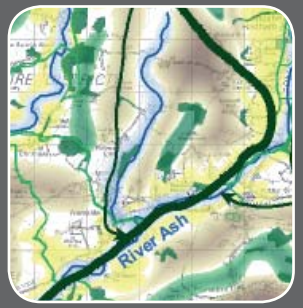
EAST HERTS GREEN INFRASTRUCTURE PLAN - FINAL REPORT



Prepared for East Herts Council
by
Land Use Consultants

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	30th March 2011	30th March 2011

CONTENTS

Acknowledgements:
The production of this Green Infrastructure Plan represents an important milestone in work developed over several years by a wider partnership of Hertfordshire stakeholders, guided throughout by Rob Rees, Hertfordshire County Council. This Green Infrastructure Plan was developed by Land Use Consultants with a steering group comprising of Bryan Thomsett, Jenny Pierce and Paul Stevens (East Herts Council), supported by Simon Odell (Hertfordshire GI Plans Contract Manager, based at Hertfordshire County Council/ Hertfordshire Biological Records Centre). In addition consultation was undertaken with a range of stakeholders as the plan developed, and their contribution is gratefully acknowledged. The views in this GI Plan are those of Land Use Consultants.
Land Use Consultants team comprised: Kate Ahern (Principal), Andrew Tempany (Project Manager), Alex Massey, Emma Deen, Fearghus Foyle, Graham Savage, Sofie Swindlehurst, Matthew Parkhill and Diana Manson.

1 Introduction

1.1 Green infrastructure (GI) is increasingly recognised as a cornerstone of sustainable development and communities. It is a 'must have', due to the many social, environmental and economic benefits it offers.

1.2 Green infrastructure planning and delivery completes Hertfordshire's consideration of sustainable land use and landscape planning, expressed in **Green Infrastructure in Hertfordshire: A Framework**[i]. It helps bridge the gap between strategic planning and site design and management, providing messages to inform spatial land planning and development management decisions.

1.3 Working on behalf of a network of stakeholders, in particular members of the Hertfordshire Technical Chief Officers Association (HTCOA), Natural England, Environment Agency, Forestry Commission and the Herts & Middlesex Wildlife Trust (HMWT), Land Use Consultants (LUC) was commissioned by Hertfordshire County Council in September 2010 to develop the Hertfordshire GI Plans. This encompassed a county wide strategic Green Infrastructure Plan for Hertfordshire/the Green Arc and 'local level' district Green Infrastructure Plans for seven Hertfordshire districts. The East Herts Green Infrastructure Plan has been developed in parallel with the strategic county wide plan and with those for Watford, Dacorum, Three Rivers, Hertsmere, Welwyn Hatfield and St Albans. Account has also been taken of existing GI plans to ensure links across boundaries, with the strategic GI Plan also considering existing GI work in Hertfordshire, such as the North Hertfordshire District Green Infrastructure Plan.

1.4 This is a high level Green Infrastructure Plan, which identifies further work which will be needed in future to deliver green infrastructure. Where further, more detailed green infrastructure planning work will be required, this is also referenced.

1.5 The Green Infrastructure Plan for East Herts:

- Provides an overview of existing green infrastructure assets within the District;
- Sets out an assessment of the ability of green infrastructure to provide multiple environmental and social and in some cases economic functions;
- Considers opportunities for enhancement and creation of green infrastructure;
- Outlines a series of potential projects to deliver multiple functions and benefits, and
- Provides advice on taking green infrastructure proposals forward through spatial planning and practical delivery.

What is green infrastructure?

1.6 Green infrastructure is described in **Planning Policy Statement 12: Local Spatial Planning**, as:

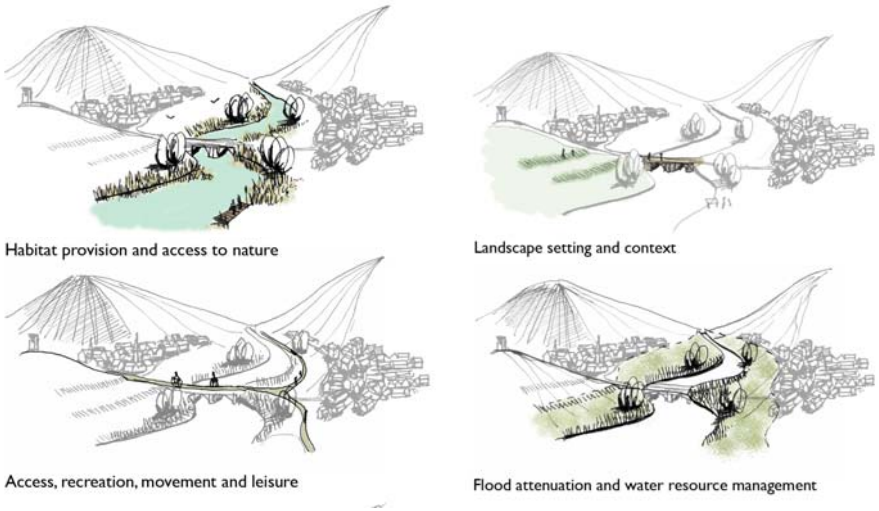
*a **network** of **multi-functional greenspace**…both **new** and **existing**…both rural and urban…which **supports** the **natural and ecological processes**…and is **integral** to the **health and quality of life** of sustainable communities…"*

1.7 This definition is reinforced and expanded in **Green Infrastructure in Hertfordshire: A Framework** and in Natural England's **Green Infrastructure Guidance**[ii].

Aspects of multi-functional green infrastructure – links and spaces for people and wildlife

Benefits and relevance of the green infrastructure approach to East Herts

1.8 In the face of competition for resources and environmental change, now more than ever we must look to our landscape and to sites to perform the widest range of functions for people, communities and quality of life, wildlife and ecosystems. This concept of 'multi-functionality' is shown in the illustration from Natural England's Green Infrastructure Guidance.



The green infrastructure approach: One site performing multiple functions (source: Natural England, Green Infrastructure Guidance)[iii]

1.9 East Herts has a rich green infrastructure resource centred on the principal river valleys of the Lee, Beane, Quin, Rib, Ash and Stort in addition to a varied mosaic of landscape and habitat types, such as grassland, ancient and plantation woodland and farmland. The landscape of East Herts is a relatively simple and unified, intact and strongly rural, often tranquil chalk landscape of lightly settled Wooded Plateau Farmlands, cut by a network of well defined Wooded Chalk Valleys. East Herts has a distinctly rural character defined by the agricultural land use, low density settlement and the tranquil river valleys that flow through the agricultural landscape

1.10 There is also a wide array of existing green infrastructure assets and initiatives in the District, such as promoted greenway routes along the river corridors and on disused railway lines, Hartham Common and the Meads and the historic landscape of Pishiobury Park and ongoing positive restoration taking place at Panshanger Country Park.

1.11 Against this must be considered issues of green infrastructure need and demand, how existing green infrastructure is performing, and the potential for green infrastructure to contribute to landscape and environmental enhancement in more fragmented, southern parts of the District (presence of major transport corridors and large settlements).

1.12 In some cases, existing GI assets are delivering the necessary functionality, in others not. This pattern of demand and supply forms the basis for the analyses undertaken and proposals made in this plan.

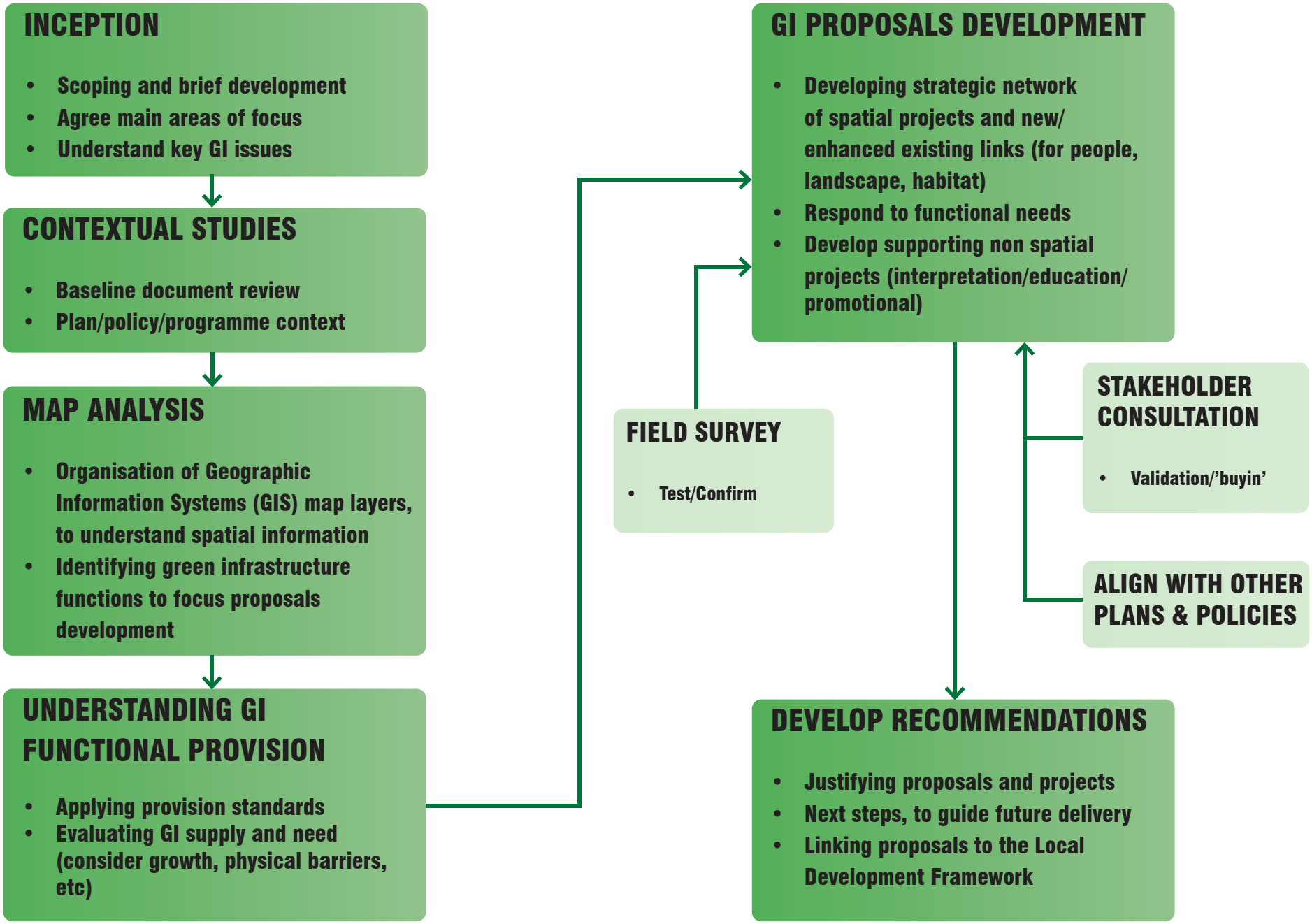
1.13 This Green Infrastructure Plan seeks to address links and connections, alternative greenspace provision and low cost, maximum benefit interventions such as improved landscape management to deliver a wider array of functions. It also looks at ways to influence sustainable living modes and transport choices through non spatial and educational projects to support spatial proposals.

The varied green infrastructure of East Herts

The green infrastructure planning process – a summary

1.14 For the purposes of this study, the green infrastructure planning process can be summarised in the diagram overleaf.

Developing the Green Infrastructure Plan: Summary of Process



STRUCTURE OF THIS GREEN INFRASTRUCTURE PLAN

1.15 The remainder of this Green Infrastructure Plan is set out as follows:

- Section 2: Green infrastructure demand and opportunity in East Herts by function
- Section 3: Proposed green infrastructure network and projects
- Section 4: Linking the green infrastructure proposals to local spatial planning

1.16 Appendices are presented in a separate volume. **Appendix 1** sets out the record of stakeholder consultation undertaken as part of the study. **Appendix 2** shows the summary findings from a thematic document review undertaken to set the GI Plan in context. **Appendix 3** sets out the summary findings from the functional analysis.

Aspects of the green infrastructure of East Herts
Top – (l) The River Ash, (r) Hartham Common and the Meads;
Bottom – Typical agricultural landscape in East Herts

2 Green infrastructure demand and opportunity in East Herts by function

2.1 To evaluate existing green infrastructure opportunities, a rapid thematic document review was undertaken to understand the environmental and social context. The themes for the document review are different from but are linked to and have informed the separate analysis of GI functional provision.

