Tunbridge Wells Borough

Local Plan

Tunbridge Wells Borough Council

Green Infrastructure Framework for Pre-Submission Local Plan

February 2021

Tunbridge Wells Borough Council

Foreword

The purpose of this document is to provide a framework for protecting and enhancing existing Green Infrastructure (GI) and for providing new GI as part of development provided for through the new Local Plan. GI in this context includes water, sometimes referred to as blue infrastructure, and is integral to conserving and enhancing the wider natural environment and biodiversity of the borough. To do this the Framework identifies:

- What is meant by GI and the policy framework
- Sites and features that make up the existing GI
- Gaps in connectivity and provision of GI
- Plans and strategies to inform the design and location of new GI
- Opportunities for new GI

The document also sets how GI can be funded, secured in the long term and monitored. This Framework is written in support of and needs to be read in conjunction with the Policies in the Pre-Submission Local Plan and other supporting documents and in particular the policy and supporting documents for landscape and biodiversity. This Framework and comments on it will be used to inform a future review of the current Green Infrastructure Supplementary Planning Document (SPD) in due course.

Protecting, enhancing and providing good GI underpins the Council's vision in the Pre-Submission Local Plan to create better places for people and wildlife.

Such documents are time limited and will need to be reviewed to take account of a changing environmental and political context (e.g. climate change and Brexit), changes in guidance and any developments in approaches and priorities for nature conservation and GI such as biodiversity offset projects, (re)wildling projects, nature recovery projects, species recovery and/or introduction programmes, and changes to agri-environment schemes and countryside stewardship arrangements. This document should then be reviewed alongside any updates and review of the Local Plan to ensure that it remains up to date.

1.0 Introduction

Green Infrastructure (GI) defined

1.1 GI is defined in the National Planning Policy Framework (view the NPPF 2019; page 67) as “a network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities.”

1.2 The Natural Environment Planning Practice Guidance (2016) further explains that “green infrastructure is not simply an alternative description for conventional open space. As a network it includes parks, open spaces, playing fields, woodlands, but also street trees, allotments, and private gardens. It can also include streams, canals and other water bodies and features such as green roofs and walls” (view paragraph 27 of the Natural Environment Planning Practice Guidance). In the context of this Framework, green infrastructure therefore also incorporates what is commonly referred to as blue infrastructure (i.e. water resources) that contributes to the wider green network.

1.3 The aim of GI planning is not just the creation of new green spaces, but also the protection, enhancement and improved connectivity of existing green infrastructure assets. GI assets include a range of types:

Green Infrastructure Typology

- Natural and semi-natural urban green spaces, including woodlands, scrub, grasslands (e.g. heathlands, acid grasslands, commons and meadows), wetlands, open and running water and rock areas (e.g. quarries);
- Parks and gardens, including urban parks, country parks and formal gardens;
- Green corridors, including river and canal banks and extensive areas of natural habitat;
- Cycleways and public rights of way;
- Outdoor sport facilities (with natural or artificial surfaces and either publicly or privately owned) – including pitches for football, cricket, rugby, tennis courts, bowling greens, golf courses, school and other institutional playing fields;
- Provision for children and teenagers – including play areas, skateboard parks, outdoor basketball hoops, and other more informal areas (e.g. 'hanging out' areas, teenage shelters, etc.);
- Amenity green space (most commonly, but not exclusively in housing areas) – including informal recreation spaces, greenspaces in and around housing, roadside green verges, domestic gardens and village greens as well as accessible countryside in urban fringe areas;
- Allotments and community gardens, cemeteries and churchyards; and
- Green roofs and walls.

1.4 The positive contribution that GI makes to creating sustainable communities and tackling climate change is becoming increasingly important in the context of balancing housing growth with environmental conservation and is a key theme in national planning policy such as in the NPPF and the government's 25 Year Plan to Improve the Environment (view A Green Future: Our 25 Year Plan to Improve the Environment 2018). As such GI is linked to other policies that cover sustainable design for new developments as well as those directly related to the protection and enhancement of landscapes and biodiversity.

Benefits of GI

1.5 All forms of GI can deliver a range of environmental, social, and economic benefits making a positive contribution to sustainable development. The Planning Practice Guidance (PPG) outlines the following ways in which green infrastructure can help to deliver wider planning policies (PPG Paragraph: 006 Reference ID: 8-006-20190721 Revision date: 21 07 2019):

Table 1: ways in which green infrastructure can help to deliver wider planning policies (taken from Planning Practice Guidance on Natural Environment)

Building a strong, competitive economy	Green infrastructure can drive economic growth and regeneration, helping to create high quality environments which are attractive to businesses and investors.
Delivering a wide choice of high quality homes	Green infrastructure can help deliver quality of life and provide opportunities for recreation, social interaction and play in new and existing neighbourhoods. More broadly, green infrastructure exists within a wider landscape context and can reinforce and enhance local landscape character, contributing to a sense of place. Green infrastructure is also an important approach to delivering ecosystem services and ecological networks.
Requiring good design	Well-designed green infrastructure helps create a sense of place by responding to, and enhancing, local landscape character. Green infrastructure can also help create safe and accessible environments in new development and the regeneration of brownfield sites in existing built up areas.
Promoting healthy communities	Green infrastructure can improve public health and community wellbeing by improving environmental quality, providing opportunities for recreation and exercise and delivering mental and physical health benefits. Green infrastructure also helps reduce air pollution, noise and the impacts of extreme heat and extreme rainfall events.
Meeting the challenge of climate change, flooding and coastal change	Green infrastructure can help urban, rural and coastal communities mitigate the risks associated with climate change and adapt to its impacts by storing carbon; improving draining (including the use of sustainable drainage systems) and managing flooding and water resources; improving water quality; reducing the urban heat-island effect and; where appropriate, supporting adaptive management in coastal areas. Green infrastructure networks also help species adapt to climate change by providing opportunities for movement.
Conserving and enhancing the natural environment	The components of green infrastructure exist within the wider landscape context and should enhance local landscape character and contribute to place-making. High quality networks of multifunctional green infrastructure provide a range of ecosystem services and can make a significant contribution to halting the decline in biodiversity.

1.6 The provision of GI will therefore be an important factor in delivering positive outcomes for a number of the Local Plan policies for design and the environment, and will be particularly important in delivering the Council's ambition to achieve net gains for biodiversity. This is supported by the Lawton Report, which sees the promotion of 'green corridors' as a means of increasing the connectivity of England's ecological network and halting the decline in biodiversity and valuable wildlife habitats (see page 11 of Sir John Lawton: Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network 2010). As the Council and others develop schemes for 'biodiversity offsetting' as part of the net gain policy, the location and nature of these sites should be informed by this Framework. Biodiversity offsetting is generally defined as a conservation activity "designed to give biodiversity benefits to compensate for losses – ensuring that when a development damages nature (and this damage cannot be avoided or mitigated) new nature sites will be created. Where appropriate, biodiversity offsetting is an option available to developers to fulfil their obligations under the planning system's mitigation hierarchy" (DEFRA and Natural England, 2013 – view Biodiversity Offsetting: Information about Biodiversity Offsetting in Pilot Areas: Department for Environment, Food and Rural Affairs (DEFRA) and Natural England (April, 2013)).

1.7 GI can also play a key role in protecting the processes and systems in nature that we rely upon for our food, water and air (i.e. the benefits that people derive from nature, commonly referred to as ecosystem services). These services include supporting, provisioning, regulating and cultural services:

- Supporting - These services are essential for establishing other ecosystem services and include services such as nutrient recycling, primary production and the formation of soil.

- Provisioning - Ecosystems also provide us with a variety of products including food, water, raw materials, and energy.

- Regulating - Ecosystems also regulate the world around us and make it habitable. Such services include the storage of carbon, climate regulation, waste recycling, purification of water and air, pest and disease control and flood prevention.

- Cultural - Ecosystems also provide cultural benefits to us including connecting up with the world around us, this in turn has clear health benefits. We also use ecosystems for recreation and education.

1.8 As explained in Natural England's Green Infrastructure Guidance, green infrastructure also provides '*potential to deliver landscape visions, landscape quality objectives or strategic guidelines through establishment of green infrastructure design principles*' (see page 42 of Green Infrastructure Guidance: Natural England (2009)). Moreover, '*whilst it is important to plan the new green infrastructure in advance of development, it should also reflect established character (including landscape and townscape) and urban grain*' (page 50). This is particularly important

in terms of ensuring that new development is appropriately assimilated into its rural setting. The landscape character of the borough is described in the Borough Landscape Character Assessment SPD which also provides a strategy for each landscape character area (see Figure 1).

1.9 Furthermore GI can play a key role in reducing and managing flood risk through natural flood management measures (view Natural Flood Management), provision of flood storage and sustainable drainage systems (SuDS) for surface water management. This contribution has been recognised in the Councils Strategic Flood Risk Assessment (view the Strategic Flood Risk Assessment) and this Framework will be of use to those designing the above flood risk measures.

1.10 Additional to alleviating flood risk, GI is also of increasing importance in terms of adapting to and mitigating climate change at a local-global scale. As identified in a report by Forest Research as part of the Urban Regeneration and Greenspace Partnership (see page 7 of Benefits of Green Infrastructure: Report by Forest Research: Urban Regeneration and Greenspace Partnership (October 2010; Summary Report)), GI can help address climate change by assisting, for example, in reducing ambient heat in urban areas due to the cooling effects of individual trees thus reducing the air temperature. Trees and other vegetation also remove CO2 from the air reducing air pollution, and an increasing environmental quality and quality of place usually results in encouraging more people to travel sustainably through green space linkages.

Green infrastructure: crossing boundaries

1.11 GI, and the functions it provides for people and the environment, does not stop at political boundaries but extends across district and county boundaries. However, the Council's jurisdiction is limited to its borders and whilst it can seek to influence change over a wider area it cannot set policy or deliver developments outside the borough boundary.

1.12 In many cases, however, GI features and spatial options have been identified by the adjoining authority and so where appropriate this Framework can support those proposals and identify possibilities for partnership working. Where an adjoining authority has not identified a proposed cross-boundary area/option that is identified by this document, features and sites within the adjoining authority may be identified as a record of fact to indicate to others the possibility of mutual support and joint working. The identification of features and sites in this way is in no way intended to pre-empt the decisions of adjoining authorities or to place any obligation upon them.

1.13 Reflected in the PPG, strategic approaches to GI will often cross administrative boundaries and will need to be addressed through the Duty to Cooperate requirements and are also likely to require working collaboratively with other stakeholders including Local Nature Partnerships (LNPs) and Wildlife Trusts.

1.14 This GI Framework, will in later sections, seek to provide an overview of adjoining authorities' GI strategies and plans and how they link to the Tunbridge Wells borough and its own GI assets. This will help to inform the Council's own strategic spatial approach to GI and assist in contributing to its wider network.

2.0 Policy and Guidance

NPPF and PPG

2.1 The NPPF (page 9) states that, alongside setting out an overall strategy for the pattern, scale and quality of development, strategic policies should make sufficient provision for '*conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation'.* Likewise, *'planning policies and decisions should aim to achieve healthy, inclusive and safe places which … enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling*' (page 27).

2.2 The NPPF also states that '*planning policies and decisions should contribute to and enhance the natural and local environment*' requiring that LPAs minimise impacts on and provide '*net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'* (page 49).

2.3 The accompanying Planning Practice Guidance (PPG) for the natural environment notes that '*in view of their potential scope and use, authorities need to collaborate with neighbouring authorities and stakeholders such as Local Nature Partnerships, Health and Wellbeing Boards and Local Enterprise Partnerships when developing green infrastructure strategies*'.

2.4 The NPPF (page 50) addresses this further by stating that in order to protect and enhance biodiversity and geodiversity, plans should '*identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancements, restoration or creation'.*

2.5 As suggested in the PPG, '*policies can identify the location of existing and proposed green infrastructure networks and set out appropriate policies for their protection and enhancement*' and to "*inform these, and support their implementation, green infrastructure frameworks or strategies prepared at a district-wide scale (or wider) can be a useful tool*'. The PPG goes on to say that '*this may be prepared in the form of an authority-wide GI framework or strategy that should be evidence-based by, for example, including an assessment of current green infrastructure provision that identifies gaps in the network and the components and opportunities for improvement*' and '*standards such as the Accessible Natural Greenspace Standard can be applied when assessing provision*'.

2.6 The PPG also makes it clear that GI needs '*to be considered at the earliest stages of development proposals, as an integral part of development and infrastructure provision, and taking into account existing natural assets and the most suitable locations and types of new provision*' and that '*funding need to be identified as early as possible*' to ensure that '*benefits are provided in the long term'.*

Government's 25 Year Environment Plan

2.7 The Government's 25 Year Environment Plan (see page 9 of A Green Future: Our 25 Year Plan to Improve the Environment (2018)) '*sets out government action to help the natural world regain and retain good health. It aims to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats. It calls for an approach to agriculture, forestry, land use and fishing that puts the environment first*'. The Plan sets out a range of goals and policies which can be supported by GI.

2.8 GI provision is strongly encouraged and promoted to ''*green' our towns and cities by creating GI and planting one million urban trees*' (page 71). This will consequently '*make towns and cities attractive places to live and work, and bring about key long-term improvements in people's health. Better green infrastructure will promote local social interaction and help to develop strong community networks through participation and shared achievements*' (page 76).

Kent Environment Strategy

2.9 The Kent Environment Strategy sets out high level environmental priorities for Kent (and their related health/economic outcomes) to be delivered through an implementation plan (detailing actions and activities that deliver on the strategic priorities in the Environment Strategy) (see page 10 of Kent Environment Strategy: A Strategy for Environment, Health & Economy – March 2016).

2.10 The Strategy covers three key themes (which have a range of priorities and further sub-priorities) which are as follows (page 13):

1. Building the foundations for delivery (establishing priorities providing an evidenced understanding of risk and opportunities from environmental change and how to develop actions to respond to these changes now and in the future); and,

2. Making best use of existing resources and minimising negative impacts (minimising the impacts of current activities through reducing resource usage across all sectors), and

3. Toward a sustainable future (ensuring Kent's communities, businesses, environment and services are resilient to environmental change, managing future risks and acting on opportunities).

Kent Biodiversity Strategy

2.11 The Kent Biodiversity Strategy's overarching mission (see page 1 of Kent Biodiversity 2020 and beyond – a strategy for the natural environment 2015-2025) is "to halt overall biodiversity loss in Kent and Medway, and to contribute to the conservation of national and global biodiversity, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people". It is envisaged that this mission will be achieved through the delivery of four outcomes by 2020 that are underpinned by a range of targets and actions. The four key outcomes are as follows:

1. Habitats and ecosystems on land (including freshwater environments): Maintenance and enhancement of biodiversity, further degradation halted and where possible restoration underway, helping deliver more resilient and coherent ecological networks, health and well-functioning ecosystems, which deliver multiple benefits for wildlife and people (page 2);

2. Marine habitats, ecosystems and fisheries: Maintenance of biodiversity, further degradation halted and where possible restoration underway, helping deliver good environmental status and vision of clean, healthy, safe productive and biologically diverse oceans and seas (page 2);

3. Species: Overall improvement in status of wildlife and prevent further human-induced extinctions of known threatened species (page 3); and,

4. People: Significantly more people to engage in biodiversity issues, being aware of its value and taking positive action (page 3).

Tunbridge Wells Borough Council Biodiversity Action Plan

2.12 The Council's Biodiversity Action Plan (2008) Part 1 (Habitats) (view Tunbridge Wells Local Biodiversity Action Plan: Part 1 – Habitats (2008)) and Part 2 (Proposed Actions) (view Tunbridge Wells Local Biodiversity Action Plan: Part 2 – Proposed Actions (2008)) was '*produced in response to the need to promote and carry out positive action for the conservation and enhancement for our local biodiversity'.* The Plan lists and describes all forms of biodiversity and landscape assets across the borough in Part 1 and '*contains individual habitat and species action plans to help*

safeguard Tunbridge Wells borough's biodiversity, now and for the future' in Part 2 (Part 1, page 4). The main objectives of the Plan are as follows (part 1, page 5):

1. To improve knowledge of what habitats and species the borough has, their current condition, the extent and their population;
2. To identify habitats and species that are of national and local importance in the Tunbridge Wells borough;
3. To identify threats and opportunities to habitats and species within the borough;
4. To develop targets and actions to protect and enhance biodiversity within the borough;
5. To form a biodiversity partnership to bring together all action taking place for biodiversity within the borough;
6. To increase public understanding and awareness of biodiversity conservation;
7. To promote long-term protection and enhancement of biodiversity within the borough;
8. To target biodiversity action to enable biodiversity to adapt to climate change; and,
9. To raise understanding and awareness of biodiversity conservation within the Council and ensure that the Council has regard to the purpose of conserving biodiversity in all its actions.

