Council officers took part:

- Environmental Protection Officer
- Rural Business Advisor
- Active Communities Officer – Breckland (Active Norfolk)
- Senior Planning Officer

A.8 The following County and neighbouring Councils took part:

- South Norfolk Council
- Broadland District Council
- Dereham Town Council

Summary of issues raised by stakeholders

Discussion 1: Sense check of findings from LUC desktop baseline analysis of the GI network

- Habitat degradation – Caused by rabbit population crashes and air pollution. Additionally, poorly located tree planting can harm open habitats and landscape character.
- Data Gaps - Gaps in data on County Wildlife Sites, Ancient Woodlands, and Lowland Fen habitats as well as inadequate representation of priority habitats and lack of confidence in local biodiversity data.
- Mapping & Evidence – There is a need for updated and accurate mapping and guidance to inform development, ‘zooming in’ on market towns to identify local needs.
- Access and Recreation - Inequality in access to physical activity and green space across Breckland, with rural areas often disadvantaged. There is a need for improved cycling and walking infrastructure within towns to connect residents to open space.
- Visitor Pressure - Challenges in balancing public access with protection of sensitive sites.
- Rural Economy – Isolation of rural businesses can harm the economy.
- Water scarcity - Already impacting the Little Ouse and Wissey rivers. Development pressures leading to insufficient infiltration and growing risks to water sufficiency as well impacts of climate change intensifying drought.
- Climate and Resilience – Importance of recognising impact of climate change on water pressures. Urban greening should be prioritised.

Discussion 2: Multifunctional Opportunities and Strategic Delivery

- Design Opportunities - Use of green roofs, green walls, and rain gardens to integrate nature-based solutions.
- Urban Greening - Application of the “3-30-300” rule (3 trees visible from every home, 30% canopy cover, 300m to nearest green space).
- Co-location of infrastructure - Opportunities to co-locate GI with other infrastructure (GP surgeries, schools, active travel routes).

- Development Principles - Need to establish a clear typology of green space functions to avoid land-use conflicts (e.g. recreation vs. flood zones).
- Public Access – GI should align with transport proposals to connect rural areas, ensuring walking, cycling and greenways form a connected multifunctional network.
- Market Towns - GI should be integrated into market town growth strategies, including supporting rural businesses and tourism.
- Partnerships and Ongoing Initiatives - Proposal for a new Brecks Landscape Project to succeed the Brecks Fen Edge and Rivers Project, coordinating conservation, heritage, and health initiatives across the area. Potential to collaborate with the Breckland Health and Wellbeing Board for health-driven GI delivery.

Appendix B

Summary of data sources used

Table B.1: Data sources used for Figure 3.1: Protected habitats in Breckland

Datasets included	Conditions to data/copyrights
Special Area of Conservation (SAC)	© Natural England
Special Protection area (SPA)	© Natural England
Ancient woodland	© Natural England
Ramsar	© Natural England
Key designated sites	Digitised by LUC
Site of Special Scientific Interest (SSSI) units	© Natural England

Table B.2: Data sources used for Figure 3.2: Access to open space in Breckland

Datasets included	Conditions to data/copyrights
Settlement area	Provided by Breckland Council
Country Park	© Natural England
Open Access land (CRoW)	© Natural England
Open space Access to open space	Provided by Breckland Council
Peddars Way and Norfolk Coast path	National Trails (England) © Natural England

Datasets included	Conditions to data/copyrights
National Cycle Network	Sustrans (now known as Walk Wheels Cycle Trust)
Local cycling and walking infrastructure plan (LCWIP) network – countryside connectivity	Provided by Breckland Council
Rebellion way cycle route	Provided by Breckland Council

Table B.3: Data sources used for Figure 3.3: Green Infrastructure, landscape and placemaking in Breckland

Datasets included	Conditions to data/copyrights
Conservation area	© Historic England
Country Park	© Natural England
Market town	Provided by Breckland Council
Norfolk Trails network	Provided by Breckland Council
Rebellion way cycle route	Provided by Breckland Council
National Cycle Network	Sustrans (now known as Walk Wheels Cycle Trust)
Railway station Railway track	OS Open Map Local © Ordnance Survey
Key nature-based visitor economy site	Digitised by LUC

Table B.4: Data sources used for Figure 3.4: Breckland's blue corridor

Datasets included	Conditions to data/copyrights
River	OS Open Rivers © Ordnance Survey
Source Protection Zones	© Environment Agency
Management catchment	© Environment Agency
Water quality ecology status (cycle 3 2023)	© Environment Agency

Table B.5: Data sources used for Figure 3.5: Floodplain woodland potential in Breckland

Datasets included	Conditions to data/copyrights
Floodplain woodland potential	© Environment Agency
Wider catchment woodland potential	© Environment Agency

Table B.6: Data sources used for Figure 3.6: Climate vulnerability in Breckland

Datasets included	Conditions to data/copyrights
Flood zone 2 Flood zone 3	© Environment Agency
Socio-Spatial Heat Vulnerability Index	ClimateJust: Lindley, S. J., O'Neill, J., Kandeh, J., Lawson, N., Christian, R. & O'Neill M. (2011) "Climate change, justice and vulnerability", Joseph Rowntree Foundation Report, York.

Table B.7: Data sources used for Figure 5.1: Overview of Breckland's GI network and key growth areas

Datasets included	Conditions to data/copyrights
Special Area of Conservation (SAC)	© Natural England
Special Protection area (SPA)	© Natural England
Site of Special Scientific Interest (SSSI)	© Natural England
Ramsar	© Natural England
Main Statutory Rivers	© Environment Agency
Settlement area	Provided by Breckland Council
Railway station Railway track	OS Open Map Local © Ordnance Survey
National Cycle Network	Sustrans (now known as Walk Wheels Cycle Trust)
Norfolk Trails network	Provided by Breckland Council
Rebellion way cycle route	Provided by Breckland Council
Key growth areas	Provided by Breckland Council

Table B.8: Data sources used for GI Networks

Datasets included	Conditions to data/copyrights
Special Area of Conservation (SAC)	© Natural England
Special Protection area (SPA)	© Natural England

Datasets included	Conditions to data/copyrights
Site of Special Scientific Interest (SSSI)	© Natural England
Open Access land (CRoW)	© Natural England
Registered Parks and Garden	© Historic England
Scheduled Monuments	© Historic England
Flood zone 2 Flood zone 3	© Environment Agency
Local Nature Reserve	© Natural England
Open Space	Provided by Breckland Council
Public Rights of Way	Provided by Breckland Council
Local cycling and walking infrastructure plan (LCWIP) network – countryside connectivity	Provided by Breckland Council
Peddars Way and Norfolk Coast path	National Trails (England) © Natural England
National Cycle Network	Sustrans (now known as Walk Wheels Cycle Trust)
Rebellion way cycle route	Provided by Breckland Council
River	OS Open Rivers © Ordnance Survey
Railway station Railway track	OS Open Map Local © Ordnance Survey
Country Park	© Natural England

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