2.2 Themes for the literature review were:

- Access and recreation
- Landscape character and experience; settlement setting
- The historic environment
- Health and deprivation
- Functional ecosystems and flood risk
- Productive landscapes (orchards and allotments) and land in Higher Level Stewardship (HLS)
- Land remediation (issues concerning mineral sites and restoration, derelict and previously developed land)
- Nature conservation

2.3 Documents reviewed and key messages from each theme are set out in **Appendix 2**.

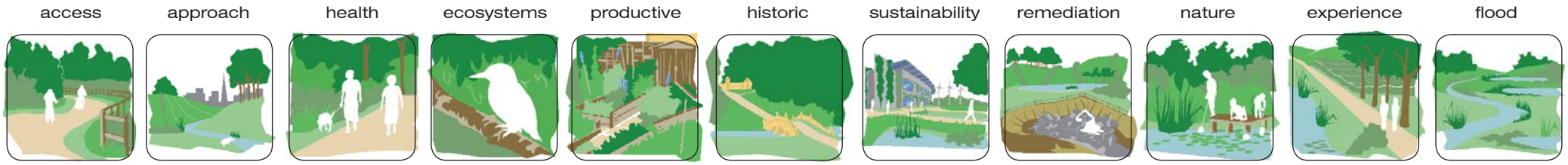
GREEN INFRASTRUCTURE FUNCTIONS

2.4 Key to understanding green infrastructure and to justifying the proposals is consideration of the functions green infrastructure can and needs to perform.

2.5 The eleven functions which have been identified for this Green Infrastructure Plan are shown overleaf.

2.6 These functions have been defined and mapped to understand geographical/spatial provision of green infrastructure assets in East Herts. When considered alongside main settlements, an indication of GI demand is also provided. Consideration has been given to shortfalls and potential need in the context of future growth as identified in the emerging Core Strategy, where these areas are known. The functions have also been used to develop proposals in response to identified need and to evaluate proposals, for prioritisation and future implementation by others.

Green infrastructure functions

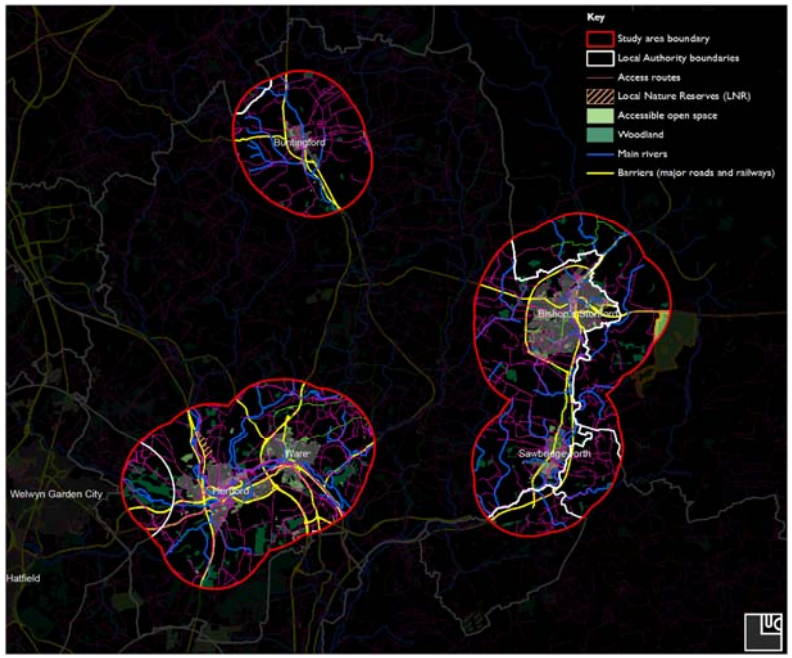


2.7 Each of the functions have been considered at either district/borough wide scale or settlement scale (including a 2.5km buffer) which varies between function and district/borough. The analysis methodology for each function (including provision standards applied) is set out at **Appendix 3**. Supporting mapping showing the distribution of GI assets and their functions is shown in relation to each function, below.

THE FUNCTIONS – SUMMARY OF NEED, SUPPLY AND OPPORTUNITY IN EAST HERTS

2.8 The findings from each functional analysis are summarised below.

Access to recreation



2.9 Accessible open space forms a key part of the quality of life of communities, although it is recognised that functionality varies according to the type and size of spaces. Areas may not always be well served due to settlement evolution and the presence of barriers to access. These issues are both relevant to some degree in parts of East Herts.

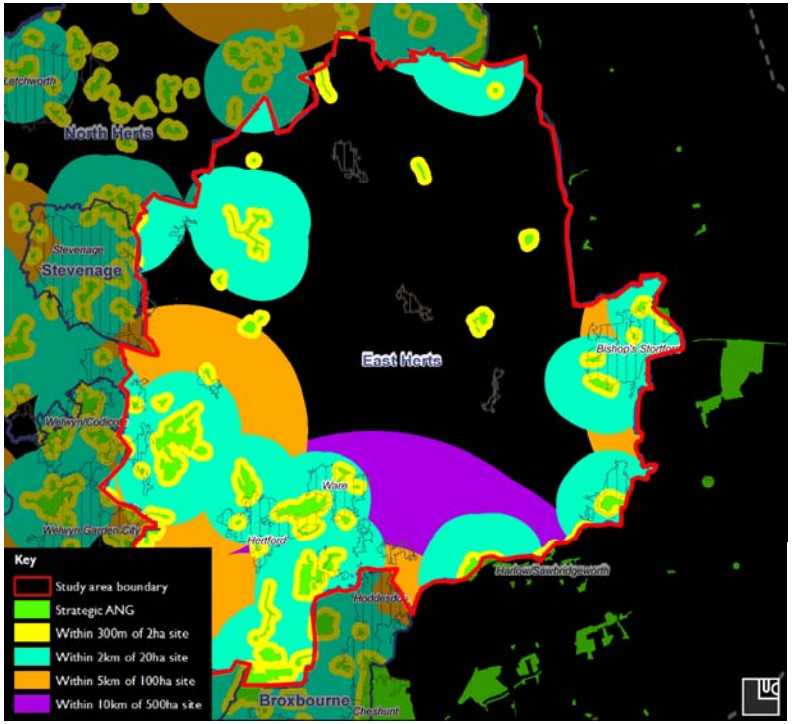
2.10 Applying the Natural England Accessible Natural Greenspace (ANGSt) standards deficiency in 2ha ANG and space for children sites has been identified at Hertford, the former which should be prioritised for action (mainly through enhanced links to the wider countryside via the river valleys from Hartham Common out into the countryside (see the proposed GI network in **Figure 3.1,** section 3). Within Hertford, there appear to be few off-road links between the urban area and the surrounding countryside, and this is particularly true to the north and west of Hertford, which is severed from the countryside by the A414 and B1502 road, and this is an issue which should be addressed (see **projects 1 and 2** in section 3). Cycle provision is also limited within Hertford which should be supported through improved access as part public access enhancements across the District (as shown on **Figure 3.1**, section 3). There are also deficiencies in strategic ANG (500ha) at Bishop's Stortford, while at Buntingford there is poor provision of ANG and as well as space for children. In order to improve access to open space enhanced links along the disused railway line and river corridors has been identified (see **projects 3 & 4** in section 3).

2.11 At Ware there is poor provision in ANG at Ware, as well as in space for children and young people. This should be alleviated through creating better public access to the countryside resource that surrounds the settlement, including the Lee and Rib Rivers. The A414 and B1502 are barriers to access to the countryside. The river corridors have been identified as areas for improvement of both habitat and physical links between the settlements at Hartham Common (see **project 1** and **Figure 3.1** in the

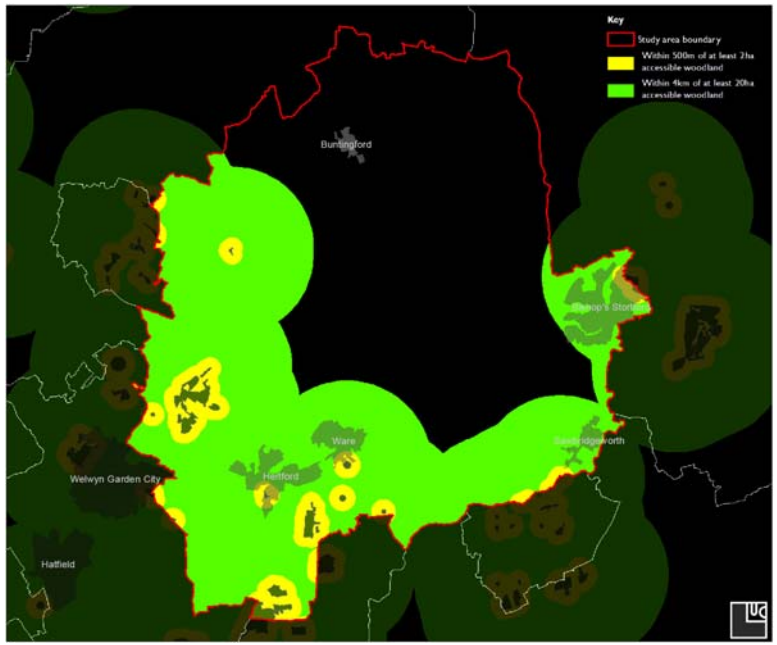
GI Plan). Key issues are to make improved links between Hertford and Ware and the wider countryside, while also ensuring lateral links across the District, particularly if future growth is considered to the urban fringes.

2.12 With reference to the Woodland Trust's Accessible Woodland Standard mapping the northern half of the District appears to be deficient in accessible woodland; however this is likely due to the nature of the land use in this area (agricultural). The south west of the District surrounding the larger settlements of Hertford and Ware has therefore formed part of the focus for a Woodland Enhancement Zone shown on **Figure 3.1**.

2.13 Opportunities for access improvements could be met through proposed projects for the Hertford and Ware wetland enhancements, River Valleys and Lateral Links projects, as well as improved links to strategic, cross district corridors such as the Hatfield Forest. These broad principles are shown on **Figure 3.1** and **projects 1** and **3** at section 3.

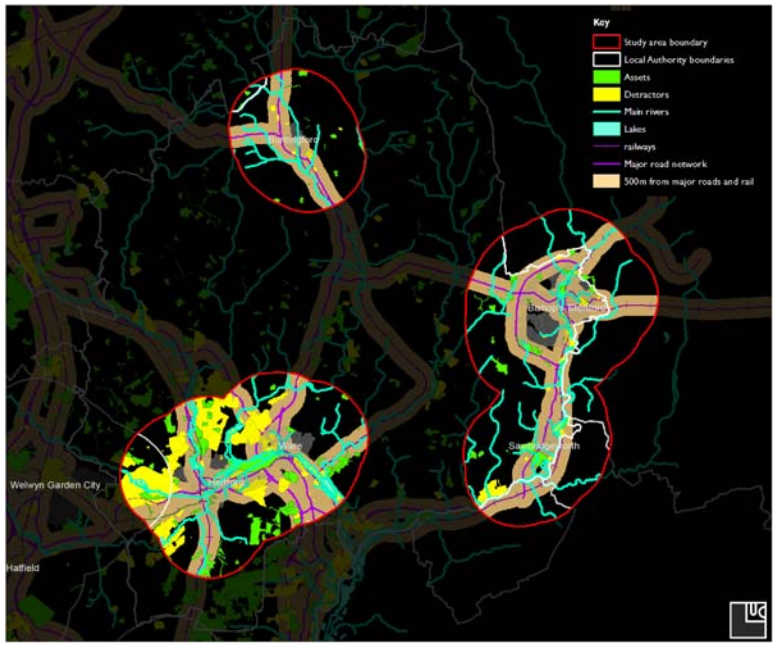


Accessible Natural Greenspace (ANG) provision, applying the Natural England ANGSt standards (source: Natural England[iv])



Accessible Woodland Provision (Woodland Trust standard)

Prestige on settlement approach corridors



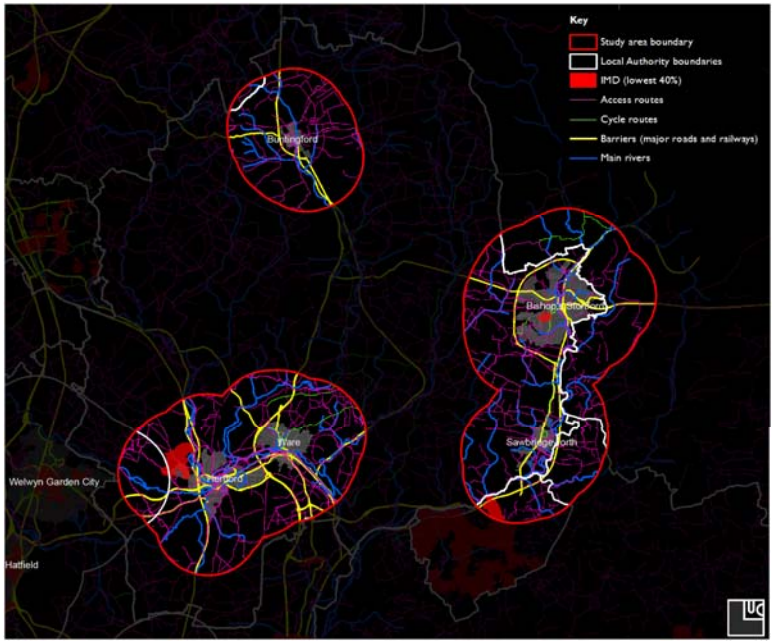
2.14 The concept of prestige, that is, the experience and perception of settlement approaches, is a key part of the green infrastructure approach and for positive planning of settlement fringes. Within the context of the principal transport corridors on the East Herts main settlement approaches, this functional analysis has referred to spatial mapping of assets and detractors produced for Hertfordshire[v], as well as consideration of landscape condition and quality in the Hertfordshire Landscape Character Assessment[vi]. Given the time at which baseline data was drawn up (e.g. assets and detractors mapping), this does reflect ongoing positive land management and conservation (and which has been considered in developing the proposed GI network), as at Panshanger Park for example. As such that data represents a 'point in time' not necessarily now reflected at site level, but the data nonetheless provides a guide to help focus GI proposals development.