Landscape Character Assessment Supplementary Planning Document

2.13 The Tunbridge Wells Borough Landscape Character Assessment SPD (view Tunbridge Wells Borough Landscape Character Assessment: Supplementary Planning Document (Land Use Consultants; 2017) provides an overview of the borough's distinctive landscape character arising '*from the varying combination of natural and cultural elements, particularly topography, geology, land use, settlement and built character*' (pages 9-15). A predominantly rural borough, the key landscape character areas and landscape character types as defined in the SPD are Fruit Belt, Wooded Farmland, Low Weald Farmland, Forest Plateau, River Valleys, Open Farmland, and Key Settlements (see Figure 1).

2.14 The document's purpose is for developers and decision makers to use it as a guide to inform development proposals and, in particular, to have regard to protecting and enhancing the '*valued features and qualities*' and to be guided in the provision of GI

by the identified 'opportunities' and 'landscape strategy' for each landscape character area.

2.15 The overarching objectives for the SPD are:

1. Conserving and enhancing; and,

2. Restoring landscape character where it has been eroded.

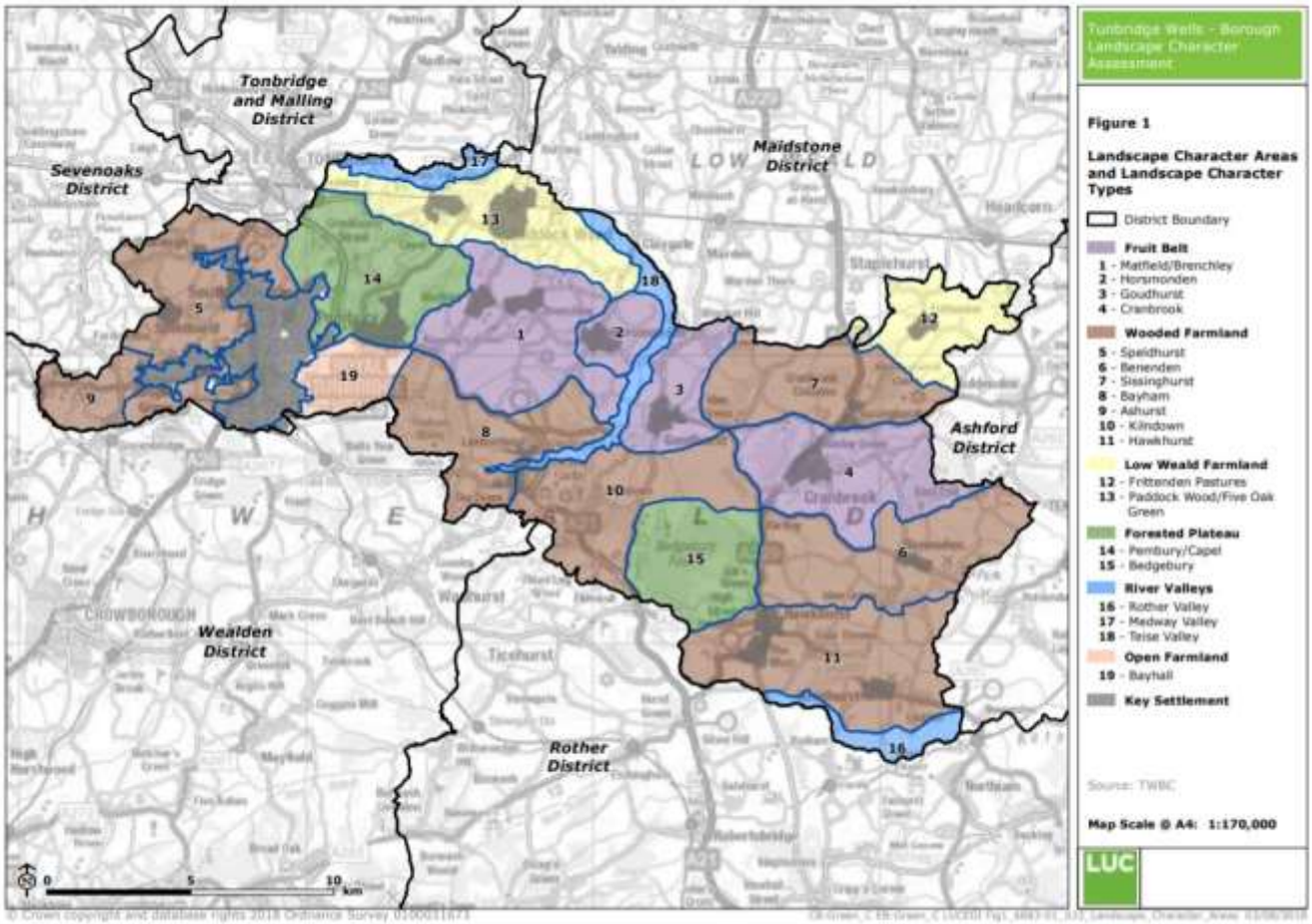


Figure 1: Tunbridge Wells Borough Landscape Character Areas and Landscape Character Types

High Weald Area of Outstanding Beauty Management Plan

2.16 The High Weald Area of Outstanding Natural Beauty (AONB) Management Plan (2019-2024) (view The High Weald AONB Management Plan 2019-2024: A statutory plan setting out local authority policies for the management of the High Weal Area of Outstanding Natural Beauty (AONB) (2019)) is produced by a partnership involving 15 local authorities including Tunbridge Wells Borough Council (page13). The Plan's purpose is to '*coordinate policy, investment and action in this nationally-important landscape in order to achieve the legal purpose of 'conserving*

and enhancing natural beauty' for the benefit of current and future generations' (page 14). The intention is for the Plan to '*be used to guide environmental land management and assess the impact of development or other changes on the AONB. Where the ambition is to achieve environmental net gain, or assess potential harm, the Plan provides a framework for identifying actions that may enhance or damage the AONB's natural and cultural assets*' (page 15).

2.17 Indeed, the Plan outlines a range of objectives and relevant proposed actions to be undertaken by public bodies and/or other groups with regard to geology, settlements, routeways, woodland, fields and heath, land-based economy and related rural life, and other qualities and features that conserve and enhance the character of the AONB. The Management Plan as such encourages the creation and enhancement of GI through a range of particular actions and management schemes to be taken into consideration by local planning authorities/other public bodies through policy with regard to water assets, value landscape and habitats, extent of woodland, biodiversity-rich historic routeways, and other ecological features.

Landscape Institute Position Statement

2.18 The Landscape Institute's Position Statement on Green Infrastructure (see page 1 of Green Infrastructure: An Integrated Approach to Land Use: Landscape Institute Position Statement (2013)) aims to provide public/private sector bodies and environmental professionals fresh insights into the benefits of GI and how collaboration is key to its delivery. The position statement outlines six individual recommendations on how green infrastructure may be delivered. These are listed as follows (page 17):

1. Local Authorities: by ensuring that green infrastructure planning is a key requirement in Local Plans, Infrastructure Delivery Plans and development briefs.

2. Local Authorities and Business Improvement Districts: through the Duty to Cooperate, local authorities should work together. This should also be part of the remit of Business Improvement Districts and Local Enterprise Partnerships.

3. Developers: Developers should mitigate environmental impacts of new development and create new green spaces. An element of engagement with the local community should be included.

4. Clients: green infrastructure strategies should clearly articulate the vision, priorities, responsibilities and actions needed to plan, deliver and manage green infrastructure projects from the start. Public and private sector landowners and managers should be involved in the planning and design of green infrastructure, as their buy-in and expertise is vital to its long-term success.

5. Landowners: Ensuring that management and maintenance of green infrastructure is continually delivered in order to achieve long-term benefits. Funding for multifunctional land can come from several sources, including from direct income from renewable energy, food production or events, or indirect savings by reducing flood risk and cutting the cost of cooling in urban areas during hot weather.

6. Landscape Professionals: To provide advice to clients, colleagues and decision-makers about the value and range of benefits of green infrastructure, from country parks and community woodlands, to development-specific interventions such as green roofs and sustainable drainage systems.

Local Plan Policy

2.19 The Pre-Submission Local Plan 2020 to 2038 which this Framework supports has been prepared to, as far as possible, meet the development needs of the borough but in so doing intends to protect and enhance the environment and in particular provide net gains for biodiversity. Policies supporting GI include:

- EN 9 Net Gains for Nature: Biodiversity
- EN 10 Protection of designated sites and habitats
- EN 12 Trees, Woodlands, Hedgerows, and Development
- EN 13 Ancient Woodland and Veteran trees
- EN 19 The High Weald Area of Outstanding Natural Beauty

2.20 Specific requirements for GI are set out in Policy EN 14: Green, Grey, and Blue Infrastructure:

Policy EN 14

Green, Grey, and Blue Infrastructure

Development proposals will be expected to identify and protect existing green, grey, and blue infrastructure and maximise opportunities for new infrastructure that supports climate change adaptation and ecosystem services, and makes a positive contribution to strengthening and restoring a healthy and integrated network of habitats and green spaces for the benefit of nature, people, and the economy. Green, grey, and blue infrastructure may be a multi-functional feature, which includes the provision of improved connections for people, or stepping stones/corridors for wildlife. Proposals for new green, grey, and blue infrastructure should aim to improve connectivity and be informed by, and respond to:

1. Biodiversity Opportunity Areas statements;
2. County and borough green infrastructure plans and mapping;
3. Ecological surveys and identified priority habitats;
4. Kent Nature Partnership Biodiversity Action Plan;
5. Landscape character assessments;
6. River basin management plans.

Opportunities for green (and grey and blue) infrastructure should have regard to other relevant policies for landscape, heritage, biodiversity, and trees and include, but are not limited to:

a. landscape buffers; and/or
b. green routes for walking, cycling, and horse riding; and/or
c. swales and attenuation ponds as part of Sustainable Drainage Systems (SuDS); and/or
d. woodland creation; and/or
e. reinstatement of historic field patterns and hedgerows; and/or
f. restoration of important habitats and landscape features, such as gill streams, ponds, meadows, and heaths; and/or
g. creation of ponds and wetlands for wildlife.

Even in urban areas where there is little existing green and blue infrastructure, all developments are expected to maximise opportunities for green and blue infrastructure and biodiversity enhancements, with a particular emphasis on water management, atmospheric pollution, and urban wildlife, and can include, but are not limited to, the following measures:

i. green/brown roofs and green walls; and/or
ii. rain gardens; and/or
iii. street tree and hedge planting; and/or
iv. the addition of bird and bat boxes for urban species as indicated in Policy EN 9: Biodiversity Net Gain.

3.0 Existing GI and Analysis

Mapping of existing GI

3.1 The Council has an extensive and well maintained Geographical Information System (GIS) that is accessible to all planning officers to access records on the built and natural environment and spatial policies, historical mapping and aerial photographs and site specific data and photographs collected by officers. It also has officers with specialist skills in GIS who can create, edit and interrogate data to provide an enhanced understanding of the environment of the borough. In addition, there are external GIS resources that the Council relies upon to provide and/or analyse data, including:

- Kent and Medway Biological Records Centre (KMBRC)
- Kent Wildlife Trust (KWT)
- Kent Archaeology and the Historic Environment Record (HER)
- High Weald AONB Unit especially for data on components of natural beauty
- Kent Landscapes Information (KLIS)
- The DEFRA web based GIS system MAGIC
- The Provisional Inventory for Ancient Woodland

3.2 The Council has used these resources to inform policy and identify and map GI resources, networks, connections and potential gaps in GI provision. A full list of data sources are set out in Appendix O. The results of mapping existing GI in the borough are set out in appendices to this document:

A. Statutory and non-statutory designated sites for wildlife and Ancient Woodland

B. Kent Habitat Survey 2012

C. Priority Habitats

D. Woodland cover

E. Water features

F. Public Rights of Way and Historic Routeways

G. Rivers – Ecological status

H. Ground Water status

3.3 In addition, the Council has undertaken an Open Space Study (OSS) June 2018 (Tunbridge Wells Borough Council Open Space, Sport and Recreation Study 2013 - 2033) which provides an audit of the existing provision of open spaces and facilities in terms of accessibility, quantity and quality. This work included assessing provision of natural green space (page 78 figures 13 to 17) against Natural England's Accessible Natural Greenspace Standards (ANGSt), which are:

- at least one accessible 20 hectare site within two kilometres of home; and,
- one accessible 100 hectare site within five kilometres of home; and,
- one accessible 500 hectare site within 10 kilometres of home; plus,
- a minimum of one hectare of statutory Local Nature Reserves per thousand population at least 2 hectares in size, no more than 300 metres (five minutes' walk) from home.

3.4 This work illustrates that in general that the borough is rich in GI assets but there are some gaps in provision. There are extensive areas of notable habitats with more than 16% of land cover being Ancient Woodland and more than 70 sites designated for their wildlife value. There are some large blocks of accessible woodland at Pembury, Bedgebury, Angley and Hempsted and most of the borough is characterised as Wooded Farmland and Forested Plateau. There are also extensive areas of Common Land at Royal Tunbridge Wells, Rusthall and Southborough and smaller areas of heathland or heathy woodland.

3.5 Much of this work is informed by and derived from the records on habitats and species provided by the Kent and Medway Biological Records Centre (KMBRC). The Council uses the KMBRC to provide updates on species and habitats and their latest report, Ecological Monitoring Report 2019, forms part of the evidence base for the Pre-Submission Local Plan.

Gap Analysis

3.6 In order to identify where there is any deficiency in the provision of GI or gaps between identified GI assets the Council has drawn on existing studies and undertaken further analysis. The Open Space Study (OSS) identified issues in relation to the ANGSt standards (page 81, table 14; Table 2 below) as:

Table 2: Summary of Access Issues for Natural Green Space

Accessible Natural Greenspace Standard	**Key Access Issues**
at least one accessible 20 hectare site within two kilometres of home	Generally good access across the majority of parishes, although Sandhurst and Paddock Wood have very poor access.
one accessible 100 hectare site within five kilometres of home	Generally good access across the majority of the borough with gaps in Sandhurst, Lamberhurst, Horsmonden, Brenchley, Paddock Wood, Bidborough and Speldhurst.
one accessible 500 hectare site within ten kilometres of home	There is one 500ha site within the borough (Bedgebury Forest), providing access across the central and eastern part of the borough. Gaps in access against the standard across the western area of the borough.
a minimum of one hectare of statutory Local Nature Reserves per thousand population at least 2 hectares in size, no more than 300 metres (5 minutes' walk) from home	There are only four Local Nature Reserves within Tunbridge Wells borough.

3.7 There are two locations, Sandhurst and Paddock Wood, that are poorly served with regard to access to a 20ha and 100ha site. Sandhurst is a very small rural community and so provision is unlikely to change significantly in this area but there are three very large tracts of publicly accessible woodland within 7kms and there is a good network of Public Rights of Way. Paddock Wood is the subject of a proposed major expansion and a new settlement is proposed in the adjoining Parish of Capel both to be delivered by a masterplanning process according to garden settlements principles which provides a significant opportunity to provide for and address any shortfall in natural green space provision.

3.8 The study indicates that there are only four statutory Local Nature Reserves (LNRs) and that these should be provided at 2 hectares/per thousand population no more than 300m (five minutes' walk) from home. The Pre-Submission Local Plan includes five candidate LNRs including three at Paddock Wood. Other sites such as the Commons at Royal Tunbridge Wells, Rusthall and Southborough and Lamberhurst provide a comparable facility as do other sites with semi natural green space and public access owned and managed by the RSPB, Kent Wildlife Trust, Sussex Wildlife Trust and Woodland Trust, as well as some sites owned by the Council (e.g. Reynolds Lane LWS and Dunorlan Park). Altogether these sites provide more than 1,059 hectares across and within 1km of the borough boundary with many located in or near urban areas. This suggests that the provision for LNRs is being largely met by other sites as shown on the map at Appendix I).

I) Local Nature Reserves and similar sites

3.9 A key habitat linkage is that between woodland and water. When these two layers are overlaid the connections are self-evident and reflect the presence of the steep sided wooded gill streams that are characteristic of the High Weald and associated with the ancient woodland and the extensive number of ponds. In the Low Weald there are the larger river corridors and a greater presence of drainage ditches and channels but fewer and smaller areas of woodland. Overlaying these layers shows where connectivity could be improved.

3.10 Many GI assets are complimentary and so an exercise that groups them together and to give a Weighted Sum can highlight gaps where there is a general under-provision of GI. Further areas of possible deficiency can be identified through overlaying the Weighted Sum map with the woodland and water networks mapping. Taking this information together with other data such as the BOAs provides a focus for GI provision particularly with regards habitats and habitat connectivity.