2.15 Within the main settlements, the experience of most of the GI assets is impaired to a degree by intrusion of transport corridors (e.g. A10 crossing of Hartham Common). Existing woodlands in the transport corridor buffers should be used as a template for re linking woodland sites south of Hertford around Hertford Heath, to enhance settlement approach (see **project 1** at Section 3). The setting of the Stort Valley is impaired to the north of Sawbridgeworth and could be improved with small scale wetland planting as part of a package of measures to deliver proposals in the Stort Valley as identified in the Harlow GI Plan and the Stort Valley Feasibility Study, e.g. that structural green infrastructure provision, whilst buffering detractors and edges, should not detract from the more open landscape character here.

2.16 The analysis indicated a need to re-link areas of the landscape due to severance and fragmentation of landscape structure as a result of the bypass at Bishop's Stortford. There is an opportunity to reconnect areas of woodland to enhance perception of tranquillity and settlement approach

to the north and west of the town. A key opportunity is to extend wetland vegetation and wet woodland habitat to enhance settlement edge/interface with valley at this point and to consider this as part of proposals for access links in the Stort Valley Park proposed in the Harlow GI Plan (see **project 2** at Section 3). Enhancing access to settlements from the river valleys across the District (e.g. improvements to Rivers Nursery Site on the western edge of Sawbridgeworth) could improve settlement approaches. To the east of Bishop's Stortford within Essex, expanded woodland planting could re connect Hatfield Forest and provide attenuation in relation to the M11 interchange. In Buntingford, GI enhancement issues will relate mainly to integration of hard southern edge of Buntingford with localised foiling and using such landscape structure to make better visual connections with wet woodland in landscapes such as the Quin Valley while enhanced hedgerow planting would be beneficial to the A10 bypass to improve setting of and approach to Buntingford in the landscape (see **project 4** at Section 3).

Health



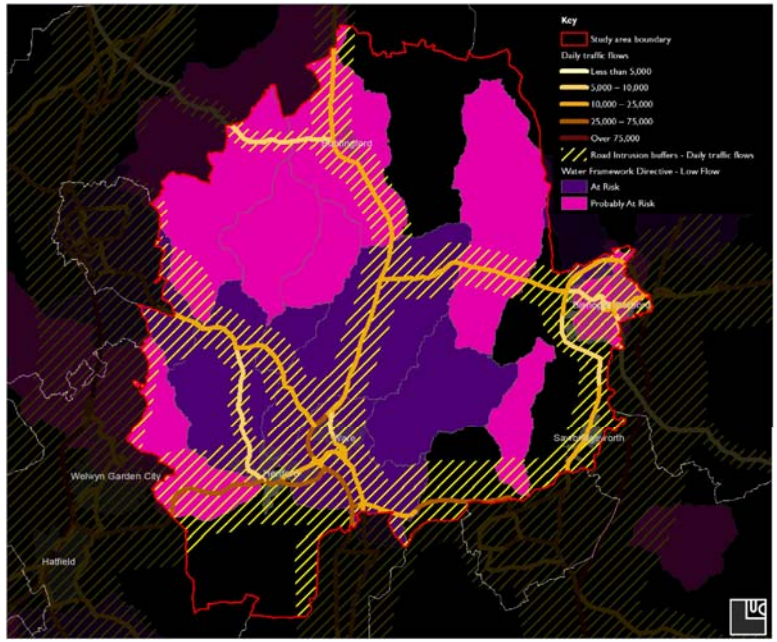
2.17 In this analysis, access links and proximity to areas of deprivation were mapped. Main road corridors were also considered to understand where there were linked issues of 'unhealthy environments' (air quality and pollution), or need to target tree planting as described in relation to the 'prestige' function above.

2.18 With reference to the Indices of Multiple Deprivation (IMD) shown on the left, with areas of health deprivation are evident in Sele Ward (Hertford), with no significant

health deprivation issues in Bishop's Stortford, Sawbridgeworth or Ware although access to public rights of way and cycle routes are limited in each of these settlements.

2.19 In many of the larger urban areas such as Hertford and Ware and locations along major transport corridors, air quality is usually affected. As such, public open spaces, paths and rights of way and cycle routes should be buffered as far as possible through tree and woodland planting. Alternative off road links and areas of woodland creation opportunity are shown on **Figure 3.1**. This also includes areas of strategic woodland planting to high intensity road corridors such as the M11 & A414 (to extend earlier strategic level considerations and proposals set out in the Trees Against Pollution (TAP) Report[vii].

Sound ecosystems



2.20 Sound ecosystems are a key part of a green infrastructure network, and proposals should seek to contribute to positive and proactive management of these for community benefit. The focus for this analysis has been the key services of water and air quality.

2.21 The analysis interpreted the Water Framework Directive (WFD) data produced by the Environment Agency for river catchments. The riverine environment of the Lee, Stort, Mimram, Rib, Beane, Quin & Ash Rivers are

identified as being of poor ecological status and vulnerable to abstraction and low flow pressures. Key areas for expansion identified in the Wetland Biodiversity Action Plan (BAP) include the Stort valley, Lee and Stort confluence (Rye Meads and the Lee between Hertford and Ware, including the Rib and Beane confluences) and the Mimram Valley.

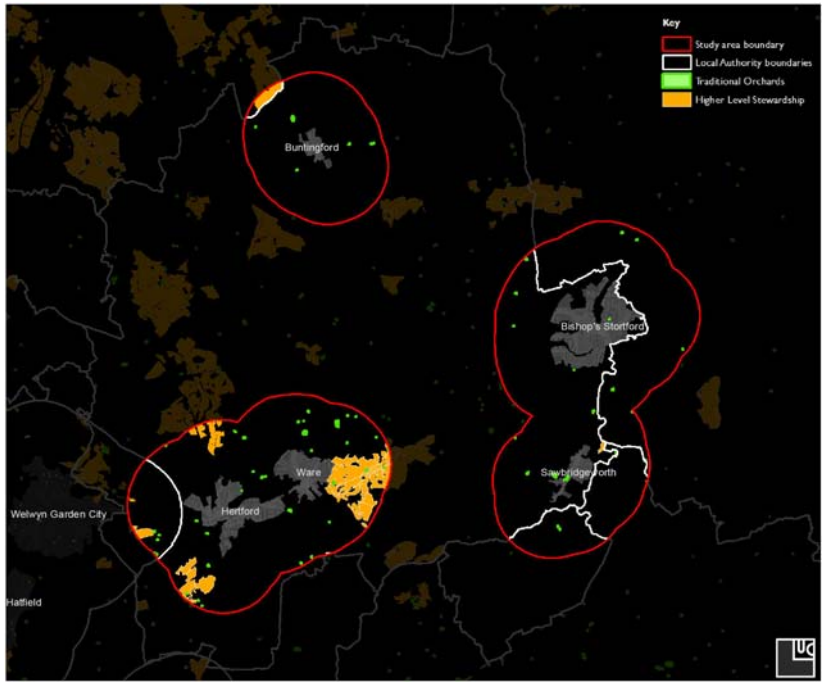
2.22 The analysis indicates a need for positive management of the all the rivers in the district, particularly the Ash due to the high level of environmental contaminates. Opportunities include reinstatement of native wetland and riparian river valleys. Also additional wetland creation in the Ash and Lee to reinforce it's habitats in light of high abstraction pressures. Whilst this does not apply to the Lee, the majority of the river courses and riverine environments are affected by clusters of invasive species along their length.

2.23 Future development in Hertford and Ware, and Bishop's Stortford could place further abstraction pressures on the Lee, Ash and Stort Rivers, further heightening the need for positive management of the river network and appropriate wetland expansion.

2.24 The analysis indicates a need for positive management of the Ash and Beane their various brooks within the District. There is a significant opportunity to enhance and expand wetland character near pinch points such as at Hertford and Ware where the rivers of the District meet. Also reinstatement of native wetland and riparian river corridors, and making 'space for water' (see **project 3** at section 3).

2.25 Whilst large parts of the principal transport corridors are partly wooded (M11) there is a need for additional woodland and hedgerow belts to re connect existing woodlands and improve air quality. Primary locations are the infrastructure corridors M11 & A414 (e.g. to deliver continued woodland buffering in areas such as Panshanger Country Park and Broxbourne Woods) and the A10, focussing on links to existing large scale woodlands such as Broxbourne Woods.

Productive green environments



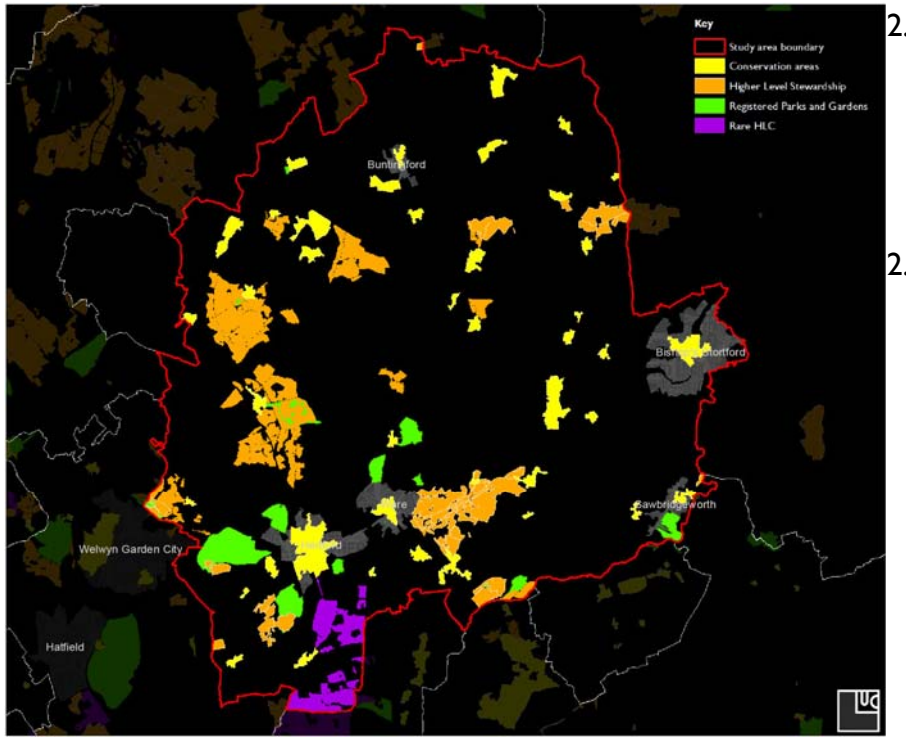
2.26 Consideration of the wider farmland landscape in East Herts reveals that a relatively high proportion (864.50 ha) of the landscape is managed through Higher Level Stewardship (HLS). These areas are spread throughout the north and west of the District (e.g. Benington and the lower Ash Valley) with large areas focused around Hertford and Ware. However, most of the land in stewardship lies outside the 2.5 km settlement buffer defined for this analysis as shown on the map. In addition there is a small area forming part of the Rivers Nursery Site at Sawbridgeworth. There is potential to improve uptake of organic level stewardship with the District currently having only one site (81ha). HLS uptake is therefore a key opportunity to enhance productivity and functionality of farmland landscapes in East Herts. It would also help deliver the objectives of the Farmland Conservation and Enhancement Zone and Landscape Restoration Zone identified on **Figure 3.1**.

2.27 Small areas of the District along its eastern and southeast border (e.g. Sawbridgeworth) fall within the Essex Coast and Growth Areas HLS Target Area. HLS schemes which will be supported within this area include those which seek to maintain, restore or create wet woodland or ancient semi-natural woodland. An opportunity therefore exists to benefit both biodiversity and the production of timber and/or biofuels by tree planting, support for natural woodland expansion or the bringing of existing woodland under management such as coppicing.

2.28 The Rivers Nursery site at Sawbridgeworth has historic importance for fruit production and breeding and is cited by the East Herts Core Strategy Issues and Options as one of the open spaces of particular importance to the settlement's character. Recognising multi-functional values of historic orchards in the District is important. (**project 2**, section 3).

2.29 There is an opportunity to improve the quality and value of many of these allotment sites throughout the District, but also to provide enhanced urban greening and locally productive landscapes as part of GI proposals including river valley enhancement (**project 3**, section 3).

Conserving historic landscape character



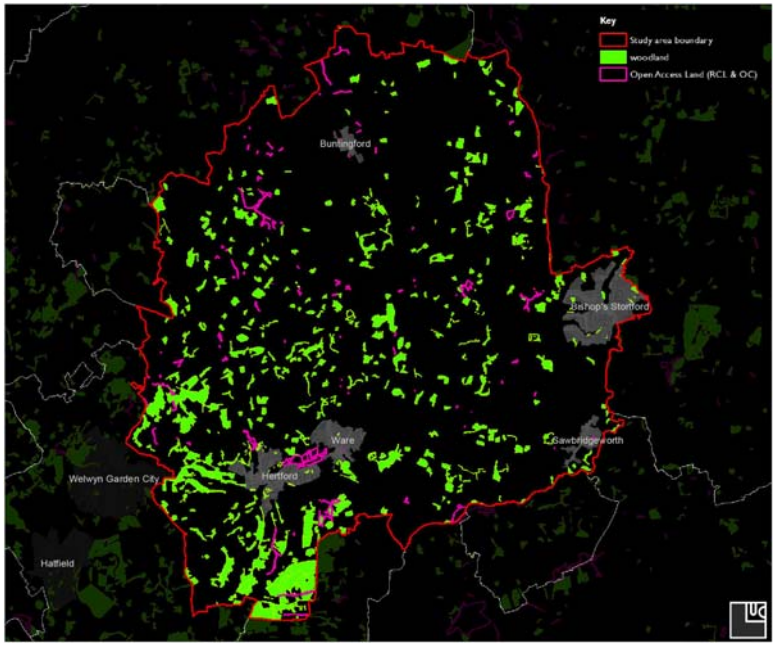
2.30 The historic environment and historic legacy provides a rich resource for conservation and interpretation as part of a multi-functional green infrastructure network. It also clearly links to other functions such as prestige, experience and the potential for recreation. This analysis considered the distribution of designated heritage assets in addition to rare historic landscape character types, as a basis for identifying aspects of historic legacy to be conserved as part of the GI network.

2.31 Rare historic landscape types in East Herts are Co Axial Enclosures, which occupy around 1% of the District area. The Co Axial Enclosures (boundaries of adjacent fields make a series of long, roughly parallel lines) form part of the Farmland Conservation and Enhancement Zone on **Figure 3.1**.

2.32 Although there are a high number of Registered Parks and Gardens (15) and a high number of Conservation Areas scattered throughout the District. Only four of the fifteen registered parks are covered by agri-environment schemes. In addition a number of ancient woodland sites are statutorily designated for nature conservation as Sites of Special Scientific Interest (SSSI). These include ancient woodland at High Wood (west of Benington), Moor Hall, Plashes Wood, Wormley Wood, Hodesdon Park, Broxbourne Wood and Great Hormead Park. There is a very large and rather dispersed ancient woodland resource, with two covered by Conservation Areas (Moor Hall Wood and Hadham Cross Wood), while parts of Broxbourne Woods in the south of the District has additional protection as a National Nature Reserve (NNR).

2.33 Key opportunities are to secure protection and enhancement for the woodland resource through HLS and Woodland Grant Schemes, and also through additional broadleaf native woodland planting to reconnect sites. If this was concentrated around registered parklands, in particular the area surrounding the settlements of Hertford and Ware, this could also help enhance their setting and context (see **Figure 3.1**). Another opportunity may be more sympathetic/appropriate management of replanted woodland sites e.g. Waterford Heath (a former mineral site at Hertford).

Sustainability and responding to climate change



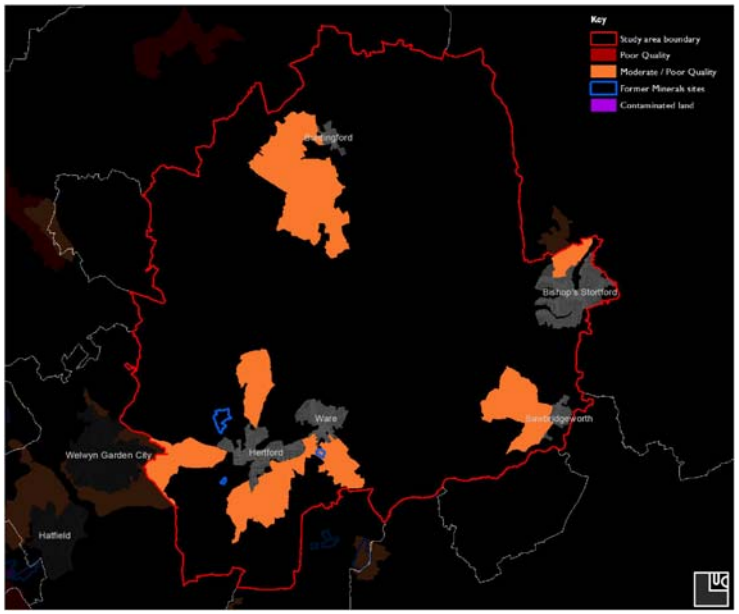
2.34 Urban greening, shading and cooling is a key part of community focussed green infrastructure. This analysis has concentrated on tree cover. There are however clear links with other functions such as flood attenuation and water management, as part of a climate change adapted response to spatial planning. This function is particularly relevant to the higher density settlements within the District, such as Hertford and Ware, and Bishop's Stortford.

2.35 Due to the traditional morphology of the main settlements in the District, tree cover within the public realm is relatively limited. The settlements do however display a good level of tree cover in terms of woodland blocks and within private gardens.

2.36 Issues and opportunities relate mainly to conserving what exists and managing this appropriately/planning for succession planting and ensuring new tree planting in relation to redevelopment sites – use of the Town and Country Planning Association (TCPA) standards for enhanced urban tree planting of 80 street trees (of appropriately robust grade) per linear km.

2.37 Any future growth and redevelopment should plan for street tree planting as an integral part of the masterplan to ensure climate change adaptation. Foci for potential large scale tree and woodland planting to respond to this function and other functional needs, are shown on **Figure 3.1**.

Land remediation



2.38 Green infrastructure planning and design can play a key part in delivering enhancement and restoration of landscape character and quality, and in enhancing areas of degraded landscape (e.g. mineral and re restoration sites).

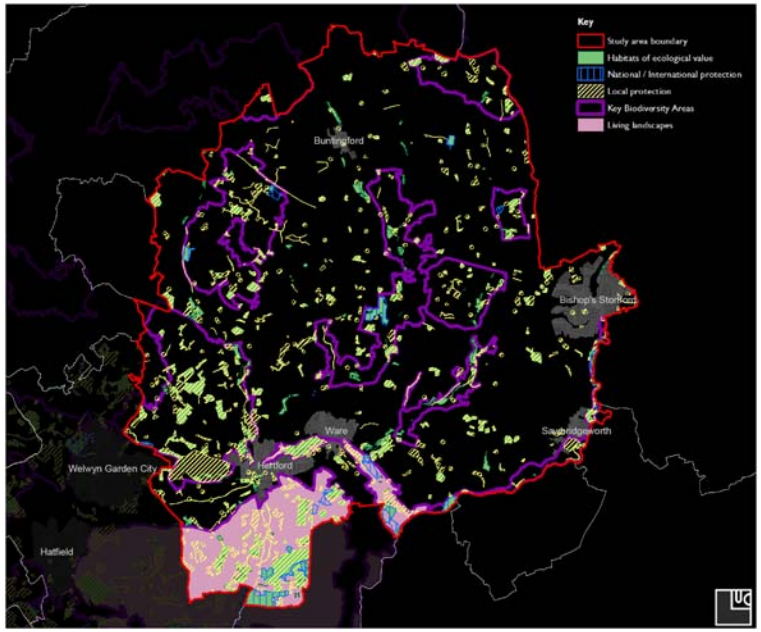
2.39 As referenced in the Liz Lake Landscape and Visual Impact Assessment Report, there are a number of former mineral sites which could be considered for re restoration[viii] and which provide opportunities for GI planning. Key opportunities relate to the sites at the existing woodland restoration at Waterford Heath and also at Presdales Pit

and St Mary's Lane sites. These have formed foci for landscape enhancement zones shown on **Figure 3.1** and for projects to deliver wider connectivity for green infrastructure assets to settlement gateways, e.g. linking the positive restoration taking place at Panshanger Park with other mineral sites at Waterford Heath and St Mary's Lane (**project 5** at section 3).

2.40 Areas of lower landscape quality as identified in the Landscape Character Assessment tend to have been previously worked for minerals. These occur in close proximity to the larger settlements of Buntingford, Bishop's Stortford, Sawbridgeworth and to a larger extent around Hertford and Ware. As such they form part of the focus for ongoing landscape conservation, enhancement and restoration zones as shown on **Figure 3.1**.

2.41 Due to the number of mineral sites and their proximity to each other (e.g. surrounding Hertford and Ware), proposals should aim to connect and improve the quality of the land, thereby enhancing the character of the landscape. This could be brought forward as part of the ongoing Panshanger Park restoration (see **project 5**).

Nature conservation



2.42 Conservation and enhancement of habitats, together with planning for sustainable communities, is a key consideration of multi-functional green infrastructure planning. This plan has taken a landscape scale approach, considering Hertfordshire Biodiversity Action Plan Key Biodiversity Areas (KBAs), in addition to statutorily and locally designated nature conservation sites and areas of local protection (Local Wildlife Sites).

2.43 Primary issues relate to the connectivity of habitats in light of future landscape change and climate change, and barriers to habitat connectivity created by the transport network. Main barriers to habitat links are the M11close to the east district boundary, the A414 to the south and the A10 running north/south along the centre of the District.

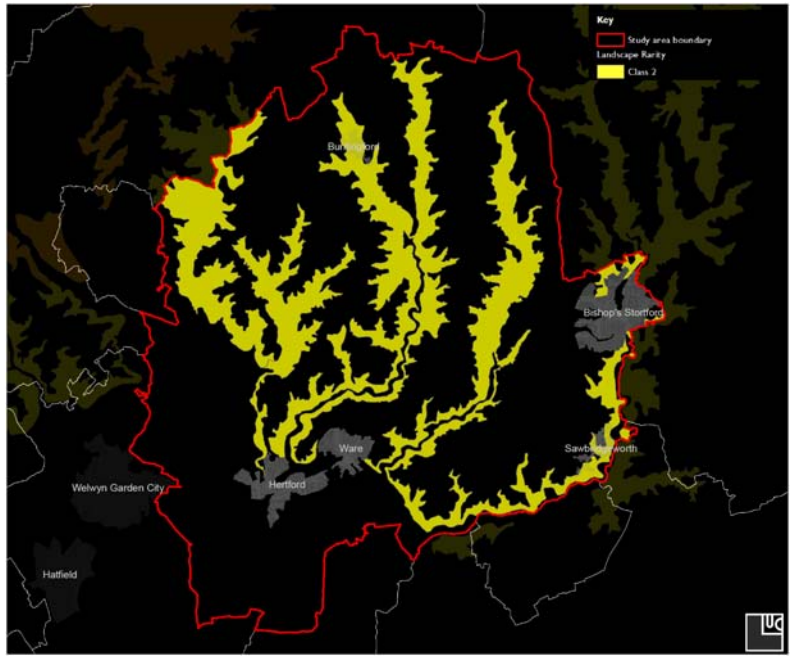
2.44 The analysis identifies core biodiversity areas through the south west of the District, in addition to the principal river valleys – the Lee, Beane, Quin, Rib and Stort. The majority of the remainder of the District is identified for habitat extension and linkage. The two most common threats to ecologically valued habitats across the district is first the relatively small and isolated patch size, which has inherently limited viability in the long term, and second, the conflict between recreational use and nature conservation. The Woodland and Heathland BAPs identified additional key threats as the lack of / changing management practices. The Wetlands BAP identified additional threats of low water levels and drainage, natural succession, nutrient enrichment, acidification and pollution (see **project 3**, section 3).

2.45 Key opportunities include ensuring the consideration of green infrastructure provision within the strategic / Masterplanning of proposed development. Expanding of existing wetland features to a varied wetland mosaic, for example, including wet grassland, carr and open water could also improve biodiversity. Key areas for expansion identified in the Wetland BAP include the Stort valley, Lee and Stort confluence (Rye Meads and the Lee between

Hertford and Ware, incl. the Rib and Beane confluences) and the Mimram Valley.

2.46 Grassland and heathland expansion identified in the BAP have been drawn out in the enhancement zones identified in **Figure 3.1** of the GI Plan. Woodland enhancement zones include both Broxbourne Woods and Knebworth Wood (West of Stevenage). These should help alleviate severance along transport infrastructure and use of such linear features as foci for connectivity, for example, expansion of wildlife corridors along the existing transport network, using the principles of the Trees Against Pollution initiative are also important measures to be considered.