3.11 These maps are set out the appendices:

J) Woodland and water networks

K) Weighted Sum Map of GI Assets

L) Comparison map (woodland and water networks and Weighted Sum Map)

Regional GI Initiatives

Buglife B-Lines

3.12 Across the UK, with the contribution of stakeholders (e.g. farmers, land owners, wildlife organisations, businesses, local authorities and the general public), a 'B-Lines Map' has been produced which draws green corridors across the landscape, from which key pollinating species' travel is prioritised. It is stated that within these B-Lines, a series of wildflower-rich habitat stepping stones are being restored and created (aimed for at least 150,000 hectares across the UK) to link existing wildlife areas together and create a functioning network (see B-Lines Hub (Buglife)).

3.13 Identified benefits of the B-Lines initiative include 1) helping to conserve native pollinators and a range of other wildlife, and contributing towards biodiversity targets, 2) helping wildlife respond to climate change by making it easier for them to move around, 3) increasing the number of insect pollinators and the benefits these bring to the farming sector (pollination being an important 'ecosystem service'), 4) bringing nature to people, and 5) giving opportunities for everyone to play their part and help create the B-Lines network. Figure 2 shows the B-Lines corridor for the Tunbridge Wells borough (see B-Lines Map (Buglife)). The Council supports this initiative and has made specific contributions to pollinator projects through work on

the Commons and through Tunbridge Wells in Bloom and would like to see work on GI making a positive contribution to this strategy.

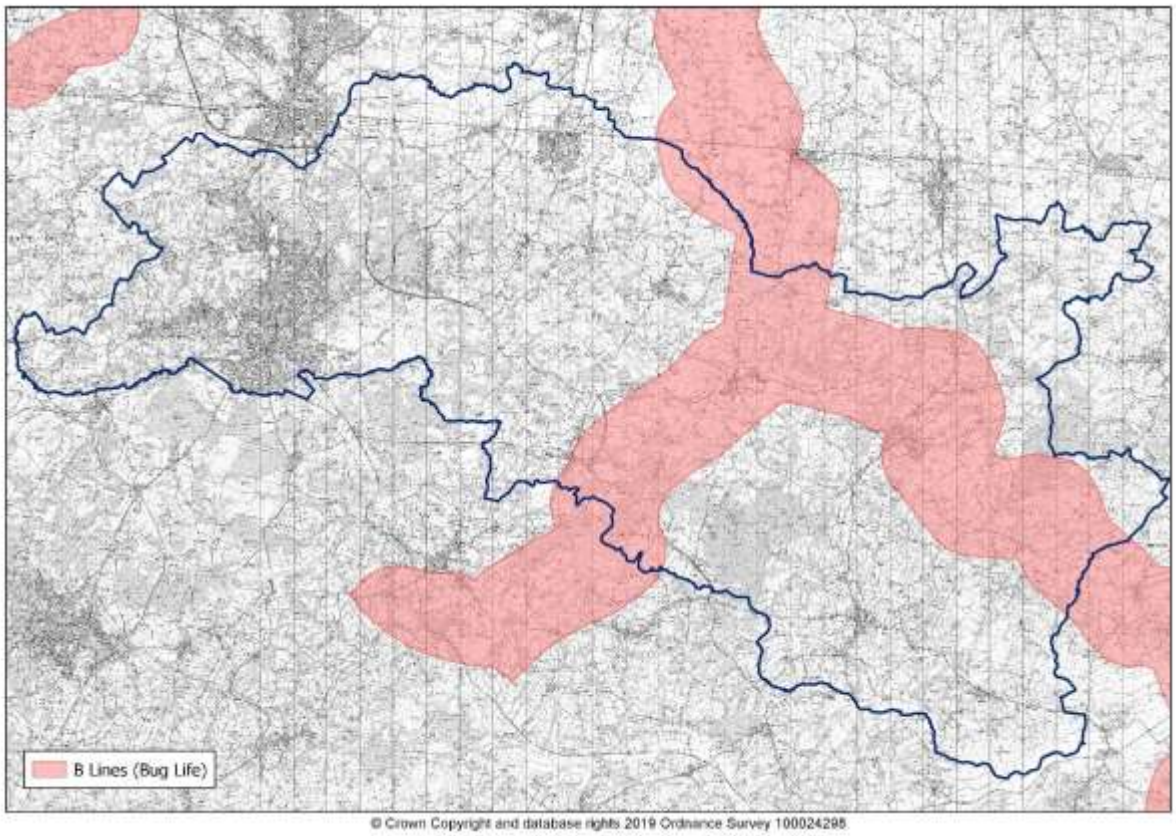


Figure 2: B-lines in Tunbridge Wells borough

Kent Nature Partnership Biodiversity Opportunity Areas (BOAs)

3.14 The 2015 BOA maps are a spatial reflection of the Kent Biodiversity Strategy. They indicate where the delivery of Kent Biodiversity Strategy targets should be focused in order to secure the maximum biodiversity benefits. The BOA maps also show where the greatest gains can be made from habitat enhancement, restoration and recreation, as these areas offer the best opportunities for establishing large habitat areas and/or networks of wildlife habitats. As such, they can inform the development and delivery of GI at a strategic and site-specific level and assist in building resilient ecological networks. The BOA maps are accompanied by statement documents which provide guidance on the conservation priorities which should be adopted in each area.

3.15 The majority of the High Weald BOA falls within Tunbridge Wells borough and is of most relevance to GI proposals for the borough and so places a greater responsibility on the borough for delivery. The targets for the High Weald BOA are

due to be updated as part of the Review of the Kent Biodiversity Strategy but at present are to:

1. Restore, recreate and enhance woodland through active conservation management, particularly locally unique gill woodlands, heathy woodlands and wood pasture. Restore plantations on ancient woodland sites to native woodland.

2. Secure the appropriate conservation management of all existing Lowland Meadows. Enhance at least 100ha of species-rich neutral grassland to bring it to UK BAP priority habitat Lowland Meadow quality. Pursue opportunities to create new species-rich neutral grassland where this will contribute to meeting the county-wide target of 37ha, in blocks of 2ha or more, by 2020.

3. Reinforce the intricate matrix of habitats by restoring and recreating heathland, acid grassland, and neutral grassland, and reconnecting fragmented woodlands. Opportunities should be taken for heathland or acid grassland restoration and enhancement as part of woodland management, for example at Bedgebury Forest and Hemsted Forest and in the Pembury area. Additional opportunities for creation of acid grassland and heathland should be pursued where this would contribute to the county-wide target of creating up to 28ha by 2020.

4. Pursue other opportunities to create new acid grassland and heathland, of up to 20ha in blocks of at least 1ha and no more than 500m from other existing or new semi-natural habitat. Enhance at least 10ha of species-rich acid grassland to bring it to UK BAP priority habitat Lowland Acid Grassland quality.

5. Maintain and restore water courses, achieving a quantifiable improvement in ecological status as judged by Water Framework Directive indicators and maintain, restore and create ponds.

6. Action for naturally widely dispersed habitats (ponds, traditional orchards), wildlife associated with arable farmland, and widely dispersed species such as great crested newt will need to focus across the whole of the area and not just within the Biodiversity Opportunity Area boundary.

3.16 The Medway & Low Weald Wetlands and Grasslands BOA has a focus on river systems of the Low Weald and is mainly to the north of the borough in small sections falling within the river corridors and flood plain of the Medway and Teise and so will be of particular relevance to those parts of the borough that fall within the Low Weald and GI proposals associated with river corridors.

3.17 There is also a small section of the Romney Marsh and Rye Bay BOA that straddles the border with Rother District. This will also be supported by the Council where appropriate.

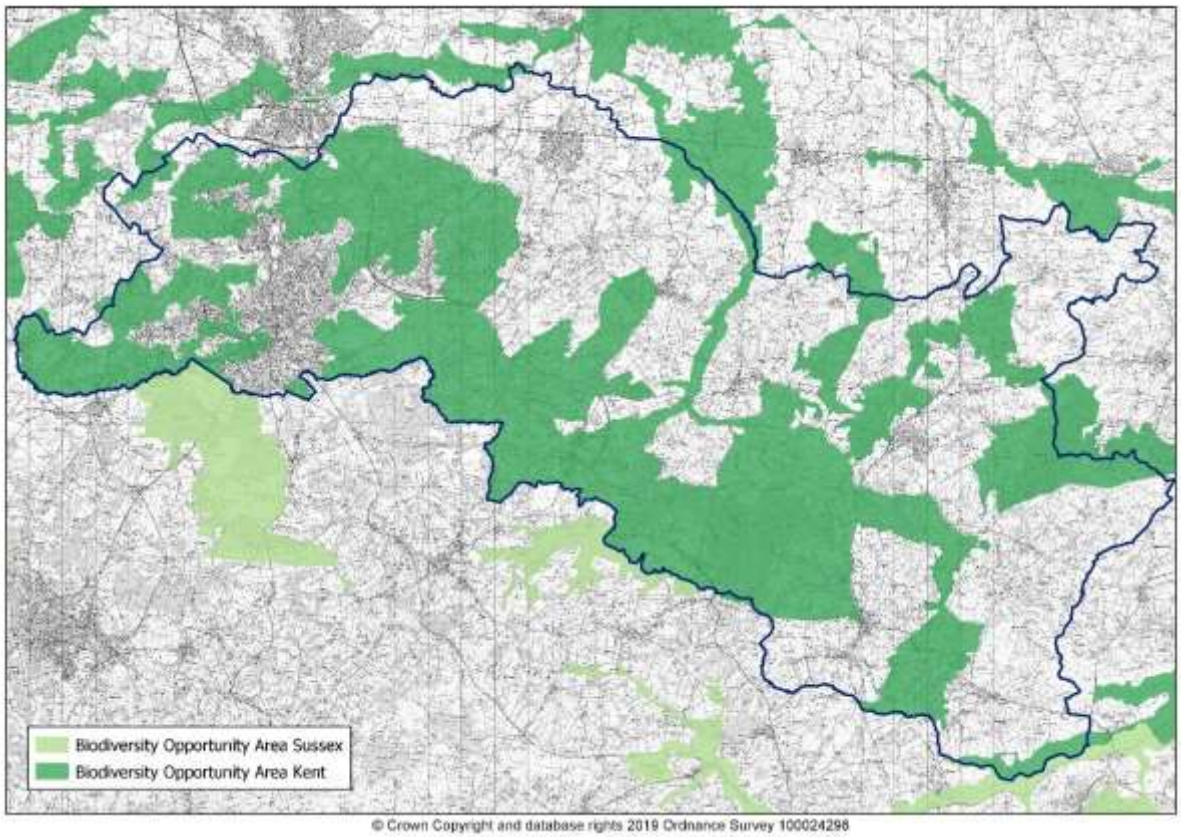


Figure 3: Map showing Sussex and Kent Biodiversity Opportunity Areas

Tunbridge Wells Borough Green Infrastructure Plan SPD August 2014

3.18 The Adopted Green Infrastructure Plan was prepared in support of the Core Strategy 2010 with the intention of providing a strategic vision for GI. It was the Council's first attempt at such a document and brought together much useful information for the borough and provided useful and ambitious strategic GI projects. It provided only limited information on GI within new development and, with the limited financial resources available to councils, taking forward the strategic projects has been difficult. With the prospect of an increased level of development provided for in the Pre-Submission Local Plan and opportunities for developer contributions through implementing net gain biodiversity principles and biodiversity offsetting it is an appropriate point to review GI priorities for the borough and the means of delivery.

3.19 This document builds on the existing SPD and will be helpful to a future review of the SPD. Each strategic proposal is summarised below with recommendations for any further action. All existing proposals will need to be reviewed in preparation for a new GI SPD but at present of eight original projects four appear to have a good prospect of being retained as a priority, two have been superseded by other plans or projects and two appear unlikely to continue in their current form.

Proposal 1: Extension of the Forest Ridge Project around Royal Tunbridge Wells, Southborough and Pembury

Extension of the Forest Ridge Project at Broadwater Warren, Hargate Forest, Cinderhill and Tudeley Woods.

Significant contributions to this proposal have been made through improved management and access of woodland sites within the area particularly at Knights Wood and Sherwood Lake and Woodland where recent investments in woodland management and provision for access have brought about landscape scale changes. Improved management at RSPB and Woodland Trust sites continues and further improvements at Marshley harbour, Snipes and Bassets Wood are planned. This project falls within the geographical area of the High Weald BOA and is consistent with the targets for the BOA and so it is likely that the Council will continue to support this project as a priority.

Proposal 2: High Weald/Low Weald Links

Links between the High Weald and the Low Weald character areas.

Whilst some recent minor projects (footpath link improvements between Paddock Wood and Brenchley) have made a contribution to this project it's rather indistinct geographical nature and lack of related development make this a difficult project to implement. The setting of the designated High Weald Area of Outstanding Natural Beauty is related to this area and is now enshrined within the Borough Landscape Character Assessment SPD and its recommendations. Consequently, it is likely that this project will need to be reviewed.

Proposal 3: Teise to Medway River Corridors

Enhancing the quality of the waterway and increasing opportunities for access.

This project is consistent with GI proposals for Tonbridge and Malling and Maidstone Councils and the Medway & Low Weald Wetlands and Grasslands BOA. It relates to considerations for flooding, water quality and accessibility. Some progress has been made in the borough through projects undertaken as part of the catchment management plans involving the Environment Agency, Canal and River Trust and the Kent High Weald Partnership. There are real prospects of this work continuing, and also future contributions may come through mineral consents in the Medway valley and biodiversity offsetting projects. Therefore, it is likely that the Council will continue to support this project as a priority.

Proposal 4: Extension of Romney Marsh Biodiversity Opportunity Area

To support the Romney Marsh Biodiversity Opportunity Area for habitat enhancement, restoration and recreation.

This affects such a small area of the borough where little or no development is anticipated that, whilst it will continue to be shown on GI mapping, it is unlikely to be seen as a priority.

Proposal 5: Enhancement of links between key tourist attractions and settlements

Improvement of links from the borough's key centres, including Royal Tunbridge Wells, Cranbrook and Hawkhurst to key tourist attractions, for example Bedgebury Pinetum and Bewl Water.

Considerable work on the necessary transport infrastructure and improvements to encourage people to switch from cars to other modes of transport (modal shift) is being undertaken as part of the Pre-Submission Local Plan and in other plan and projects alongside it. In particular, the transport study that underpins the growth strategy and the Local Walking and Cycling Infrastructure Plan that is in preparation will consider and make progress towards this proposal.

Proposal 6: High Weald Transition Zone – strengthening National Character Area

Protect, enhance and restore the landscape character of the High Weald National Character Area outside of the High Weald Area of Outstanding Natural Beauty.

This has some overlap with project 2 High Weald/Low Weald Links. As with Project 2, its rather indistinct geographical nature make this a difficult project to implement. The setting of the designated High Weald Area of Outstanding Natural Beauty is related to this area and is now enshrined within the Borough Landscape Character Assessment and its recommendations. Consequently, it is likely that this project will need to be reviewed.

Proposal 7: Redundant railways

Within the eastern part of the borough, along the former Paddock Wood to Hawkhurst Railway, which connected Hawkhurst, Cranbrook, Goudhurst, Horsmonden and Paddock Wood. Within the western part of the borough, along the former Tunbridge Wells to Eridge line.

Considerable progress has been made with the former Paddock Wood to Hawkhurst Railway Line now know as the Hop Pickers Line. Through the work of the Hop Pickers Line Heritage Group supported by parish and town councils and the Borough Council the route has been the subject to an industrial archaeological study, has an approved scheme of signage and way marking and has collated a considerable amount of archive material. The way marking and signage strategy is starting to be put into place with the first installation at Paddock Wood and further signage being erected at Goudhurst and Horsmonden and a number of events

associated with the line have taken place with more planned. Consequently, it is likely that the Council will continue to support this project as a priority.

The lines continue to be safeguarded within the Pre-Submission Local Plan and so it is recommended that support for this project continues.

Proposal 8: Surface Water Management Plan outcomes

Improve surface water management within Paddock Wood and reduce surface water flood risk.

This project has largely been superseded by new surface water management studies and the proposed masterplanning of new development in and around Paddock Wood contained within the Pre-Submission Local Plan. The work has involved the Environment Agency and supports natural flood management. Consequently, it is likely that this project will need to be reviewed.

Adjoining Planning Authorities

3.20 Where available (Wealden, T&M, Sevenoaks, Maidstone included – Ashford and Rother no information available) GI plans and proposals from adjoining authorities have been reviewed. Maps and Summaries are provided in Appendix N. In all cases they indicate a cross boundary GI link. These cross boundary links have been taken into account as part of the proposed GI mapping for Tunbridge Wells borough and should be supported through relevant GI proposals. An indicative map that shows where the GI plan of adjoining LPAs interact with the borough is set out below and will be used to inform future GI action and provision.