Experience

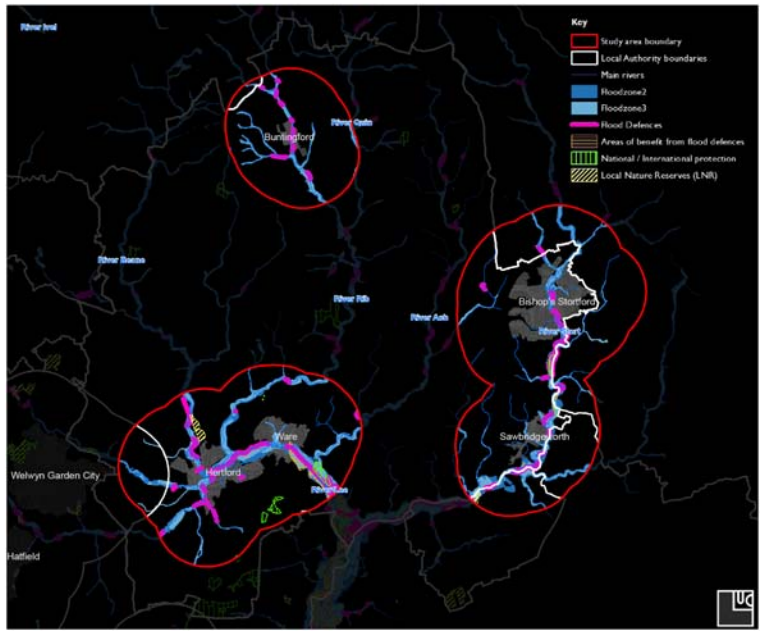


2.47 The main regionally rare landscape types in East Herts have been identified as Settled Chalk Valleys and Wooded Chalk Valleys landscape types. The Settled Chalk Valleys represent approximately 19% of the District area (significantly this also represents approximately 43% of the total regional distribution of the landscape type) and the Wooded Chalk Valleys represent approximately 4% of the District (note that this also represents approximately 10% of the total regional distribution of the landscape type).

2.48 The Settled Chalk Valleys and Wooded Chalk Valleys should be conserved, managed and enhanced to maximise their functions (character, floodplain, biodiversity, access). There is an opportunity to enhance access in a way that maintains the tranquil character of the valleys A key opportunity may be to facilitate enhanced access in appropriate locations, such as the expansion of the riparian habitat through HLS (e.g. Beane Valley). There may also be an opportunity for some restoration of woodland linkages and to re connect ancient woodlands on ridges, to provide enhanced definition of the valley network.

2.49 The valleys form the focus for a project in section 3 of this GI Plan (see **project 3**). In addition, a number of 'action zones' shown on **Figure 3.1** are complementary to the objectives of conserving these landscape types - Valley Conservation and Wetland Habitat Zones, for example.

Flood attenuation and water management



2.50 Planning for and making space for water forms a key part of considering future landscapes in the face of climate change, particularly through sound flood risk management.

2.51 The analysis has identified the following issues. A review by the EA of areas at risk of surface water flooding includes areas to the north of East Herts, which will require more effective flood management.

2.52 Of the other settlements, the flood zones within Buntingford, Bishop's Stortford and Sawbridgeworth are

primarily open space; although there are instances of floodplain development in both settlements (e.g. the floodplain flows through Lower Sheering in Sawbridgeworth).

2.53 Future development in close proximity to the rivers within East Herts could exacerbate existing pressures in this area so identifying areas for wetland expansion may help alleviate this pressure. Any future settlement growth is likely to increase pressures during periods of high flows and could inevitably lead to flooding of developed land.

2.54 The need to 'make space for water' outside and upstream of main settlement pinch points has formed part of the focus of a River Valleys project (**project 3**) at section 3, and also the Wetland Habitat Zone shown on **Figure 3.1**.

3 Proposed green infrastructure network and projects

GREEN INFRASTRUCTURE VISION

3.1 The green infrastructure vision for East Herts is:

To conserve and enhance

- The varied landscapes of the District – farmland, ancient woodland, wooded chalk valleys, settled chalk valleys, heathlands and commons and intricate network of river valleys;
- The functionality of the riverine environments of Mimram, Beane, Rib, Quin, Ash, Stort & Lee in terms of landscape character, ecology and flows and improving water quality throughout;
- The quiet rural landscape character and distinctive agricultural landscape, while also linking areas of broadleaf woodland to provide increased landscape connectivity and resilience in the face of climate change, balancing this with large scale open landscape character;

To improve and create

- Enhanced wetland networks associated with the East Herts Rivers – Lee, Beane, Rib, Quin, Ash & Stort;
- Accessibility and connections to and along the river valleys and lateral links across the District to adjoining districts in Hertfordshire, Essex and north London GI network;
- Links for a variety of users – walkers, cyclists and riders;
- 'Space for water' - naturalising river courses to reduce the potential for flooding in the District and aid creation of additional recreational water spaces;
- Enhanced links to greenspace, particularly in the larger and higher density settlements such as Hertford and Ware, and Bishop's Stortford and outlying suburbs, and Buntingford and Sawbridgeworth, as well as opportunities for urban greening for community benefit and value, such as orchards;

To recognise and value

- The importance of links between landscape and nature and ensuring that this is the first layer of consideration in the development process;
- The significance of Community Forestry, and links to the aspirations of Watling Chase Community Forest;
- GI for people – the importance of provision for low key and informal recreation to enhance the value of existing green infrastructure, and creating/promoting an improved series of links between settlements, commons and the wider countryside;
- The importance of the green infrastructure network for health and quality of life, seeking to promote awareness and appreciation of the network;

- The need for an appropriate balance between community, access, recreation and biodiversity interests;
- The need for joined up working with key partners, landowners, the parish councils and local 'green groups' to deliver sustainable proposals;
- The educational potential of GI - the need to raise awareness of and promote linked agendas such as local food including recognition of the importance of historic orchards throughout the District.

3.2 The vision is necessarily aspirational and long term, since it will need to consider GI significantly beyond the current Local Development Framework. Proposals to begin achieving the vision and initial consideration of delivery are set out in the remainder of this section.

DELIVERING THE VISION – THE NETWORK

Rationale, key messages

3.3 The proposed green infrastructure network has been developed in response to the key messages from the document review and the functional need and supply analysis in **section 2**, and to deliver the points of the vision above. It has been proofed against the adjoining authorities' green infrastructure context and other relevant spatial plans, policies, programmes and projects. The proposals have also been validated through stakeholder consultation (the main messages from the stakeholder workshop are in **Appendix 1).**

3.4 The proposed Green Infrastructure Network is shown on **Figure 3.1** and the component action zones and green infrastructure types which make up the GI network are described below. Spatial projects and non spatial proposals which deliver the GI network are explained at the end of this section, with spatial projects cross referenced to **Figure 3.1**. This includes high level consideration of cost, phasing and delivery and management mechanisms. Recommendations to link the green infrastructure proposals to delivery through spatial planning are set out in **section 4**.

Green infrastructure action zones

3.5 Several 'action zones' have been defined for the wider green infrastructure network. Shown on **Figure 3.1**, these are:

- **Wetland Habitat Zone:** Restoring and enhancing the quality of the river valley network (chalk and clay rivers) and associated wetland habitats which form part of Wetlands BAP. Aim to create landscape links to adjacent authorities (e.g. Welwyn, Essex and north London) and to sites such as Broxbourne Woods and the Lee Valley. The zone and component projects can also contribute to delivery of Natural England's Thames and Tributaries Integrated Biodiversity Delivery Area (IBDA) and are complementary to the aims and objectives of the Thames Catchment Flood Management Plan.

- **Woodland Enhancement Zone:** linking woodland habitats (e.g. lowland wood-pasture, heathland and acid grassland and alder wet woodland) and restoring landscapes/defining the network of valleys including regionally rare Wooded Chalk Valleys. This includes continued enhancement to the setting of historic GI assets such as Panshanger Park, Pishiobury Park and Broxbourne Woods – buffering and protecting such sites, through creating woodland linkages.
- **Valleys Conservation Zone:** conserving key GI assets as part of the movement, habitat and physical landscape network, also securing links to the river valley network and associated Wetland Habitat Zone. Links to landscape restoration and enhancement in the Lee and Stort Valley's and delivering landscape character assessment objectives in this area (considered jointly with Welwyn Hatfield).
- **Farmland Conservation and Enhancement Zone:** Conserving and reinforcing the rural green infrastructure network, securing landscape and habitat connectivity. Also encouragement of agri-environment schemes take up (at both entry and higher level) to deliver landscape and GI improvements across the farmland landscapes of the District.
- **Grassland Creation Zone:** Arable farmland is an intrinsic part of the landscape of East Herts and is woven into its fabric. Whilst it is important that it is recognised and retained, projects should also be identified for grassland restoration to enhance landscape character and interpret aspects of historic character. The zone seeks to identify areas where enhanced grassland linkage/corridors could be considered, to reduce fragmentation of existing assets, balanced with consideration of farming viability. Primary areas are associated with woodland clusters such as Broxbourne Woods and the area north of Panshanger Park. Clearly delivery objectives for this zone will be dependant on appropriate grassland management (grazing).

3.6 These zones are colour coded on **Figure 3.1**. They indicate broad areas in which future small scale projects could contribute to the objectives of the zone. They do not relate to large scale or 'blanket' proposals. For example, the Woodland Enhancement Zone does not indicate mass woodland planting, rather an area where woodland enhancement and linkage, of even small scale, is desirable/meets a range of functional criteria, and should therefore be supported.

Green infrastructure types in East Herts

3.7 A series of green infrastructure types have been defined to organise proposed green infrastructure projects in East Herts, these are:

Urban greenways

Urban blue links

Urban wildspace

Peri urban wildspace

Rural wildspace

Rural blue links

Proposed green infrastructure projects

3.8 Working with East Hertfordshire District and key professional and community stakeholders, a series of potential projects have been identified to take forward the GI network and to deliver the functions identified and analysed in **section 2**. These are described at the end of this section, which also identifies supporting non spatial GI projects. **Section 4** identifies potential future work for East Herts to consider in delivering green infrastructure. Due to the high level nature of this study, more detailed

work will be needed to test and develop proposals (e.g. further ecological work and advice to determine requirements for suitable habitat creation and enhancement at a local level).

3.9 The GI projects (shown on **Figure 3.1**), are as follows:

- **1. Hertford and Ware Wetland Enhancements**
- **2. Stort Valley and Countryside Links**
- **3. River Valleys Project – Lee, Stort, Rib, Beane, Quin & Ash**
- **4. Lateral Links – Green Link between Bishop's Stortford and Stevenage**
- **5. Panshanger Park and Mimram Valley Greenspace**

3.10 These are described in the tables at the end of this section. A further, non spatial (thematic or interpretative) project (**project 6: Green Hertfordshire**) is identified at the end of this section.

3.11 Also identified at the end of this section are GI links with adjacent Hertfordshire authorities, to signpost where 'joined up', cross authority working will be required.

3.12 Projects are prioritised according to the functions and benefits they offer, with an indication of steps likely to be required to deliver. Broad consideration is also given to costings, to give a guide as to future levels of investment in delivering capital works, using the following indicative rates/bands:

£ = Up to £50,000

££ = £50,000-100,000

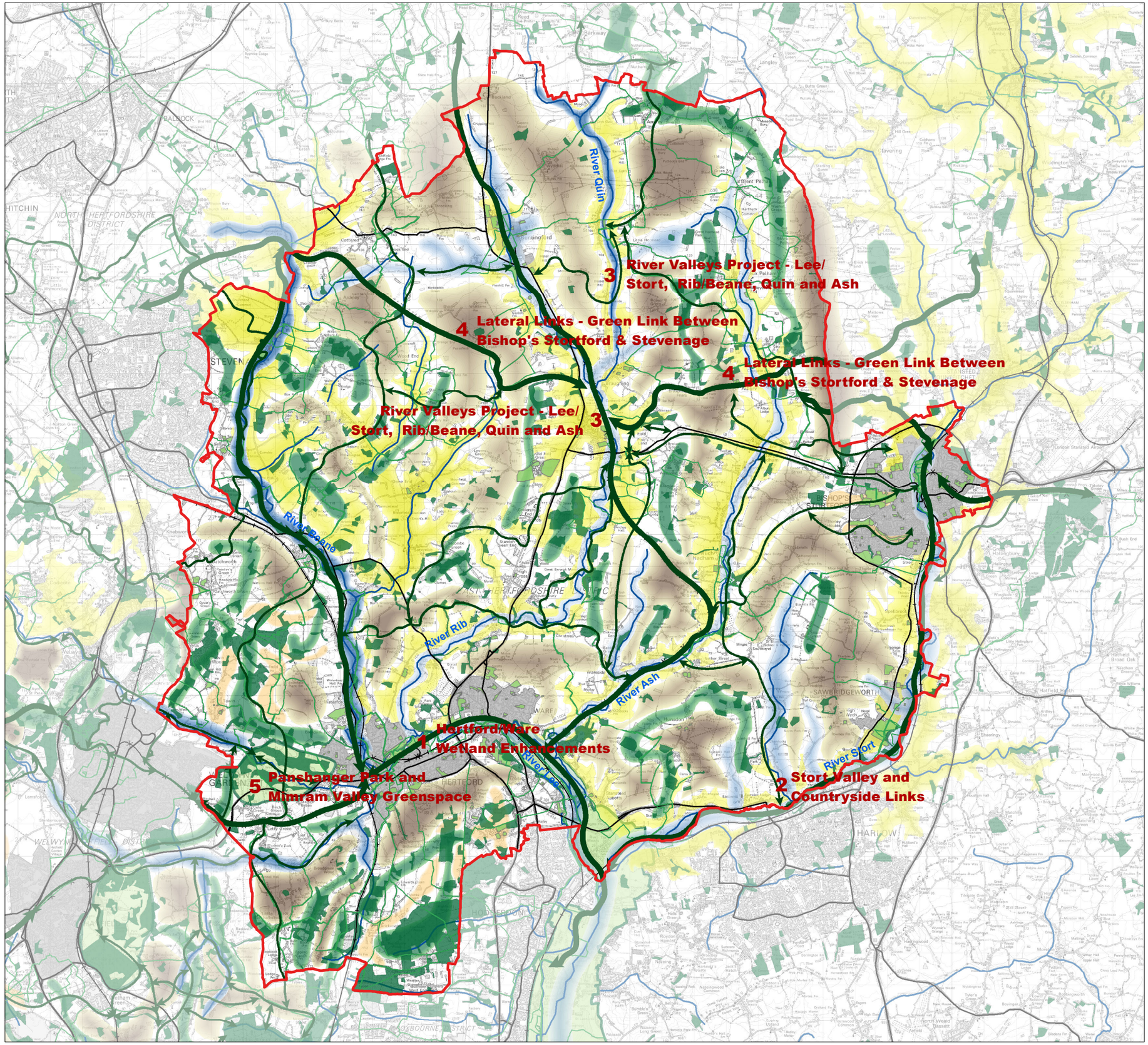
£££ = £100,000 – 500,000

££££ = £500,000 – 2million

£££££ = £2million +

3.13 Note that costs are indicative/guidelines only and are based on LUC's knowledge and experience of delivering comparable schemes. They represent a reasonable best estimate of investment costs to deliver the required green infrastructure functionality. It is also recognised that further, more detailed green infrastructure planning and cost planning will be required. Where a project is a series of component sub projects, this will have an effect on costs. As such, proposals are a 'palette' of projects which East Herts and partners can pick from as appropriate funding streams become available, but which will still help deliver the overall green infrastructure vision. In considering cost ranges, account has also been taken of match funding and grant aid in broad terms e.g. that where this applies, the net effect is to reduce costs of schemes in real terms. Potential funding sources are identified as appropriate in the project sheets at the end of this section.

3.14 Consideration is given in broad terms to further work needed to deliver projects in the following project sheets. As a general rule, in addition to the liaison, consultation and negotiations identified, each capital project will also require further survey work – land, ecological and archaeological surveys, in addition to impact assessment of proposals and projects in ecologically sensitive areas.



Hertfordshire Green Infrastructure Plans - East Hertfordshire

Figure 3.1: Proposed Green Infrastructure Network

Key

Proposals

- Strategic link
- Local link
- 1 Green infrastructure projects
- Strategic GI assets
- Farmland conservation & enhancement zone
- Wetland habitat zone
- Woodland enhancement zone
- Valley conservation zone
- Grassland creation zone

Existing

- Long distance and promoted routes
- Rivers
- Accessible open space
- Woodland
- Main settlements

Barriers

- Major road network
- Railway
- Disused Railway

N W E S

0 1 2 4 Km

Date: 31/03/2011
Revision:

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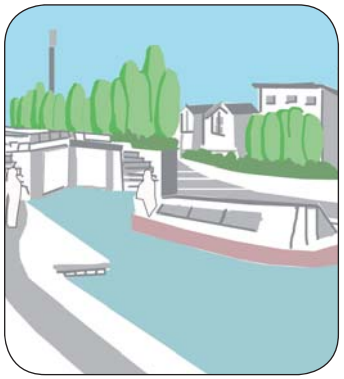
LOCAL AUTHORITY : EAST HERTS

PROJECT : 1. Hertford/Ware Wetland Enhancements

: ££££+



Urban Blue Link - Brief description / snapshot of the project :

- Improve access and allow for a more positive approach to Hertford and Ware balancing formal and informal recreation and nature conservation interests while enhancing provision for informal natural play spaces for different age groups and interests
- Extension of existing wetland project at Hartham Common and links to Hertford 'Green Fingers'
- Conservation and enhancement of the distinctive wetland environment including enhanced physical and habitat links to urban stretches of the River Lee creating improved landscape, recreational and visual linkages between the settlements enhancing the urban setting
- Significant opportunity to further enhance wetland character to reduce potential flood risk associated with pinch points in urban areas by creating enhanced 'space for water'
- Appropriate management of wetland west of the A10 would create a transition between the managed recreational landscape at Hertford and the more naturalistic landscape at Ware
- Physical links to the wider GI network (e.g. Amwell Quarry) to serve strategic links to Lee Valley
- Proposals for improvements to network of access paths creation of lateral links to Project 2

FUNCTIONS MET :

access prestige health ecosystems productive historic sustainability remediation nature experience flood mgmt

PLANS / POLICIES / PROGRAMMES WHICH THE PROJECT CAN HELP DELIVER : Improving physical (upgrading of footpaths/routes) and habitat links to enhance the riparian character and wetland habitat connections between Hertford and Ware while also improving enhanced 'space for water' (responds to Environment Agency's (EA) Water Framework Directive (WFD) issues of ecological quality/flows). Green link enhancements will contribute to the Hertfordshire Rights of Way Improvement Plan (ROWIP), while the creation of informal play areas will address deficiency identified in the strand analysis. Enhancing the functionality of the Common and access routes to it will help improve the available provision of natural greenspace to the area, contributing to the provision of Accessible Natural Greenspace (ANG).

ISSUES ASSOCIATED WITH DELIVERY : Need for landownership liaison and negotiation. Project will need an action plan. Project could be partly achieved through small scale funding through High Level Stewardship (HLS) and Heritage Lottery Funding (HLF) or more locally based initiatives under a series of guidelines or a series of 'how to' guides for local green groups, volunteer organisations, parishes and Trusts (e.g. Groundwork). Need for link with local societies e.g. National History Society. Need for education and awareness raising in relation to enhancement/management. Funding and delivery of the different facets may need to be phased and assessed on merit within the wider scheme, with a clear delivery method stating key elements for a successful project. Appropriate management and resource capabilities will need to be funded. Large scale funding through government bodies, i.e. HLF might come up against competition from other projects within the county.

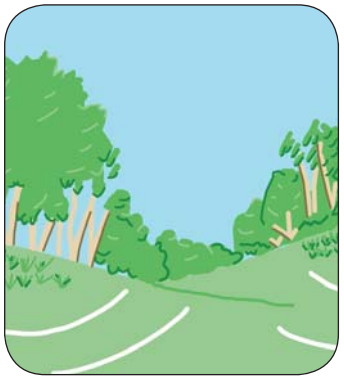
DELIVERY PARTNERS AND MONITORING MECHANISMS : Potential developer contributions through off-site Community Infrastructure Levy (CIL).106. Need for liasion with Herts and Middlesex Wildlife Trust (HMWT) to avoid conflict of users needs and nature conservation. Contact should be made with Environmental Agency, HMWT, Natural England, Parish Councils and relevant local scale partners who can deliver on small scale projects. HWMT and District Council, including government funded schemes (e.g. HLF). Higher Level Stewardship (HLS) is one of the main delivery mechanisms for landscape capital works. As part of the wider strategic plan, this could involve key bodies such as the EA, Lee Valley Regional Park, Woodland Trust, Natural England (through Access to Nature) and joint funding initiatives between Counties. A feasibility study should be a priority and monitoring for components is likely to be through visitor and species surveys, as well as take up of grant schemes such as HLS.

WHAT HAPPENS NEXT? PRIORITY / RANKING : Priority for access improvements from Hertford town to Hartham Common including access along the River Lee also physical improvements to the footpaths/river crossing points. Need for early liasion with landowners and relevant partners.

LOCAL AUTHORITY : EAST HERTS

PROJECT : 2. Stort Valley and Countryside links

: £££



RURAL WILDSPACE - Brief description / snapshot of the project :

- Recognising and valuing the rural landscapes in and around the Stort Valley and encouraging sustainable management of aspects of the habitat mosaic e.g. grassland and ancient woodland plus enhanced woodland and wet woodland linkage
- Enhanced pedestrian access and habitat links from the Stort Valley and Harlow to local GI sites of interest (Rivers Nursery Site, Lee Valley and river network) plus wider farmland landscape
- Selective landscape management which enhances legibility and permeability (balanced with nature conservation interests) and improved signage/interpretation which could extend to links from Hertford and Ware to Harlow and Sawbridgeworth (and outlying rural villages e.g. Gilston)
- Reinforcement of the green back drop to Harlow and Sawbridgeworth, where conserving Gilston Park's woodland and Pishiobury Park could enhance the rural character of the area
- Creation of a series of local walking links to nearby towns which could include a sculpture trail to recognise the rich cultural heritage of the area, e.g. connections between Henry Moore at Perry Green and 'parallel' modernist landscapes of Harlow New Town

FUNCTIONS MET :

access prestige health ecosystems productive historic sustainability remediation nature experience flood mgmt

PLANS / POLICIES / PROGRAMMES WHICH THE PROJECT CAN HELP DELIVER : Enhancing grassland and ancient woodland across the District will help support a number of important UK Biodiversity Action Plan (BAP) habitats and will help reinstate habitats such as broadleaf woodland at Gilston Park. Re-generation of the ancient woodland and enhancement access links with the aspirations for the Stort Valley. Improved access and the creation of new routes, with circular walks and cultural trails will contribute to functionality of the Gilston Park making it more available to local and visiting users, contributing to the aims of the ROWIP. Projects links to and complements Harlow GI Plan and Stort Valley Plan while it also helps meet ANG requirements.

ISSUES ASSOCIATED WITH DELIVERY : Land ownership and HLS uptake are key issues, while possible changes in land (e.g. access v grassing) use will require further consultation with land owners and user groups. A co-ordinated approach to the access, landscape enhancement and ancient woodland improvement projects will be important requiring EHDC and landowners to work together with Natural England (NE) and HWMT. Need for liaison with Woodland Trust, Farm and Wildlife Advisory Group (FWAG) and Eastwick and Gilston Parish Council. Environmental Stewardship will enable delivery at a landscape scale. Also need for laision with local friends groups e.g. Rivers Nursery Site

DELIVERY PARTNERS AND MONITORING MECHANISMS : Natural England (through HLS/ELS agreements, to encourage habitat restoration and capital payment for access, Forestry Commission, Farming and Wildlife Advisory Group, Herts and Middlesex Wildlife Trust, local Parishes, East Herts Council. Countryside Management Scheme, Sustrans and the Local Access Forum. Monitoring mechanisms could be through both species and visitor/user surveys and through take-up of relevant grant schemes such as HLS/HLF. Heritage sculpture trail has potential as an HLF project (also links with Henry Moore Foundation at Perry Green).

WHAT HAPPENS NEXT? PRIORITY / RANKING : Need for early landowner liaison to embed GI thinking in agri-environment schemes and with relevant partners such as NE, EA, HMWT and Woodland Trust. Smaller projects and those which could be delivered through HLS and HLF (given reduced match funding requirements) are high priority. Larger schemes and enhancements will require co-ordinated working with HMWT, NE and landowners under a coherent plan to deliver through initiatives such as the ELS, HLS and HLF.

LOCAL AUTHORITY : EAST HERTS

PROJECT : 3. River Valleys Project – Lee, Stort, Rib, Beane, Quin and Ash

: £££££

RURAL BLUE LINK - Brief description / snapshot of the project :

- Conservation and enhancement of the distinctive wetland environment including physical and habitat links
- The rivers provide the setting to the main settlements and could be enhanced to provide positive approaches
- Significant opportunity to enhance wetland landscape habitat mosaic near pinch points such as at Ware and Hertford, creating enhanced 'space for water' and improving biodiversity in the area
- Ensure appropriate management of rivers, particularly the Ash and Beane to improve biodiversity
- Low key proposals for river access (Beane) to provide the densely populated area of Stevenage with accessible open space (links to North Herts GI and Rib Valley)
- Opportunity to enhance aspects of historic character and recognise the value of traditional orchards
- Links to Project 4 (Lateral links - green link between Bishop's Stortford and Stevenage)

FUNCTIONS MET :

access prestige health ecosystems productive historic sustainability remediation nature experience flood mgmt

PLANS / POLICIES / PROGRAMMES WHICH THE PROJECT CAN HELP DELIVER : Enhancements will deliver improved and continuous access along the network of rivers linking with adjacent Districts and Counties. Improving the riparian character and wetland habitat connections while forming attractive, usable green links, as well as providing enhanced 'space for water' (responds to EA WFD issues of ecological quality/flows identified in functional analysis - key vulnerabilities of the Hertfordshire Rivers) and project will also satisfy Landscape Character Assessment (LCA) objectives. Project will contribute to improved functionality, making it more available to a larger number of users, satisfying ROWIP and ANG objectives. Stronger and more defined access links along the river corridors will connect to other key East Herts GI projects, such as the Lateral Links project (green link between Bishop's Stortford and Stevenage).