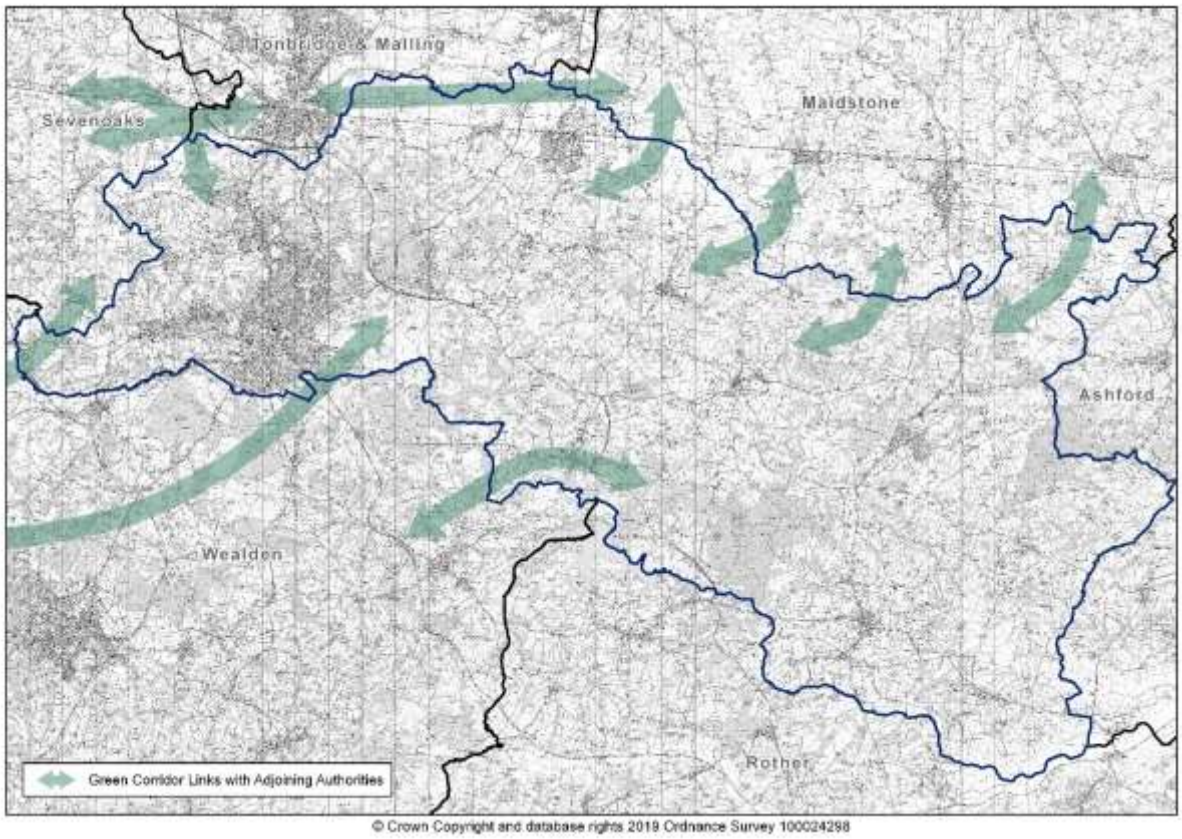


Figure 4: neighbouring authorities' GI schemes (see Appendix N)

4.0 GI Options and Opportunities

4.1 The Council can achieve improvements to GI through application of policies in the Pre-Submission Local Plan and through actions as part of managing its own estate, the delivery of services and through the support for other agencies and organisations. Each pathway offers its own opportunities and challenges but in providing guidance and priorities the outcomes for GI should be maximised and are more likely to be sustained. These pathways are:

- Council-owned/funded sites and projects
- Planned Growth and Biodiversity offsetting
- Support for other agencies and organisations KWT, KNP, KHWP, AONB Unit, Bloom

Council-owned/funded sites

4.2 The Council owns two Local Nature Reserves (LNRs) at Barnetts Wood and Hilbert Woods and leases another site (Cinderhill) managed on LNR principles to Matfield and Brenchley Parish Council. There are two other LNRs, one at Cranbrook (Crane valley) and one at Paddock Wood (Foalhurst Wood) which the Council supports with advice and assistance through the Kent High Weald Partnership.

4.3 The Council also owns and manages other spaces with significant biodiversity interest, public access and strong elements of GI including several important parks (Calverley Park, Dunorlan Park, Grosvenor and Hilbert Park), Local Wildlife Sites (Reynolds Lane, Hawkenbury Cemetery and Crematorium) and areas that are both ancient woodland and LWSs (Marshley Harbour, Bassets and Snipes, High Woods).

4.4 The Council is largely responsible for funding and has significant influence over the management of Tunbridge Wells and Rusthall Commons and is able to support parish and town councils through the Kent High Weald Partnership in the management of other important spaces such as Southborough Common and Lamberhurst the Down.

4.5 These sites will be managed in accordance with adopted GI Policy as appropriate.

Planned growth and biodiversity offsetting

4.6 The planned growth in the Pre-Submission Local Plan for some 12,200 new houses between 2020 and 2038 is both a considerable challenge and opportunity for biodiversity and GI. Policies for growth are complemented by a raft of policies aimed

at protecting and enhancing the natural environment (EN 9 to EN 20) with specific requirements for biodiversity net gain (EN 9) and for GI (EN 14).

4.7 The Council's overall objective is that the Local Plan should result in a net biodiversity gain and improved GI. Many development sites will be able to achieve this on or immediately adjacent to the proposed development and recent planning decisions have demonstrated that this this can be achieved with, in some cases, more than 50% of a development site being given over to ecological areas and green spaces and with adjacent areas of ancient woodland being put into long term management under Landscape and Ecological Management Plans that run for the lifetime of the development.

4.8 However, this is not always possible or necessarily desirable on all sites, so that there will be cases where development will result in a net loss to biodiversity. To compensate for this loss in biodiversity, the Council will secure land or third party undertakings on land outside and away from the development site with the express purpose of providing biodiversity gains equal to or in excess of losses that arise from any development. This will be funded by developers' contributions under the polluter pays principle. The methods of calculating losses and gains and the principles that govern any scheme of biodiversity offsetting are set out in proposed Policy EN11 in the Pre-Submission Local Plan and are supported by government guidance and will be supported by further Council guidance in support of the Pre-Submission Local Plan in due course.

4.9 Through biodiversity offsetting, the Council expects that new areas for biodiversity will be provided in a manner that supports existing sites and projects for the natural environment. In addition, those strategic sites at Paddock Wood and Capel parishes within the Green Belt are required by policy to provide compensatory improvements to the environmental quality and accessibility of remaining Green Belt thereby strengthening existing GI.

Support for other agencies and organisations

4.10 The Council provides financial, technical and political support for a number of agencies and organisations that are directly involved with and deliver projects that support GI objectives. This support is expected at this time to endure during the lifetime of the Local Plan and includes:

Kent High Weald Partnership – work on nature conservations sites, engaging people with nature, Forest schools and conservation volunteering;

Kent Wildlife Trust – delivery of the Local Wildlife Site System and planning advice;

Kent Nature Partnership – oversee Kent Biodiversity Strategy and Local Wildlife Site System;

High Weald AONB Unit – production of AONB Management Plan, supporting guidance, research and projects; and,

Tunbridge Wells in Bloom – support for Bloom activities in Royal Tunbridge Wells

5.0 Conclusions and Implementation

5.1 The evidence indicates that the borough is generally well endowed with GI and although there are some deficiencies these are not significant and are not widespread when taken as a whole.

5.2 Connectivity for people, other than through the Open Space Study, has not over time been consistently measured but whilst indications are that there is generally a good provision there are some areas of concern. The Council's own work shows some opportunities for improved connectivity of habitats. This evidence, supported by policy drivers for landscape, biodiversity and GI, is that GI should not only be protected and enhanced and it is equally important to provide improved connectivity which will require new GI.

5.3 Whilst existing actions and support for agencies and organisations can assist, and the Council intends to continue with these, the greatest opportunity for achieving meaningful and long lasting improvements and additional areas/features of GI is through the application of new policies to the planned growth in the borough for landscape, biodiversity and GI. The quality of development that the Council is seeking through the Pre-Submission Local Plan should provide for well-managed existing and new GI as part of place making and responding to existing character. In particular, the proposal for biodiversity offsetting may lead to landscape scale change and new elements of strategic GI, either as a standalone provision within the borough or as part of a wider cross boundary project.

5.4 Apart from existing funding to support agencies and organisations that the Council provides (which often attracts external grants for specific projects) most funding for or direct provision of GI will come through developers as part of specific development proposals, or in the form of a biodiversity offsetting proposal or financial contribution for off-site mitigation. The Council has a good track record of achieving positive GI and biodiversity outcomes on recent development and with a strengthening policy framework sees no reason as to why this will not continue. The long term management of open space and habitats on new development sites is commonly secured through Landscape and Ecological Management Plans funded by ground rents from the new development linked by condition and/or legal agreement to be implemented and operated for the lifetime of the development.

5.5 In addition, policies for strategic sites in the Pre-Submission Local Plan (Paddock Wood and Capel and Tudeley) are specifically designed to capture the uplift in land value and create a high quality environment on garden settlement principles with GI to be a defining characteristic. Masterplanning for these sites will include provision for long term stewardship.

Priorities

5.6 Priorities for GI will vary across the borough depending upon the circumstances and the nature of the site, location or project concerned. Application of the mitigation hierarchy means that existing GI should be retained and enhanced in the majority of cases as a matter of course. The priority for intervention will then be improving connectivity through either habitat improvements, the provision of landscape and/or ecological buffers and/or through the provision of new features such as woodland, hedgerows, species rich grassland etc. that connects existing habitats. Such provision will be more effective where it can support and add to existing GI and protected/notable areas such as important wildlife corridors like rivers or existing designated sites such as LNRs, or where it can support strategic initiatives. Consequently, where GI is to be provided, it should prioritise proximity to existing sites and features and prioritise support for existing projects and policies for the area and have regard to:

- Landscape Character Assessment Strategies
- High Weald AONB Management Plan Objectives
- Biodiversity Opportunity Area Targets (or any replacement priorities identified through the review of the Kent Biodiversity Strategy)
- Strategic Projects for GI in Tunbridge Wells borough identified above
- Strategic Projects for GI in adjoining planning authorities

5.7 These GI priorities are summarised in the Key Diagram at Appendix M which illustrates existing and proposed Strategic GI.

M) Key Diagram Map – GI Strategic Priorities (Known provision of new GI, large scale development sites that will provide significant GI, Strategic GI projects taken forward, Cross boundary GI from Adjoining LPAs, Regional GI Initiatives)

Appendices

Appendices A to I; Designations and other GI Features

The plans shown in the following appendices (Appendices A to I) present designations and other green infrastructure features mapped across the borough and adjoining authorities. These plans are useful in understanding the provision of current GI across the borough and the context in which the borough sits. The following paragraphs give a brief explanation of each plan and the information contained within them.

Appendix A Statutory and Non-Statutory Designated Sites for Wildlife and Ancient Woodland

This plan shows both statutory and non-statutory designated sites for wildlife and ancient woodland, the coverage of these across the borough indicates the wealth of GI that currently exists within the borough.

Appendix B Kent Habitat Survey

This plan shows the Kent Habitat Survey 2012 mapped across the borough, this survey was produced as part of the European Interreg IV 2-Seas project Assessing Regional Changes in Habitat (ARCH) Project. The project was a Kent Biodiversity Partnership initiative led by Kent County Council.

Appendix C Priority Habitats

This plan shows the Priority Habitat Inventory (England) mapped across the borough and the surrounding area. These habitats are those that have been identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP).

Appendix D Woodland Cover

This plan details the coverage of woodland across the borough, three different data sources have been used; Natural England's Ancient Woodland dataset, the Woodland Trust Reserves dataset and the National Forest Inventory produced by Forest Research. The combination of these three datasets gives a comprehensive view of woodland across the borough.

Appendix E Water Features

This plan details the extent of water features (i.e. rivers, streams, lakes, ponds and other standing waterbodies) across the borough. The map displays three datasets symbolised as 'Water Bodies', 'Statutory Main Rivers' and 'Other Watercourses'. The datasets used for this map are; the OS Open Data for Water Bodies and River, the Environment Agencies Statutory River Dataset and the High Weald AONB Unit's Component Part for Water dataset. The combination of these three datasets gives a comprehensive view of the water network across the borough.

Appendix F Public Rights of Way and Historic Routeways

This plan details the Public Rights of Way (Kent County Council) and Historic Routeways (High Weald AONB Unit) mapped across the borough. These 2 features form an important part of the GI network across the borough.

Appendix G Rivers Ecological Status

The River Ecological Status breaks down the ecological status into 5 classes from ‘High’ to ‘Bad’ (this dataset has come from The Rivers Trust CaBA Data Package), the aim of the Water Framework Directive’s Catchment Management Plan is to achieve a score of ‘Good’ in each catchment by 2027 (where this is possible without incurring unreasonable costs). The health of rivers is determined by looking at the health of a number of ecological indicator species. The majority of the borough achieves a score of ‘moderate’ with some areas scoring ‘poor’ thus showing that there is potential to improve the ecological status of rivers within the borough.

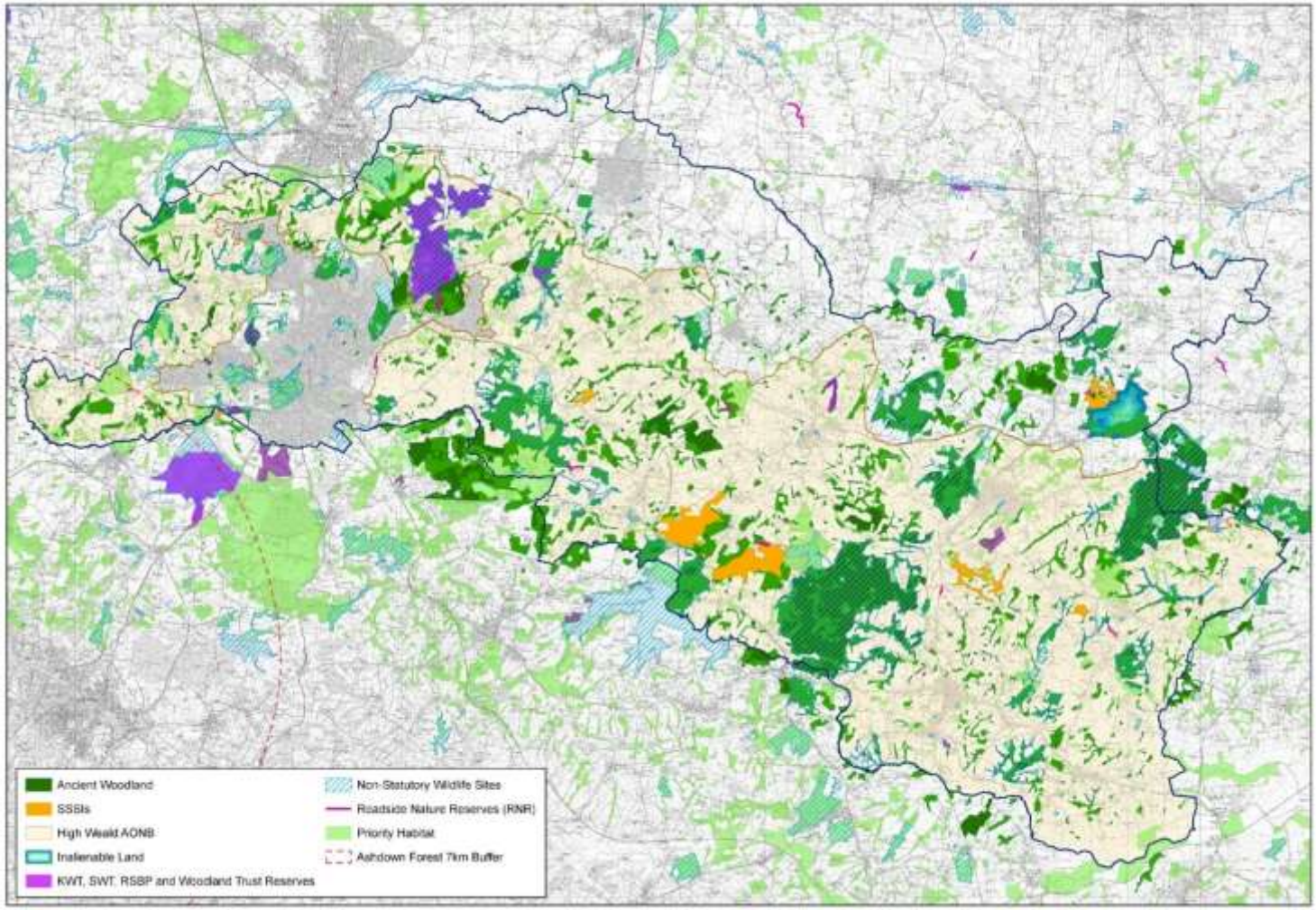
Appendix H Ground Water Status

There are five chemical and four quantitative tests that assess groundwater status, the results from these tests are combined to provide an overall ground water status (this dataset has come from The Rivers Trust CaBA Data Package). The resulting score is either ‘Good’ or ‘Poor’ and indicates regions where groundwater could be improved within the borough. Most of the borough scores poorly in terms of groundwater status with only a small region in the southeast of the borough achieving a score of ‘Good’. This means that across the borough there is the potential to improve the overall quality of groundwater.

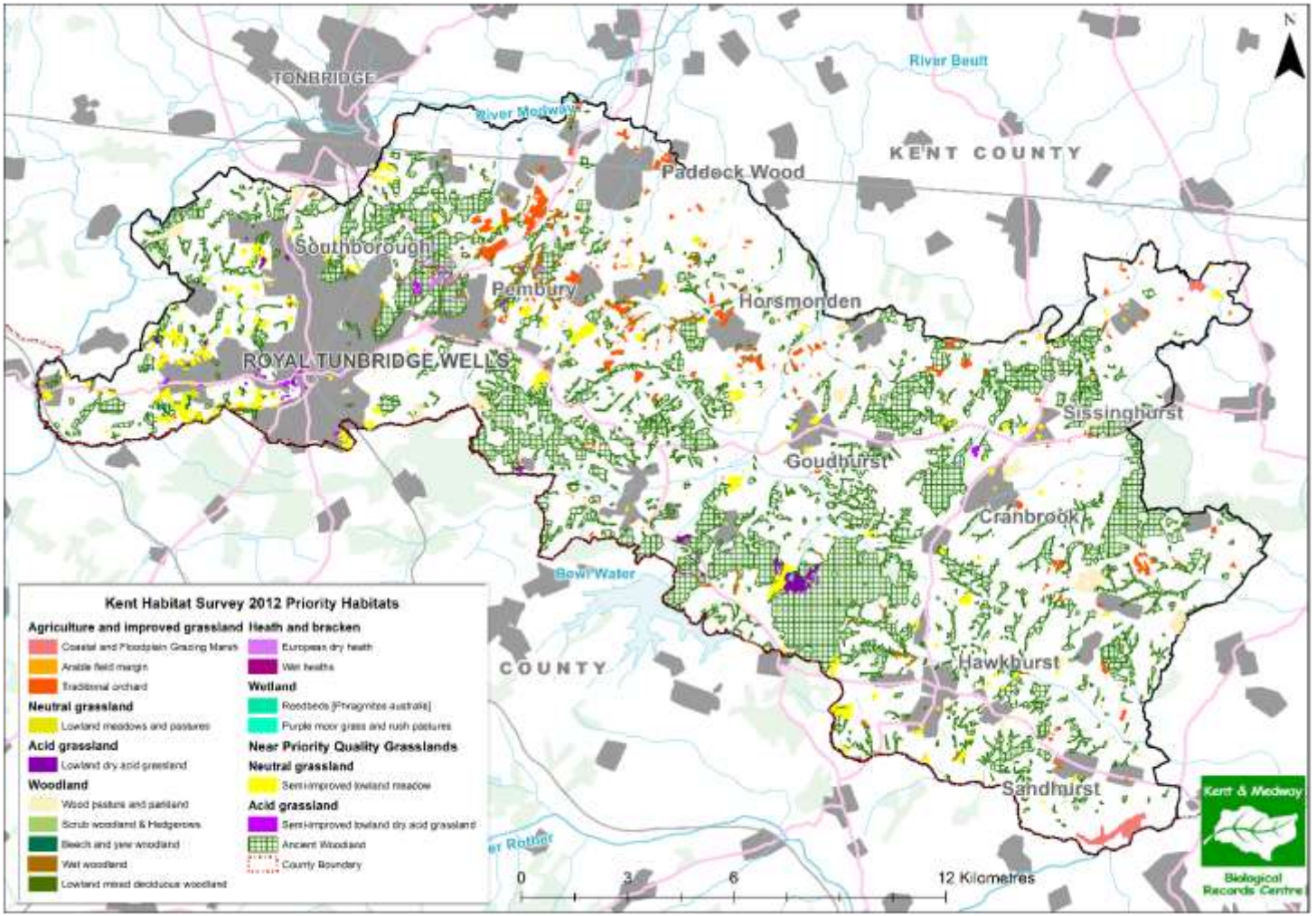
Appendix I Local Nature Reserves and Similar Sites

This plan shows Local Nature Reserves and other comparable sites where the public can access open space of a quality level comparable to Local Nature Reserves. There are only four statutory Local Nature Reserves within the borough, the plan shows that the provision for these sites is largely met by other sites.

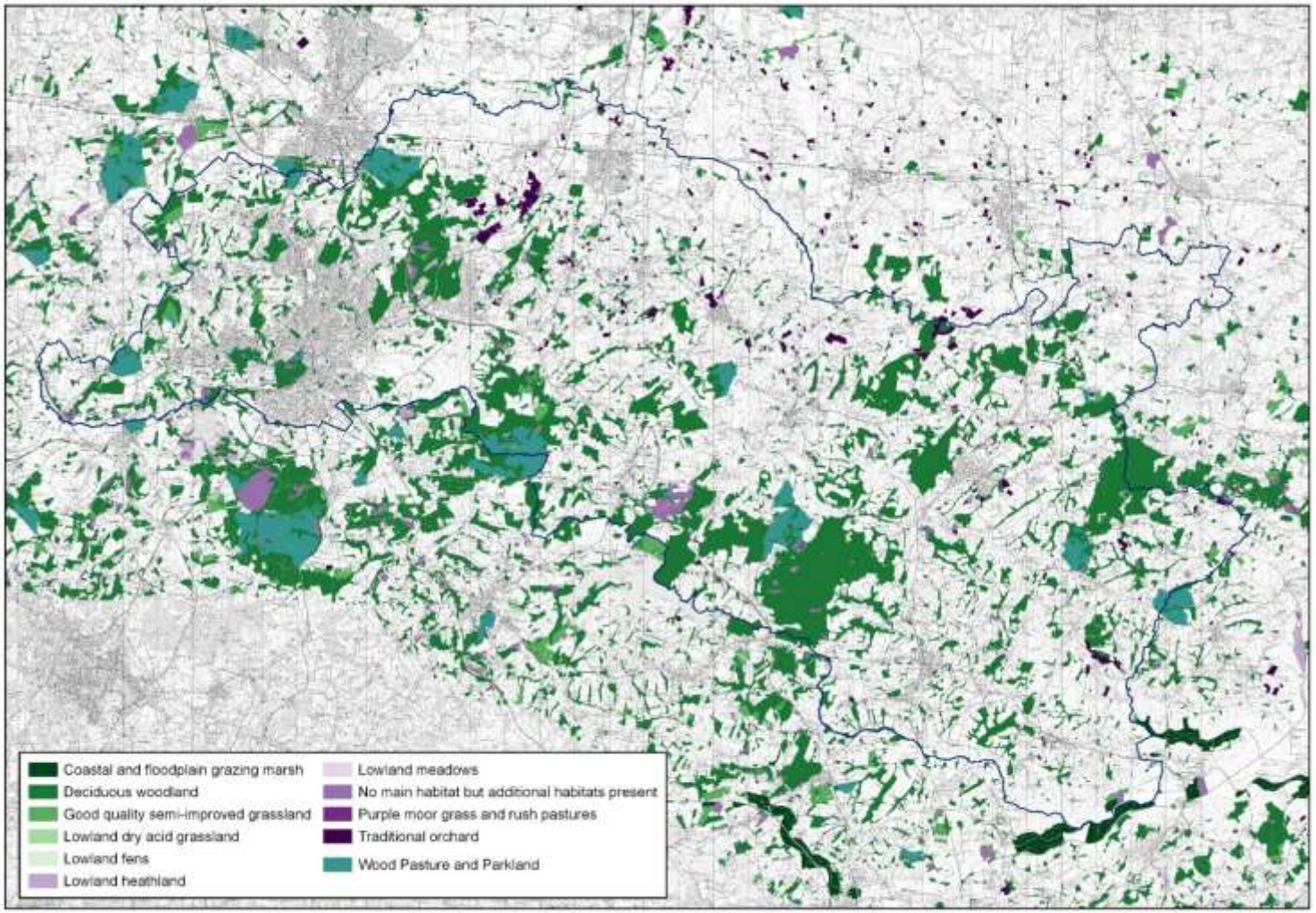
Appendix A: Statutory and Non-Statutory Designated Sites for Wildlife and Ancient Woodland