ISSUES ASSOCIATED WITH DELIVERY : Land ownership negotiation (access/ way leaves) will be key. The project is primarily focused on improved access and upgrades to off-road links along river corridors and connections with the wider strategic county wide project of enhancing river corridors. As such, access upgrades, off road links, enhancements and creation can require significant funding to achieve a continuous standard which will satisfy fully a range of existing and new users. Where large scale funding is not available (CIL/s.106), river enhancements could be more locally based initiatives under a series of guidelines or a practical 'how to' for local friends groups, parishes Trusts (e.g. Groundwork) to take forward (e.g. repairing off road links / removal of invasive species as voluntary work). Also through enhanced agri environment (HLS) scheme uptake.

DELIVERY PARTNERS AND MONITORING MECHANISMS : Need for liaison with HMWT to avoid conflicting uses, East Herts Council, landowners and relevant bodies such as Natural England, Sustrans, Ramblers Association and Environmental Agency. Contact should be made with relevant local partners who can offer small scale delivery through their voluntary activity (e.g. Friends Groups), minimal funding, labour/clean up days and events. Groundwork may also be able to assist with securing funding for/delivering local community projects. East Herts Council could also help with coordination between landowners, encouraging green infrastructure ideals to be considered in HLS and Entry Level Stewardship (ELS) and cross compliance at the start of these agreements. Monitoring is likely to occur through take up of HLS agreements and also through species surveys (monitoring of biodiversity) after implementation.

WHAT HAPPENS NEXT? PRIORITY / RANKING : Liaison with landowners (HLS) uptake is a priority, as is pre-application negotiations to get links and enhancements written into relevant future schemes. Priority for promotion to locally interested groups, approaching parish councils, liaison with Groundwork, friends groups and other user groups.

LOCAL AUTHORITY : EAST HERTS

PROJECT : 4. Lateral Links - Green Link between Bishop's Stortford and Stevenage

: ££££+

RURAL GREEN LINK - Brief description / snapshot of the project :

- Enhanced off-road strategic green access link (pedestrian and bridleway links) between both settlements to tie together Hertfordshire Way and Harcamlow Way with the dismantled railway line running north/south along the Rib and Ash valleys
- Providing additional loops for walkers to enable enhanced recreational/commuting links between Stevenage and Bishop's Stortford and to the Green Arc (link with the Hatfield Forest)
- Project provides scope for greater interpretation of historic elements of the District such as the Roman Road east of Stevenage as part of the route
- Urban and countryside links create a series of waterway loops which provide important off road access between larger settlements – promotion of a sustainable transport network
- Link to wetland enhancement e.g. mirror the quality of wetland environment south Braughing (River Quin) and buffer planting along roads to reduce intrusion and connect landscape elements (woodland/grassland)
- Link to Project 3 River Valleys (create a series of recreational loops across the District).

FUNCTIONS MET :

access prestige health ecosystems productive historic sustainability remediation nature experience flood mgmt

PLANS / POLICIES / PROGRAMMES WHICH THE PROJECT CAN HELP DELIVER : Can contribute to enhancing lateral links across the District contributing to County wide strategic objectives in the ROWIP. Potential to assist in meeting ANG deficiencies in the District through enhanced links. Linked habitat creation e.g. woodland and grassland buffers to reconnect landscape features is complementary to LCA and BAP objectives and to climate change responsiveness. Landscape enhancement has potential to link Key Biodiversity Areas (KBA).

ISSUES ASSOCIATED WITH DELIVERY : The project covers both green access links spanning the width of the District where a co-ordinated approach will be important requiring East Herts Council to work together with Hertfordshire County Council (HCC) and landowners (key landowners need to be identified). Land ownership and negotiations are therefore key issues. Need for further archaeological survey and feasibility studies in relation to the Roman Road. Need for enhanced HLS uptake to deliver works.

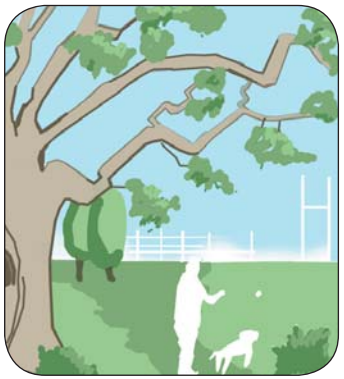
DELIVERY PARTNERS AND MONITORING MECHANISMS : Landowners and Natural England (through HLS/ELS agreements to deliver landscape capital improvements). East Herts Council (enabling role and in liaising with developers to embed links to local schemes), Sustrans and the Local Access Forum. Also Countryside Management Schemes (CMS) for continued green access routes are likely to be through potential CMS implementation and take up of Higher Level Stewardship agreements. Enhanced grassland management to field boundary buffers. Also planning conditions in relation to development in main settlements which could incorporate parts of the link.

WHAT HAPPENS NEXT? PRIORITY / RANKING : HLS/ELS initiatives should be encouraged as a priority, as this could deliver many aspects of the overall project. Promotional projects (e.g. Green Hertfordshire - Project 6), to raise awareness of existing and new sustainable transport links (non car), will also be key. Need to get the idea of lateral link written into relevant development schemes at local level as they come forward - liaison with developers to factor in.

LOCAL AUTHORITY : EAST HERTS

PROJECT : 5. Panshanger Park and Mimram Valley Greenspace

: £££



PERI URBAN WILDSPACE - Brief description / snapshot of the project :

- A multi functional future for the historic designed landscape of Panshanger Park, linked to ongoing positive restoration of the site, and interpreting the historic resource
- Linking Panshanger Park with the strategic GI network and setting it in context through opening up access to the Mimram Valley (balanced with nature conservation interests)
- Providing strategic semi natural greenspace for East Herts and Welwyn Hatfield
- The project will be linked to conservation and enhancement of the Mimram Valley corridor which meanders through the parkland, and to additional wetland landscape creation, making use of mineral extraction to create areas of new landscape character
- Connection to Hertford via the Mimram and Lee and to adjacent former mineral sites creating a network of links (e.g. Waterford Heath, Presdales and St Mary's Lane sites)
- Also links to Welwyn Hatfield Borough River Valleys Project

FUNCTIONS MET :

access prestige health ecosystems productive historic sustainability remediation nature experience flood mgmt

PLANS / POLICIES / PROGRAMMES WHICH THE PROJECT CAN HELP DELIVER : Can address landscape quality and enhancement issues (contribute to landscape character assessment guidelines). Contribute to the quality of landscape and LCA objectives by restoring areas of fragmented landscape character and interpreting/enhancing historic landscape character (Brownian Landscape). Improving access and providing links would also help meet ANG deficiencies. Providing cross district links between Welwyn Hatfield and East Herts would assist in delivering ROWIP objectives.

ISSUES ASSOCIATED WITH DELIVERY : Project will involve changes in landscape management (e.g. landscape enhancement and reinstatement while also improved connectivity delivered as capital projects through the existing minerals agreement at Panshanger Park and HLS in the Mimram Valley). Need for ongoing landowner liaison as Panshanger Park restoration progresses and for future aftercare/management. This is a key part of the process. Other issues relate to provision of enhanced signage and interpretation, both through Herts Rights of Way and Herts Highways. The project could link to the interactive green infrastructure web based map proposals (Green Hertfordshire: Project 6), which could potentially be developed and hosted, as part of a wider, multi-district project and subject to resources, with HCC and Countryside Management Service.

DELIVERY PARTNERS AND MONITORING MECHANISMS : Landowners and Natural England (through HLS/ELS agreements) to deliver landscape capital works working in partnership with Lafarge (to link to their ongoing programme of high quality landscape restoration works at Panshanger Park), Herts Rights of Way and the Local Access Forum. Also Mimram Valley, HCC/Landscape Unit and CMS for interactive and interpretative project (Green Hertfordshire - Project 6). Monitoring mechanisms are likely to be through the delivery of conditions associated with the minerals agreement of Panshanger Park. Take up of HLS agreements is the other key mechanism for landscape capital projects.

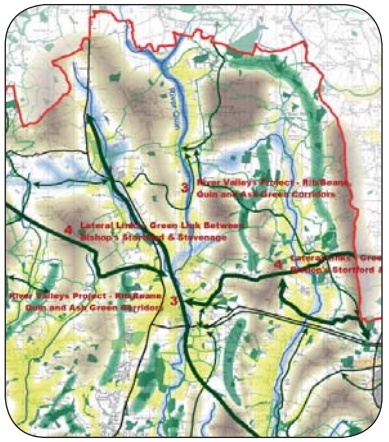
WHAT HAPPENS NEXT? PRIORITY / RANKING : HLS take up should be encouraged as this could deliver many aspects of the work in the Mimram Valley. Need for continued liaison with Lafarge re. phasing of works and future adaptation when their workings/restoration finishes As such priority is high. The same applies to incorporating the project into a promotional/awareness raising project (Green Hertfordshire - project 6).

LOCAL AUTHORITY : EAST HERTS

PROJECT : 6. 'Green Hertfordshire' interactive map project (non spatial/interpretative project) **: ££**

Brief description / snapshot of the project :

- Accessible electronic GI map based/navigator resource
- Web based and Smartphone app (application) based outputs for easy access and to reach the widest audience, including schools and colleges
- Translate information on the GI network and new green links for people, to users
- Provide information on GI assets (landscape, habitat, historic etc) to users, to aid understanding and appreciation of the natural environment - educational resource
- Development of a series of themed walking/cycling and riding trails and routes from pubs etc and promotion of these to offer low key, 'low environmental impact' fun/recreation for all ages
- Link to other relevant programmes e.g. Transition Towns web presence - use of the interactive mapping for people to identify 'green' ways of living life - green transport routes for commuting as well as recreation, places to buy local produce etc, community events in a greenspace setting



FUNCTIONS MET:

access prestige health ecosystems productive historic sustainability remediation nature experience flood mgmt

PLANS / POLICIES / PROGRAMMES WHICH THE PROJECT CAN HELP DELIVER : Contribute to objectives of Local Transport Plans and ROWIP, in promoting routes for people to use for green travel. Embed most of the aims of much of the spatial planning at county and local authority level (landscape conservation in the Landscape Character Assessments for example) in the wider sub conscious of the communities who use and enjoy these environments. Recognises the full functional potential of green infrastructure (interpretation/education/appreciation of historic environment/skills development - 'soft' skills) as expressed in the Green Infrastructure Guidance.

ISSUES ASSOCIATED WITH DELIVERY : The main issue is with hosting, managing and updating a comprehensive, but relevant, usable and above all visually engaging and appealing on line resource, as well as marketing and promoting the use of the Green Hertfordshire brand/app to the widest possible audience. Need for specialist ICT, GIS and graphic design skills to help develop the package. Link to a potential GI marketing and communications strategy to launch the GI work and embed the concept. A communications strategy and user groups market research (e.g. school and youth groups) should be undertaken prior to and during development of the App. Map licensing protocols and restrictions on use of Ordnance Survey data would need to be worked around (lead in times associated with delivery of project are likely to be an issue). Need for compatibility with main Smartphone platforms. Could be compatible with traditional leaflet media using Smartphone scannable 'QR' codes with links to interactive material.

DELIVERY PARTNERS AND MONITORING MECHANISMS : The Hertfordshire Districts, Hertfordshire County Council, Hertfordshire Technical Chief Officers Association (HTCOA) landscape group, and Countryside Management Service, as well as key agencies and organisations with an interest in promoting GI (e.g. Natural England, Herts and Middlesex Wildlife Trust (HMWT), British Waterways) and landowners of key sites within the Hertfordshire districts - potential for funding/'in kind' contributions and sponsorship. Liaison with local green groups e.g. Transition Towns. Possible private sector involvement.

WHAT HAPPENS NEXT? PRIORITY / RANKING : This is a key project to translating GI to a wider audience beyond planners and decision makers. The initial skeleton of the interactive map (which could be added to and developed as and when new information and funding became available), should be developed as a high priority project across the districts, with liaison between HCC, the Countryside Management Service and HTCOA representatives.