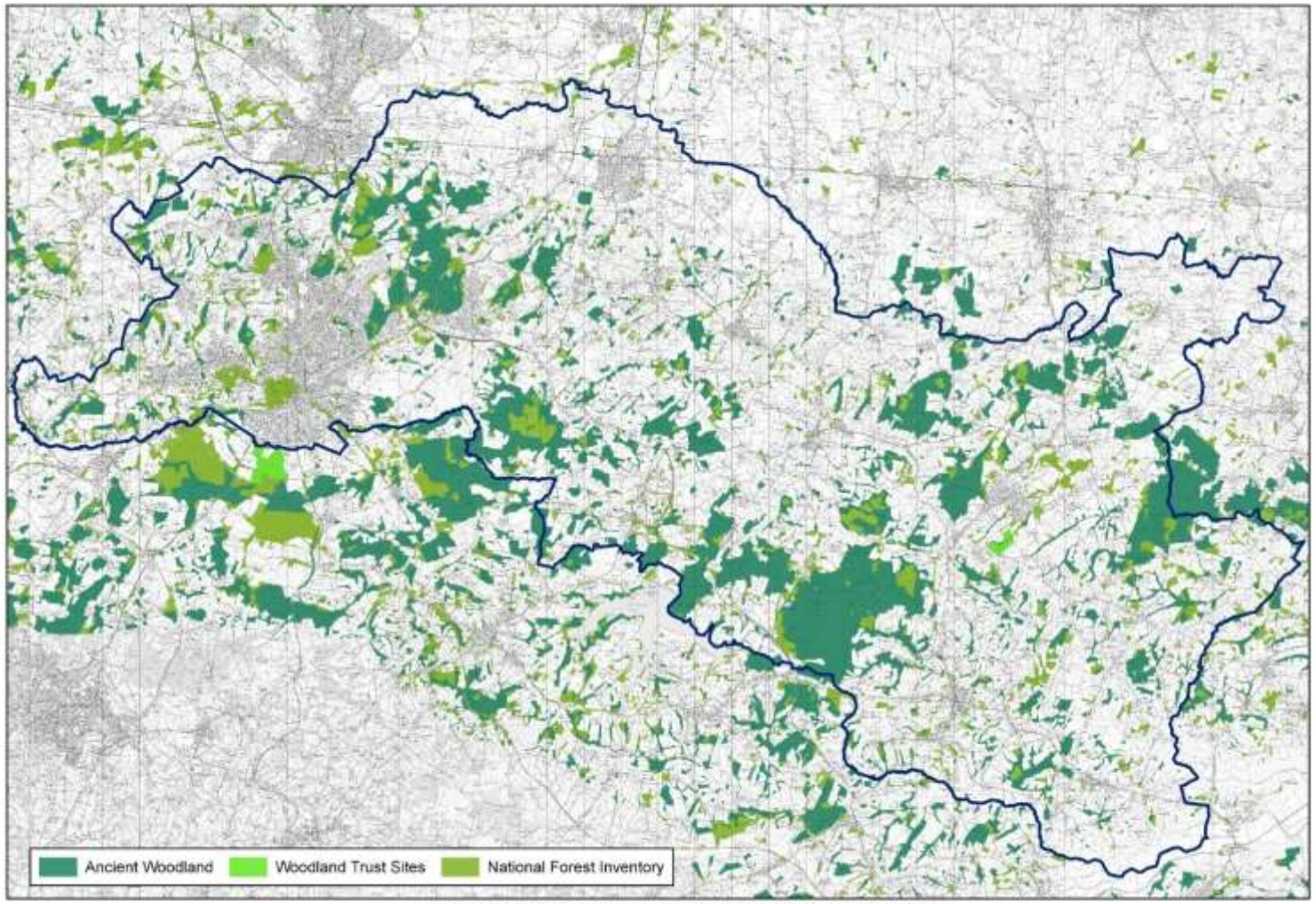
Appendix B: Kent Habitat Survey 2012



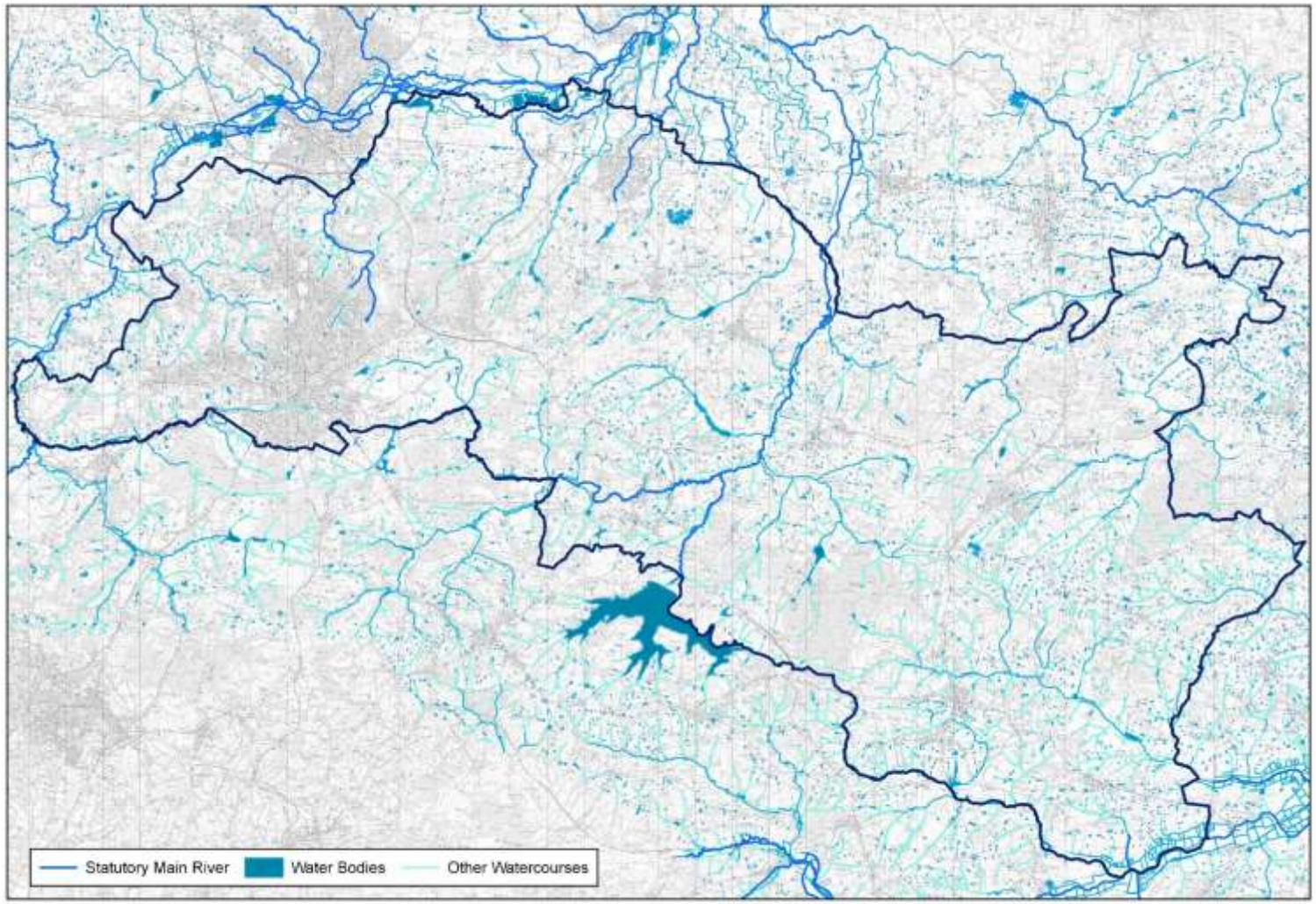
Appendix C: Priority Habitats



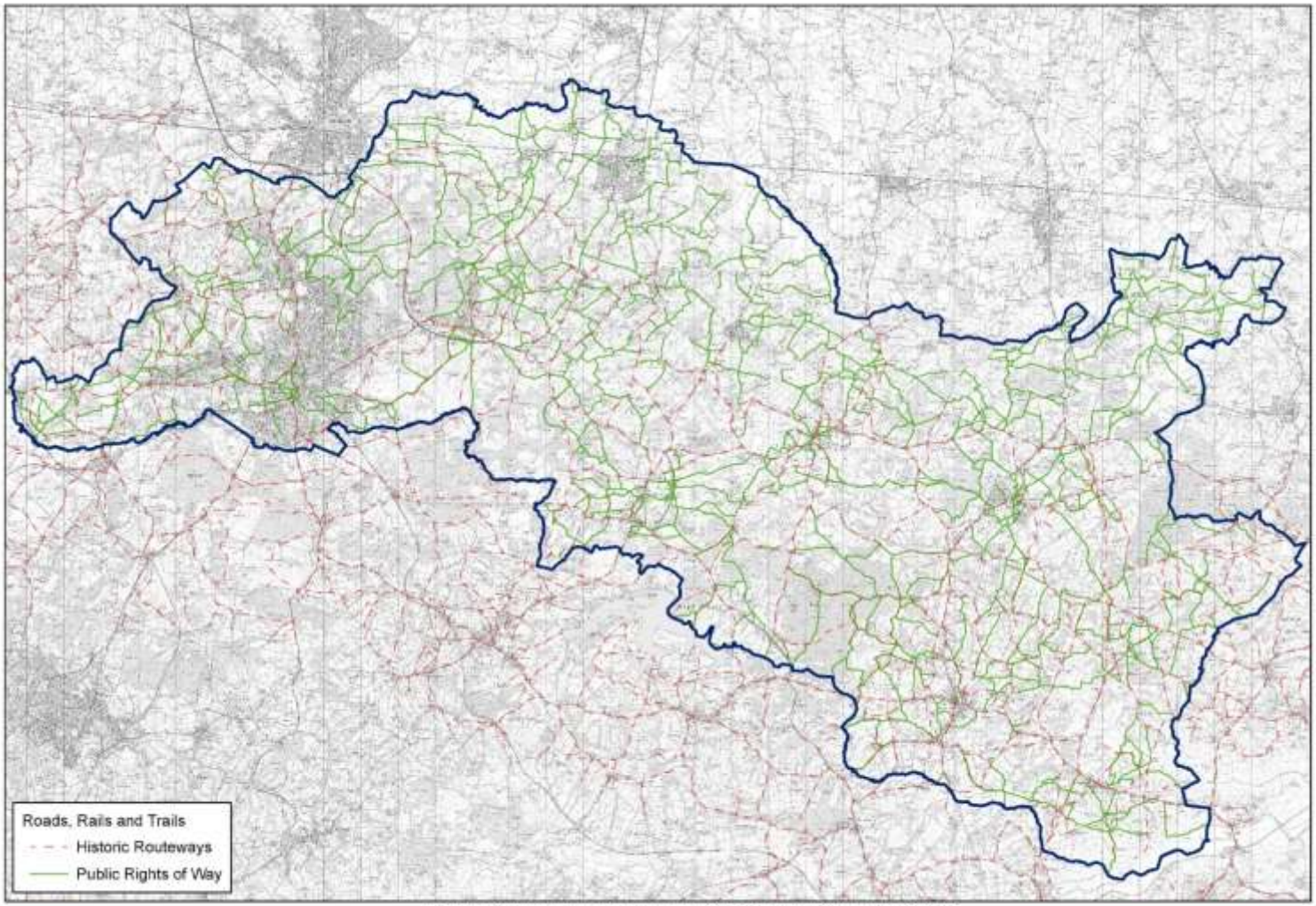
Appendix D: Woodland Cover



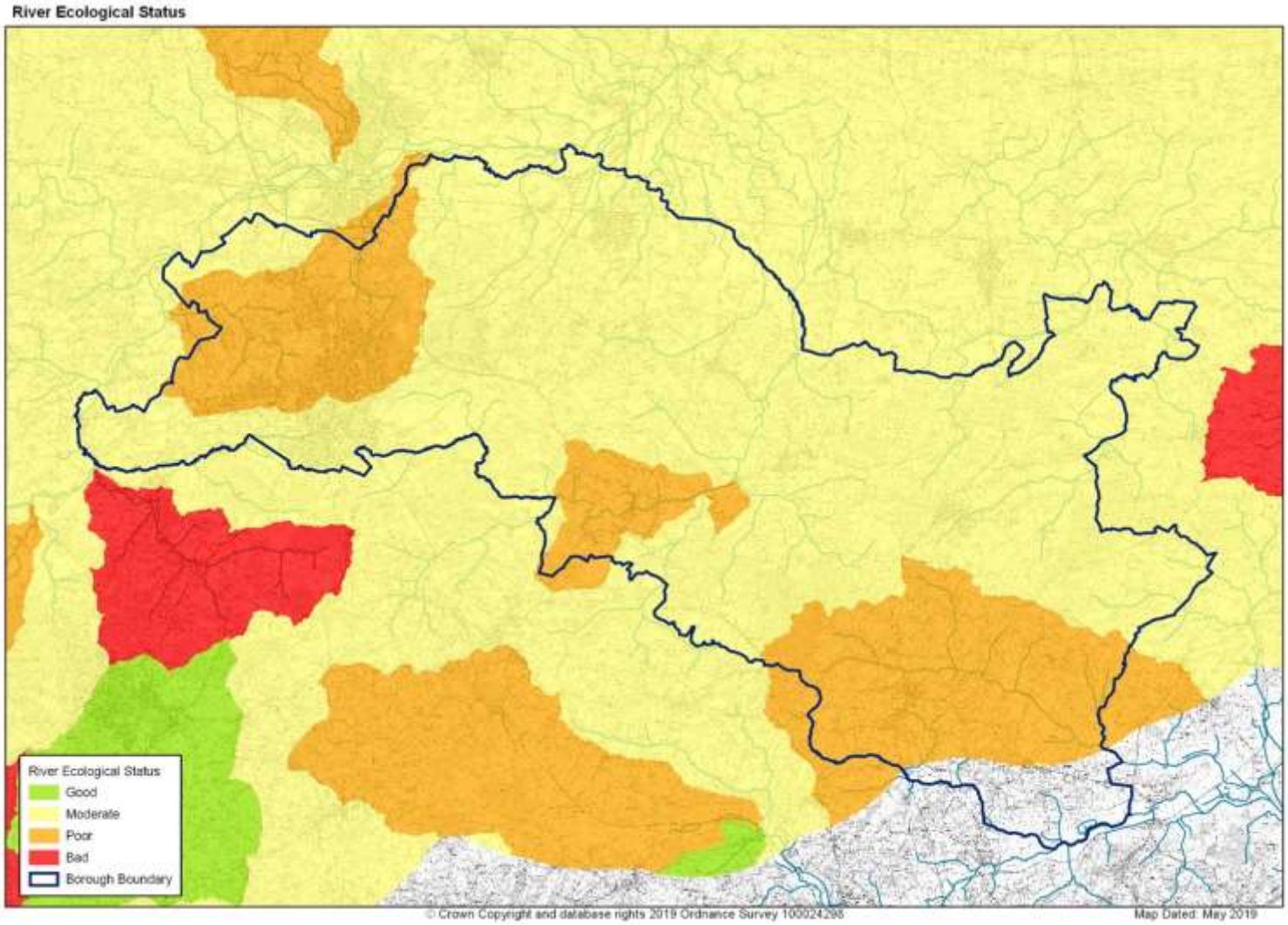
Appendix E: Water Features



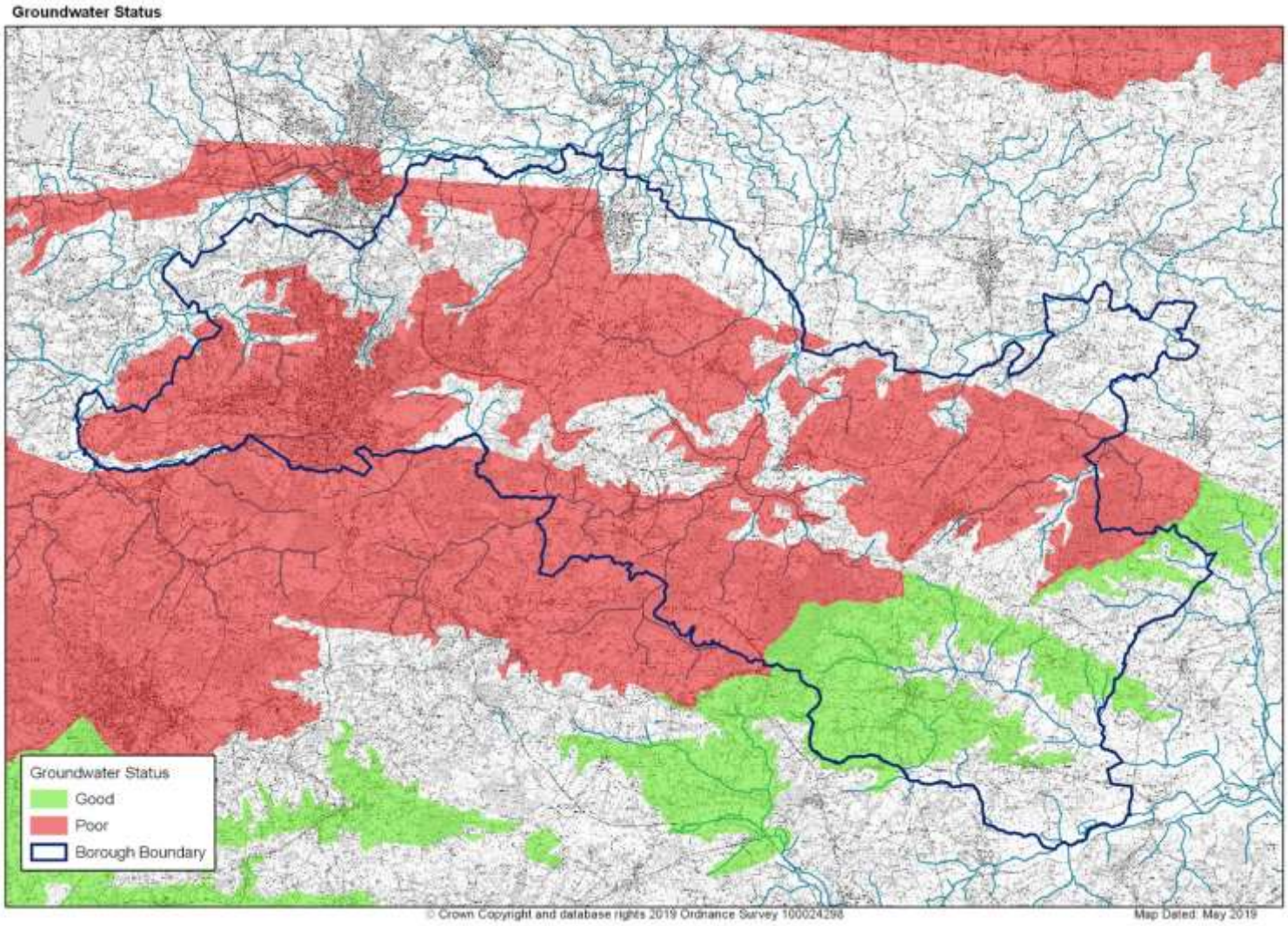
Appendix F: Public Rights of Way and Historic Routes



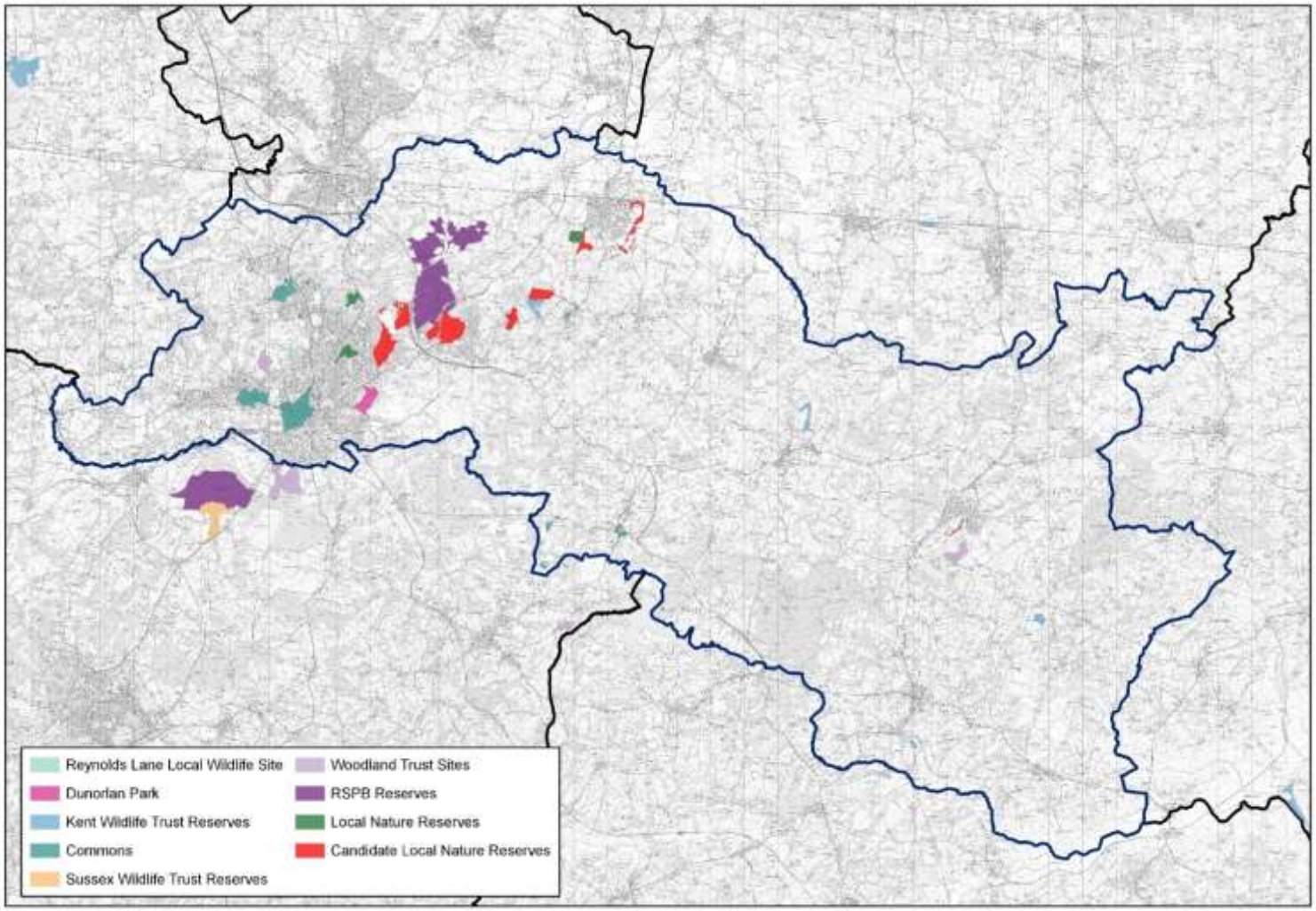
Appendix G: Rivers – Ecological Status



Appendix H: Ground Water Status



Appendix I: Local Nature Reserves and Similar Sites



Appendices J to M; Analysis and Key Diagram

The plans shown in the following appendices (Appendices J to M) present spatial analysis carried out on some of the datasets presented above. This allows the borough council to better understand the datasets and gain insight into GI across the borough. The analysis has been carried out in both ArcMap 10.4 and ArcGISPro 2.3.2. The following paragraphs give a brief explanation of each plan, the information contained within them and any analysis carried out.

Appendix J Woodland and Water Networks

This plan presents the distance between either woodland or water features across the borough, while woodland and water networks have been presented separately above in practice it is the combination of these features that form an integral part of the GI network across the borough. To carry out this analysis the woodland and water network datasets were combined into one ecological network dataset and the distance between these features was analysed using the “Euclidean Distance” tool. The plan identifies areas which are a significant distance from either one of these features with areas that are further away presented in a lighter colour. It could be considered that the further away a location is from these features the more removed it is from the GI/ecological network within the borough. This provides the potential to identify regions within the borough where projects could improve links or even provide new links into the network.

Appendix K Weighted Sum Map of GI Assets

This plan presents the weighted sum of key GI assets across the borough and includes features from Appendix A (the High Weald AONB, Special Area of Conservation, Special Protection Area and Inalienable land have not been included). The Weighted Sum tool weights and combines multiple inputs to create an integrated analysis of features while incorporating weights or relative importance. In this assessment the input values were not weighted as all variables were treated equally, this allowed the identification of areas where multiple features were present. The output dataset contained the sum of GI assets across the study area. The relative abundance of GI assets within each area indicates the existing provision of GI within an area or areas where improvements in GI are needed.

Appendix L Comparison Map (Woodland and Water Networks and Weighted Sum Map)

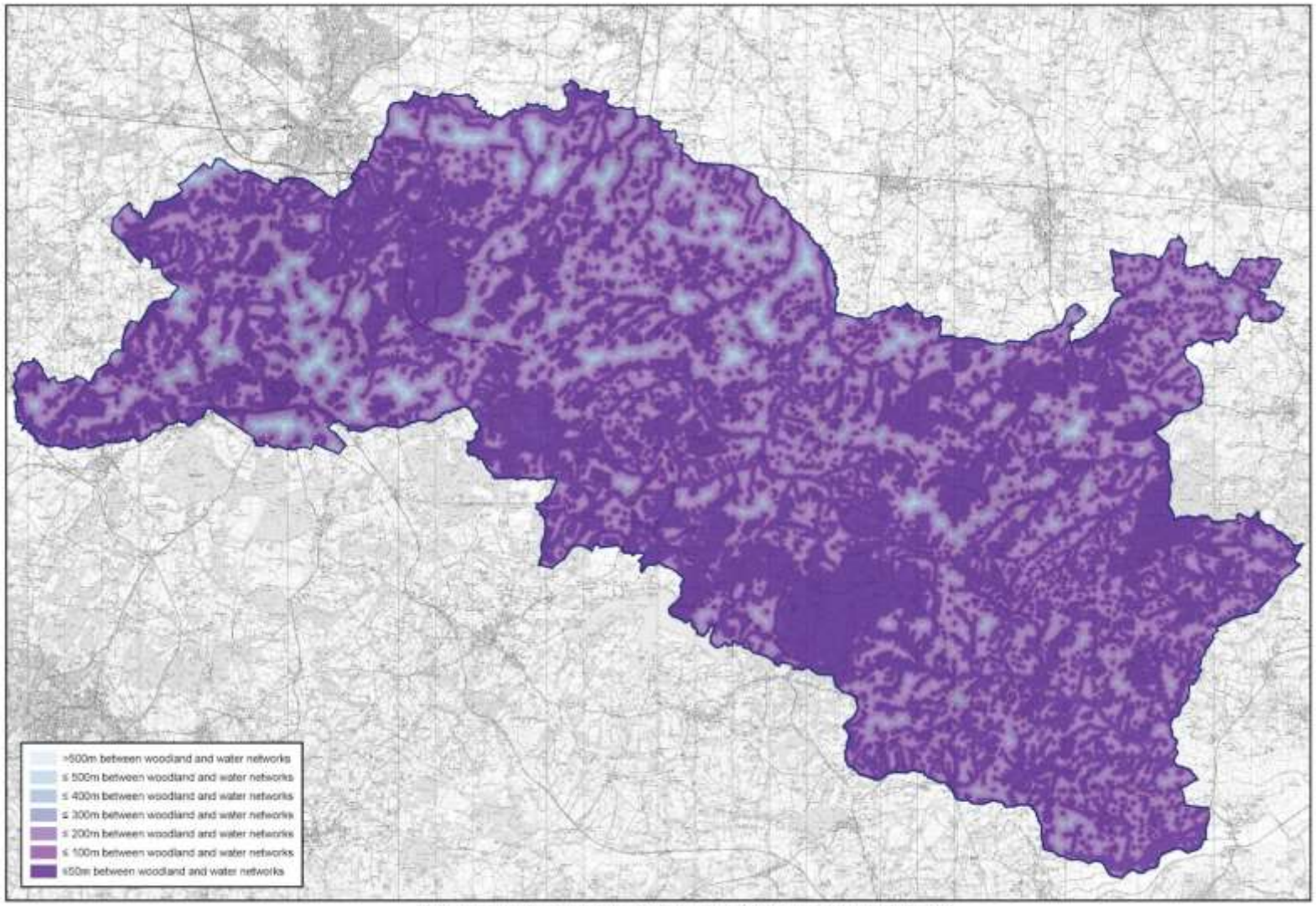
This plan presents a comparison between the plans shown in Appendix J and K, this plan identifies areas with a relative wealth of GI and areas where GI could be improved. The areas marked in purple are regions where gaps have been identified in the “ecological network (of woodland and water). There is potential to improve connectivity between woodland and water features in order to enhance these networks across the borough. This improvement could be the result of new green infrastructure schemes or careful management of future development within these areas. The areas marked in green on the map are where the opportunity to protect and maintain existing features has been identified. These areas are those where

several important designated features have been identified, the aim in these areas should be to protect and maintain existing green infrastructure assets.

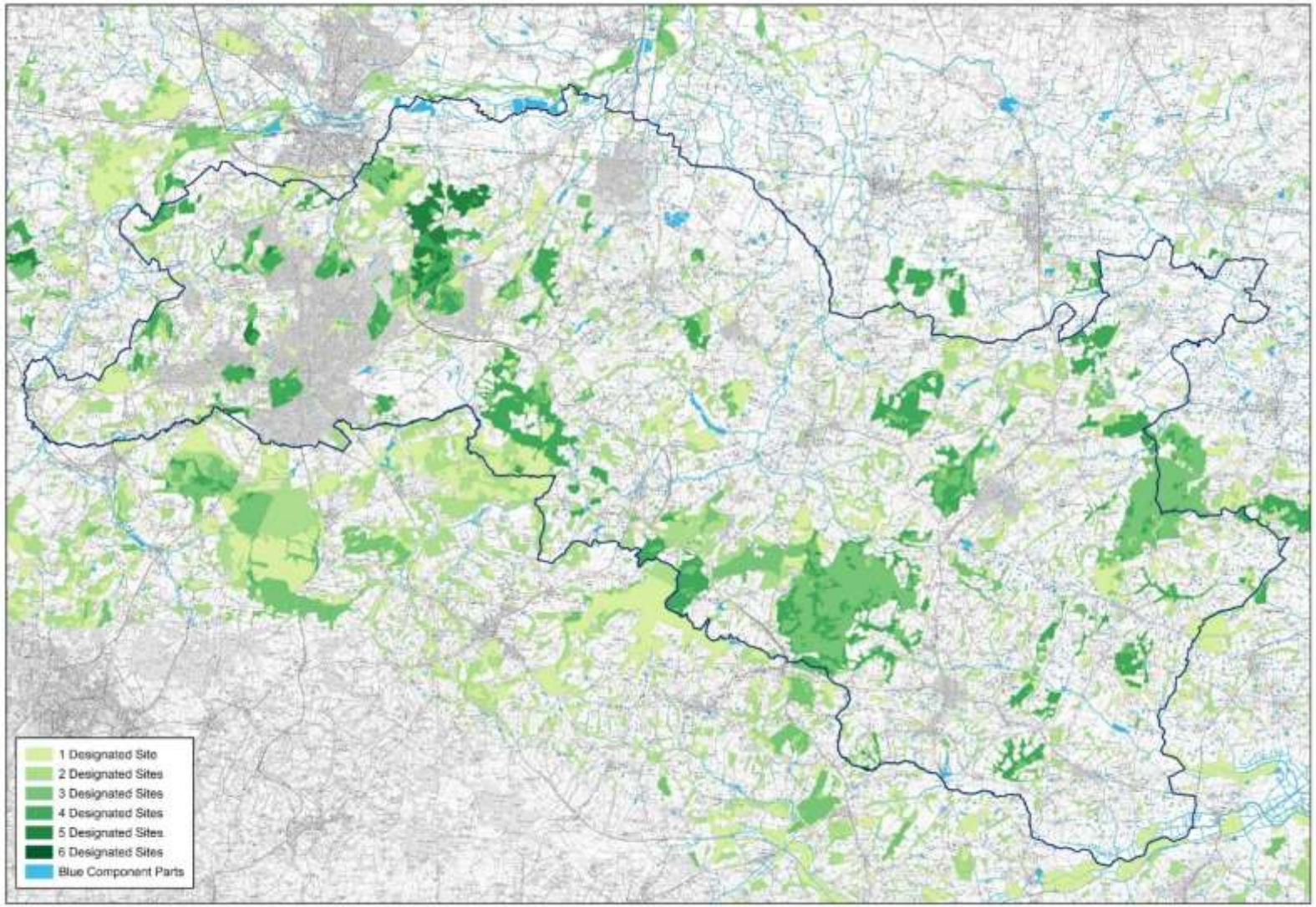
Appendix M Key Diagram Map

This plan illustrates existing and proposed Strategic GI across the borough. The plan spatially displays the Strategic GI projects being taken forward as well as the GI links with adjoining authorities. The plan also illustrates proposed large-scale development through which new GI projects could come forward.

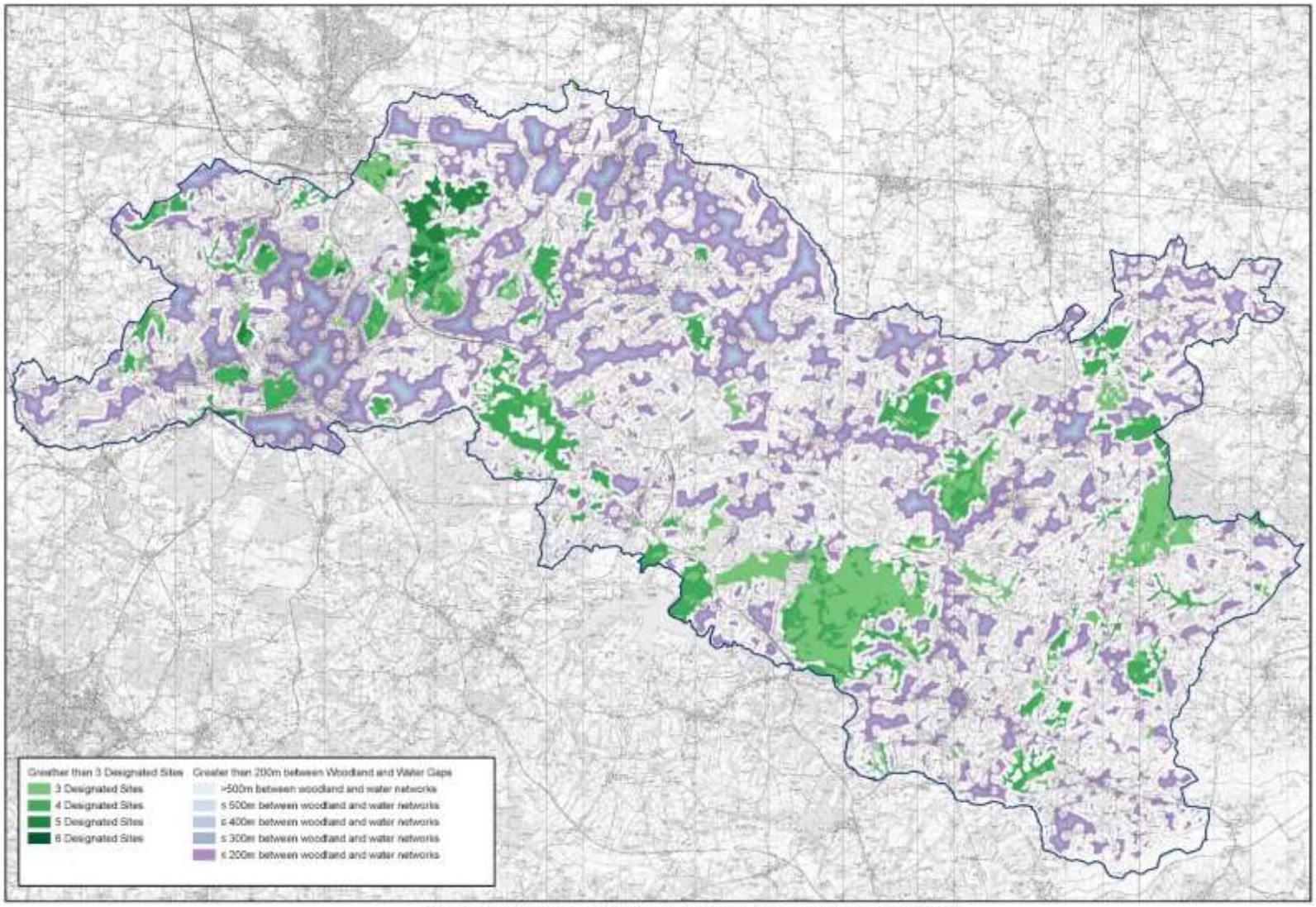
Appendix J: Woodland and Water Networks



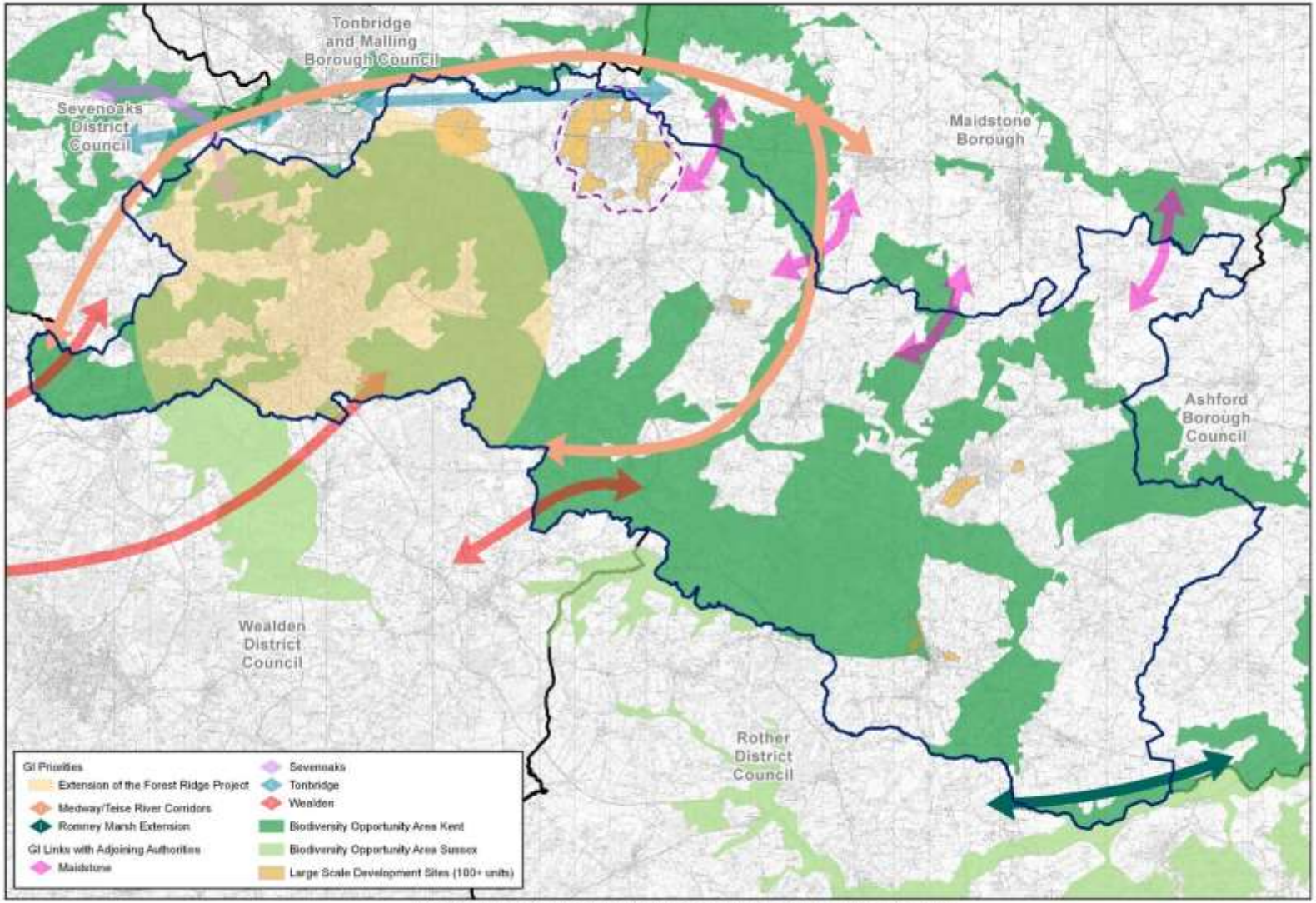
Appendix K: Weighted Sum Map of GI Assets



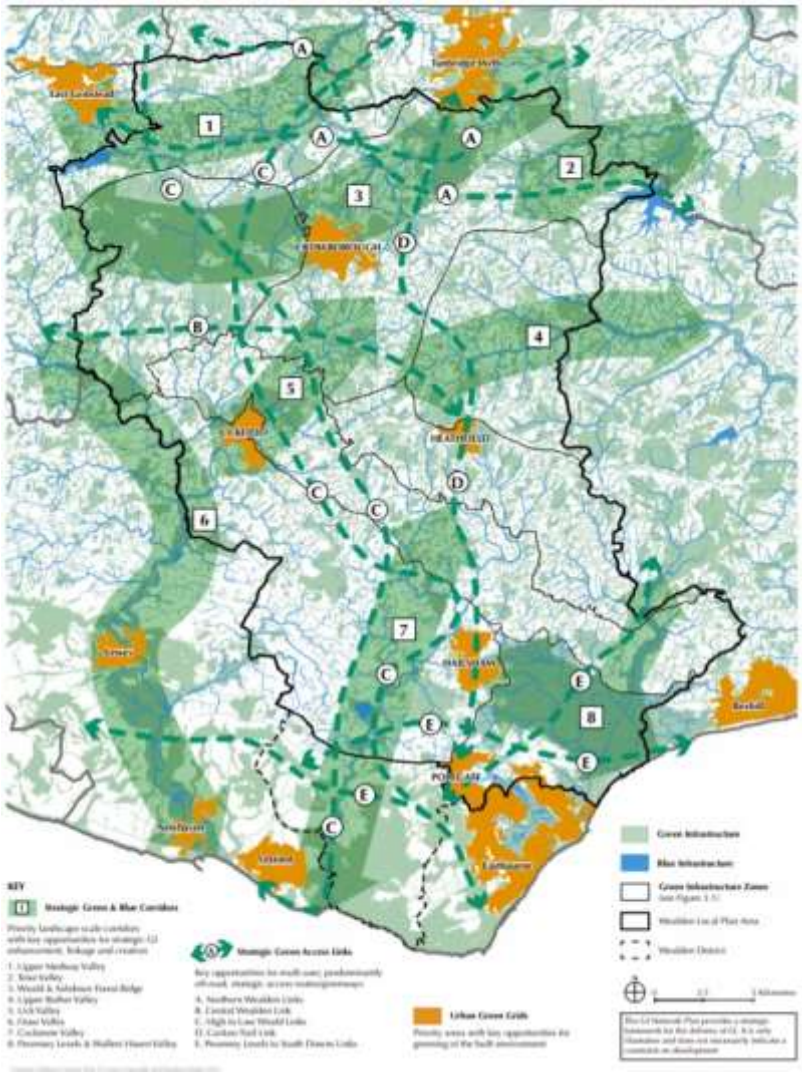
Appendix L: Comparison Map (Woodland and Water Networks and Weighted Sum Map)



Appendix M: Key Diagram Map



Appendix N: Adjoining Local Authority Green Infrastructure Mapping



Wealden Green Infrastructure Study: Wealden District Council (2017) (view Wealden Green Infrastructure Study: Wealden District Council (May, 2017): 5.0 Proposed Green Infrastructure Network)

The map as shown illustrates the distribution of green and blue infrastructure and urban green grids across the Wealden District. Furthermore, a series of strategic green and blue corridors and strategic green access links have been identified which in most instances involve cross-boundary linkages as part of a wider GI approach.

There are three separate strategic green and blue corridors (with key opportunities for strategic GI enhancement, linkage and creation) identified that cross into the Tunbridge Wells borough. These are:

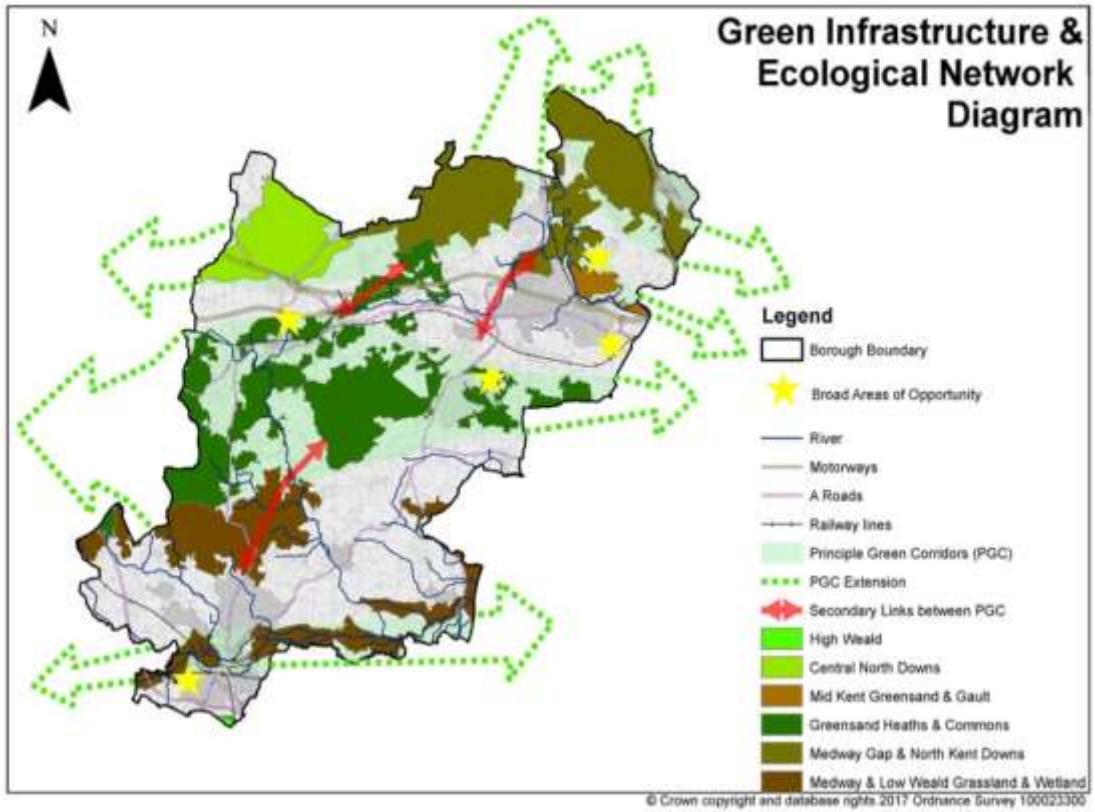
1) *Upper Medway Valley* (into the south-west of Speldhurst);

2) *Weald and Ashdown Forest Ridge* (through the south of Royal Tunbridge Wells and north towards Pembury); and

3) *Teise Valley* (into Lamberhurst and towards Kilndown)

There are also 3 strategic green access links (with opportunities for multi-user, predominantly off-road, strategic access routes/greenways) going through the Tunbridge Wells borough. These are:

1) *Northern Wealden Links* (through Lamberhurst and south-west Speldhurst)
2) *High to Low Weald Links* (through Speldhurst)
3) *Cuckoo Trail Link* (through the south of Royal Tunbridge Wells)



Tonbridge & Malling Borough Council: Green Infrastructure and Ecological Networks (2018) (see Tonbridge and Malling Borough Council: Green Infrastructure and Ecological Networks (March 2018))

The map as shown illustrates the range of GI assets and ecological network in the Tonbridge & Malling borough. Included within the mapping are a series of Principal Green Corridors with associated extension routes leading into the boundaries of other adjacent local authority areas.

Within these Principal Growth Corridors, it is stated that proposed development should consider how best to deliver new multifunctional green spaces to contribute to the GI within the borough in order to enhance and strength the network.

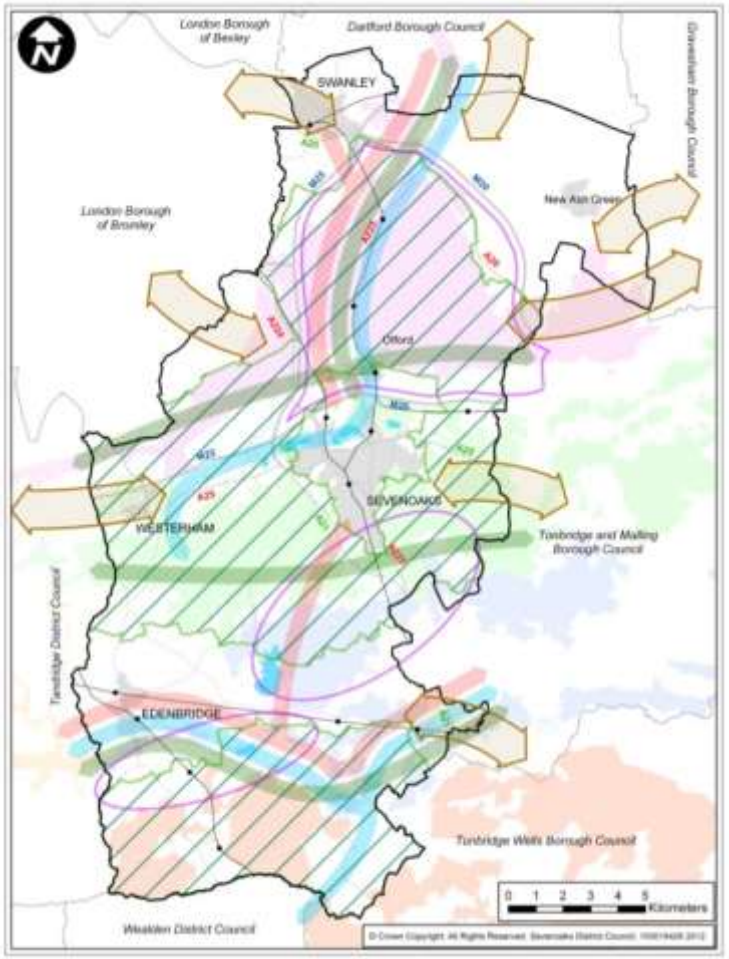
The Tonbridge & Malling borough borders the Tunbridge Wells borough to the south from which one identified Principal Green Corridor extension feeds into. This corridor predominantly includes Medway and Low Weald Grassland and Wetland and a series of rivers.

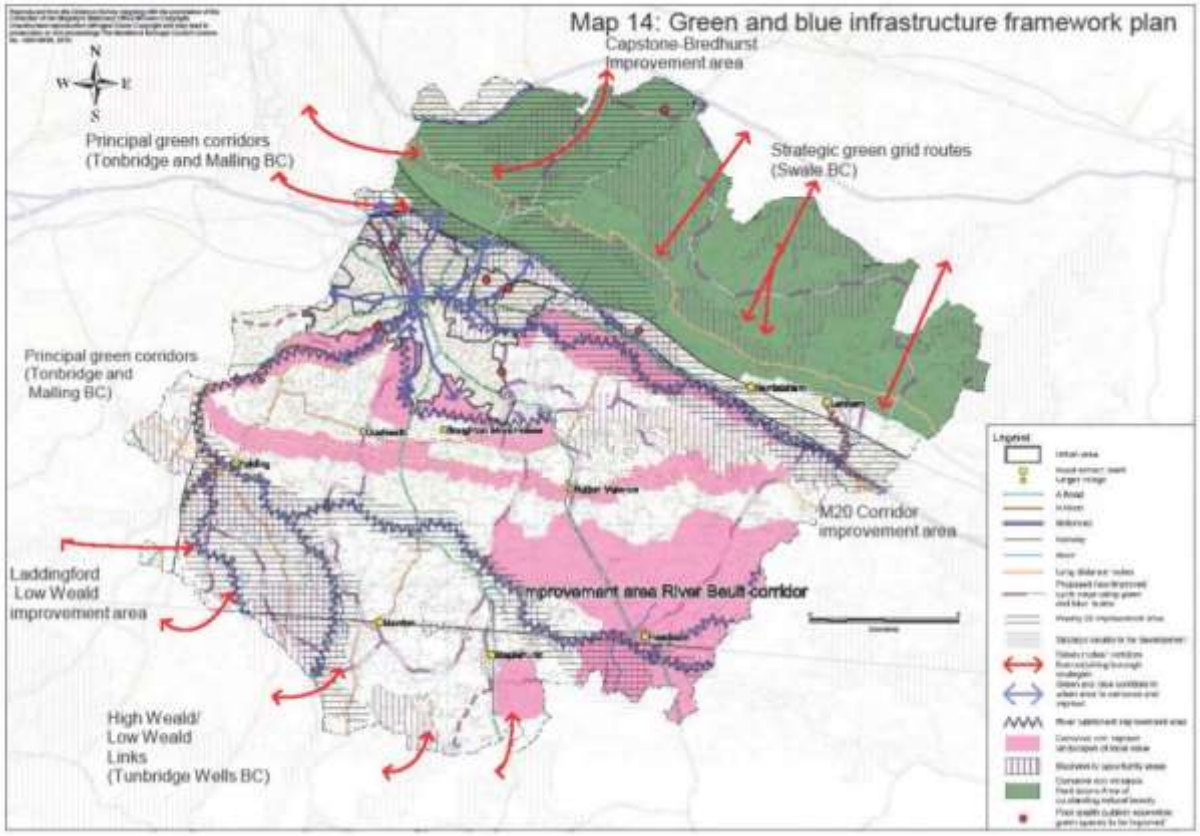
Sevenoaks District Council: Local Development Framework: Allocations and Development Management Plan (January 2013) (see Sevenoaks District Council: Local Development Framework: Allocations and Development Management Plan (January 2013))

The map as shown illustrates the GI opportunities identified across the Sevenoaks District within the Council's respective Local Development Framework Plan period. These take into account potential cycling routes, walking routes, rivers and areas of open water, biodiversity opportunity areas, as well as opportunities for cross boundary linkages.

Although no cross boundary linkage is made into the Tunbridge Wells borough, this map reinforces the linkage with Tonbridge and Malling's strategic Principle Green Corridor at the south of the borough that extends into the Tunbridge Wells borough. As identified in Sevenoaks' map, this linkage includes opportunities for cycling routes, walking routes, as well as for rivers and areas of open water.

Furthermore, a river and area of open water corridor is identified that extends toward the south of the district into the south-east of Speldhurst within the Tunbridge Wells borough. Although not identified as a cross boundary linkage, this may provide opportunity to plan for associated cross-boundary habitat and biodiversity improvements as well as the removal of invasive species.





Maidstone Borough Council: Green and Blue Infrastructure Strategy (June 2016) (see Maidstone Borough Council: Green and Blue Infrastructure Strategy (June 2016))

The map as shown illustrates the green and blue infrastructure assets and opportunities across the Maidstone borough. This has taken into account the Principal Green Corridors from Tonbridge & Malling Borough Council as well as of those from other adjoining local authorities (e.g. Swale Borough Council).

This map consequently shows the green corridors identified in Tunbridge Wells Borough Council's Green Infrastructure Plan (2014) that feed into the Maidstone borough area, with High Weald/Low Weald Links from Paddock Wood, Horsmonden, Goudhurst, and Cranbrook.

Appendix O: Data Sources

Data	Source	Date data downloaded/ received
Areas of Outstanding Natural Beauty	Natural England	05/04/2019
Parish Boundaries	Tunbridge Wells Borough Council	05/04/2019
Roads, Rail, Settlement, Rivers	Ordnance Survey Vectormap District	05/04/2019
Major Rivers	Ordnance Survey Open Rivers	05/04/2019
Statutory River Map	Environment Agency	10/04/2019
Special Areas of Conservation	Natural England	05/04/2019
Special Protection Areas	Natural England	05/04/2019
Sites of Special Scientific Interest	Natural England	05/04/2019
Sites of Special Scientific Interest Risk Zones	Natural England	05/04/2019
Local Wildlife Sites	Kent Wildlife Trust & East Sussex Wildlife Trust	04/02/2019
Ancient Woodland	Natural England	05/04/2019
Regionally Important Geological Sites	Kent Country Council	05/04/2019
Priority Habitats Inventory	Natural England	04/02/2019
Biodiversity Opportunity Areas (kent & Sussex)	Tunbridge Wells Borough Council	04/02/2019
Registered Historic Parks and Gardens	Historic England	04/02/2019
National Forest Inventory	Forest Research	05/04/2019
Flood Zone 3	Environment Agency	04/02/2019
TWBC Open Space, Sport and Recreation Study	TWBC/Ethos	07/08/2018
CRoW Act 2000 Access Land	Natural England	04/02/2019
Country Parks	Natural England	04/02/2019
Local Nature Reserves	Natural England	04/02/2019
Woodland Trust Sites	Woodland Trust	23/05/2018
Public Rights of Way	Kent Country Council	04/02/2019
High Weald Component Parts	High Weald AONB Unit	31/05/2018
Roadside Nature Reserves	Kent wildlife Trust	04/02/2019
Sites of Local Nature Conservation Value	Tunbridge Wells Borough Council	04/02/2019
Kent Great Crested Newt SOAs	Natural England	28/03/2019
Kent Great Crested Newt Risk Zones	Natural England	28/03/2019

Bee Lines	Emailed Bug Life 10/04/19	
RSBP Reserves	Royal Society for the Protection of Birds	10/04/2019
Parkland and Wood Pasture	Natural England	10/04/2019
CaBA GIS Data Package	The Rivers Trust	31/10/2017

If you require this document in another format, please contact:

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