GI projects and cross authority connections

3.15 An essential part of effective GI delivery is a strategic, co ordinated approach, to ensure that projects are resourced appropriately in terms of capital works and ongoing revenue activity. This section notes potential connections with adjacent authorities in terms of GI links and projects:

- **1. Hertford and Ware Wetland Enhancements:** Is a District specific project but will require working with parish councils and East Herts at a local level, as will all projects identified in this GI Plan.
- **2. North Harlow & Stort Valley links:** need for liaison with local authorities in Essex and Harlow Council and will require working with parish councils and local groups.
- **3. River Valleys Project – Lee, Stort, Rib, Beane, Quin and Ash:** need for links Welwyn Hatfield Borough, Harlow Council and also with local authorities in Essex.
- **4. Lateral Links – green link between Bishop's Stortford and Stevenage:** Links with Stevenage Borough Council and local authorities in Essex, particularly in relation to strategic links
- **5. Panshanger Park and Mimram Valley Greenspace:** Links with Welwyn Hatfield Borough through liaison with Lafarge and local groups and Parish Councils

3.16 In addition, delivery of the objectives of a number of the action zones described earlier in this section, will require cross authority and cross county links. For example the Wetland Habitat Zone links to Bedfordshire, whilst the Woodland Enhancement Zone requires links with Dacorum, Welwyn Hatfield and Hertsmere Boroughs (and with the latter two LPA's in particular to help deliver community forestry aspirations set out in the Watling Chase Community Forest Plan).

3.17 Account should also be taken of parallel GI projects in adjoining Hertfordshire authorities, e.g. the River Valleys Project in the Welwyn Hatfield Borough Green Infrastructure Plan, which could link to the Panshanger Park and Mimram Valley Greenspace Project. Also the Lateral Links Project which provides strategic links to Stevenage Borough Council and local authorities in the Green Arc Green Infrastructure Strategic Plan.

3.18 In addition, two of the projects in this plan should also be cross referenced with proposals contained in the county wide Strategic Highlights Green Infrastructure Plan (also referred to as the Strategic Plan). Project 3 forms part of the Thames Tributaries River Valleys and Corridors project in the Strategic Plan. Project 5 also relates to strategic proposals for the Mimram Valley.

4 Linking the green infrastructure proposals to local spatial planning and development management

4.1 It is intended that this Green Infrastructure Plan will form part of the evidence base for Development Plan Documents (DPDs) in the Local Development Framework (LDF) and for green infrastructure issues to be included and addressed in the Development Plan Documents. In order for any **future** policies that deal with green infrastructure to be found to be 'sound' when going through public examination they will have to comply with the three tests:

- To be consistent with National Policy; a green infrastructure approach is clearly advocated by national policy.
- To be justified; evidence needs to be provided to prove why it is justified for there to be a green infrastructure policy (why something is being proposed and that there is a problem or a need)[ix] (see **sections 2 and 3**).
- To be effective; where a policy proposes tackling a green infrastructure issue there is a need to ensure that the mechanism for tackling the issue will be effective and that there is some basis for taking this course of action.

4.2 The tests of soundness point to the need for a clear link between policy formulation and the evidence that has been gathered.

4.3 PPS12, the Planning Inspectorate[x] and the Planning Advisory Service (PAS) all give more detail on what is meant by effectiveness and the Green Infrastructure Plan has sought to ensure that all these aspects have been addressed through the development of the Plan. The proposals developed in this Plan have been proofed against other relevant plans, policies and programmes. The Green Infrastructure Strategies and Plans of neighbouring authorities have been reviewed to ensure consistency between this Plan and those of neighbouring authorities. A robust and transparent methodology has been used to ensure that proposed solutions are clearly linked to addressing issues and needs identified in the evidence base. A workshop and consultation with delivery partners has ensured that proposed solutions (**section 3**) are deliverable, flexible and that potential delivery partners are identified. Suggestions for monitoring have also been included in the Plan.

4.4 The key findings of the Green Infrastructure Plan that are relevant to planning policy, are set out here. This will aid plan makers, those assessing the plan (SA/SEA practitioners) and consultees in successfully embedding green infrastructure into the DPD process.

Evidence Base

4.5 The Green Infrastructure Plan is to be included as part of the evidence base for the LDF. There may be benefits to including or referring to parts of the evidence gathering and analysis undertaken for this Plan in other LDF supporting documents such as Sustainability Appraisal baselines. The following may be useful:

- An overall justification for following a green infrastructure approach is provided in **section 1**.
- Background information on environmental character can be found in **Appendix 2**.
- Key green infrastructure issues are set out by function in **section 2** and **Appendix 3**. These issues should be used by plan makers, SA practitioners and consultees to identify what the broad green infrastructure (and environmental) issues are in the District.
- The assessment of need for green infrastructure is given by function in **section 2** and **Appendix 3**.
- **Section 3** sets out the proposed green infrastructure vision, network and supporting projects. This may be useful for plan makers when they are developing policies, and for SA practitioners and Consultees when reviewing policies to help ensure options have been presented that take full advantage of potential opportunities and are most likely to help solve current and future problems.

Core strategy

4.6 Key GI points for the Core Strategy to take into consideration are:

- Wetland enhancement and sustainable water management in the Lee, Stort, Rib, Beane, Quin & Ash Valleys, making 'space for water' up and downstream of the main settlement pinch points;
- Increased green links to the countryside from high density settlements in particular Hertford and Ware, & Bishop's Stortford, seeking enhanced links along the river valleys network, where these do not conflict with nature conservation interests;
- Improved strategic links with adjunct District/County (such as the Lateral Links project), facilitating greater levels of car free access;
- Using green infrastructure to contribute positively to landscape character enhancement, restoration and linkage (e.g. areas for farmland, grassland restoration and woodland enhancement as shown on **Figure 3.1**);
- Green infrastructure to interpret and appreciate significant cultural heritage assets (e.g. Henry Moor cultural trail and reinstatement of Roman Road);
- Context, sense of place and local distinctiveness: Recognition, conservation and enhancement of the key assets of river valleys, woodlands, grasslands and commons.

DEVELOPMENT MANAGEMENT

4.7 The green infrastructure zones and component projects identified in **section 3** form a basis for evaluating future development proposals against the proposed green infrastructure network, and to ensure that they contribute to the desired environmental outcomes and functions. A model process for ensuring that green infrastructure is embedded in development management, and that appropriate account is taken of green infrastructure recommendations, is set out in **Figure 4.1**. A standardised approach to the design and implementation of a generic green infrastructure development project is shown in the central column of this Figure, with respective responsibilities of the applicant and the District Council, as they relate to GI, shown to the left and right hand sides respectively.

4.8 **Figure 4.1** is designed to assist Development Management officers and planning applicants to ensure that green infrastructure is embedded in the scheme design from the outset, as part of the development process. The diagram can be applicable to any scale of proposed development. The starting point is to identify the green infrastructure zone or elements in which a specific site lies and whether it relates to, can contribute to or affects any proposed projects in this GI Plan. Reference should be made to the key messages for the relevant projects e.g. the important green infrastructure assets and links to conserve and enhance, and this should be used as a starting point for site planning and design – a 'greenprint' or a green infrastructure led basis for masterplanning, to ensure that green infrastructure assets are considered and protected from the first.

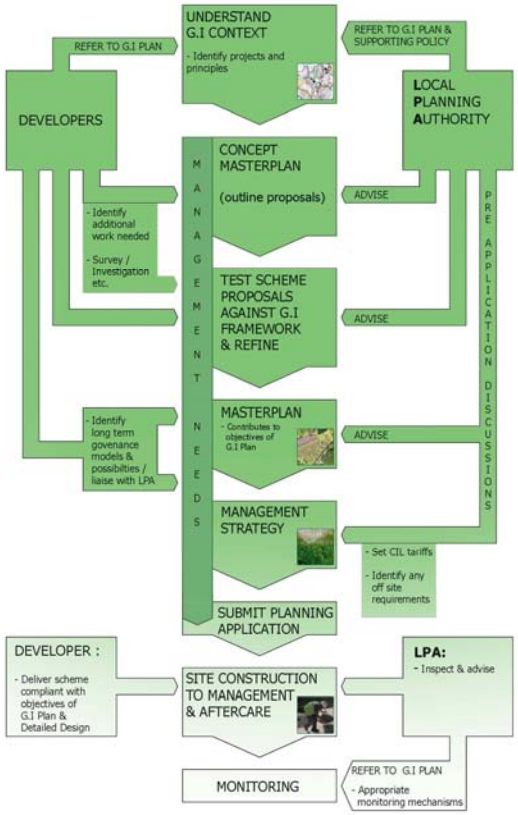


Figure 4.1: Embedding GI in Development Management

NEXT STEPS

4.9 The following steps/alternatives are recommended in order to take forward green infrastructure delivery within the District:

- Creation of a dedicated **Green Infrastructure Delivery Officer** role at County level (subject to resources – this may be a desirable long term aspiration);
- **Taking the GI Plan forward in the District through existing mechanisms** (Hertfordshire Environmental Forum) and with assistance and advice from the Countryside Management Service;
- Attendance at and participation in a potential new Hertfordshire wide/cross district **GI Delivery Panel** (potentially linked to HTCOA's landscape group and other stakeholders such as the Herts and Middlesex Wildllife Trust, as well as the Parish Councils). Management of this panel could be commissioned from a relevant commercial organisation such as Groundwork or other GI implementation consultancy. This should have a practical focus in securing on the ground delivery.

4.10 Whichever approaches are selected, clearly there will be a need for close partnership working with other organisations with parallel interests and objectives (East Herts in an enabling/facilitating role, liaising as appropriate with adjacent Districts and Boroughs). By doing this and through intelligent use of existing mechanisms and processes, a SMART approach to GI delivery could be achieved in the District, as described below. Possible future responsibilities in relation to green infrastructure delivery, whether through a Delivery Officer or through participation in a Delivery Panel, at District level, are as follows:

- **Actively promote green infrastructure**, liaising with relevant members of the Local Strategic Partnership, to ensure that green infrastructure contributes to the objectives of spatial planning;
- Preparation and implementation of a **Communications Strategy for green infrastructure** in the District, to raise public awareness of the concept. This should link to the interactive GI mapping/web/app based project described in **section 3** (Project 5: Green Hertfordshire). Focus on projects with a community emphasis, to engender greater public support and ownership, as well as embedding positive informal management/stewardship, in addition to any more formal management structures identified;
- **Advise and assist a nominated green infrastructure 'champion'**, (ideally a Council member, to ensure greater potential for 'buy in' from members);
- Provide constructive advice to the Council on GI delivery, considering the points below:

- **A checklist** for evaluating development proposals in terms of GI and against the components of the GI network in this GI Plan. Possible components of such a checklist are set out under 'Potential future work', at the end of this section;
- **Consider potential for further work** and additional studies to bring GI forward, including more detailed GI planning work, as highlighted at the end of this section;
- Identification of constraints, challenges and potential conflicts of interest in relation to practical delivery, making early links with appropriate bodies (e.g. in relation to ecological advice, surveys and flood risk etc). **Land ownership liaison and negotiation** (this is a key stage);
- Where appropriate, as part of liaison with landowners **seek to encourage take up of grant schemes** which could contribute to the aims of the GI Plan e.g. agri-environment and woodland grant schemes;
- As a consultee, comment on relevant planning applications through the pre application and application processes, using the proposed GI Network;
- **Liaise with developers early in pre application stage**, ideally at site acquisition, so that GI is factored into schemes from the start, and as part of section 106 contributions (identification of the proportion of GI to be met through the Community Infrastructure Levy - CIL, section 106 and through the local authority New Homes Bonus). Cross refer to the work of Sustainability East for embedding sustainable development considerations in relation to business development[xi];
- Ensure that developers and others bringing forward green infrastructure not only take account of the key messages in this GI Plan, but that they also identify sustainable, resourced mechanisms and models for long term governance to deliver design intentions and desired environmental outcomes;
- **Make appropriate links with future delivery and funding partners** identified in the projects in **section 3** of this GI Plan, in relation to **co ordination of funding bids**, and also in **making links with adjacent authorities** for projects on authority boundaries/in considering adjacent District GI projects which could impact on/benefit East Herts;
- **'Grass roots' delivery:** Continue to develop links with Parish councils and relevant community and volunteer groups such as the British Trust for Conservation Volunteers (BTCV), allotment societies, local schools (tree planting activities) and existing Friends Groups and formation of new Friends Groups, where appropriate. Also potential for formation of **local green groups** working with a Delivery Officer/panel. As part of this grass roots approach, ensure that reasons for changes to greenspace management etc are translated to the community (perception and awareness raising);

- Liaise with the relevant Local Strategic Partners, **noting and using where appropriate existing processes** that may be of relevance to GI delivery, for reasons of efficiency and avoiding duplication of work;
- Develop appropriate consultancy briefs for masterplanning and detailed design services in relation to key GI projects, making appropriate reference to key messages in the GI network and projects at **section 3**;
- Create an audit trail of appropriate monitoring mechanisms in relation to green infrastructure delivery, making use of existing tools such as site inspections to adoption, and visitor surveys. This will help monitor performance of the green infrastructure proposals in relation to the environmental functions, to inform and refine future iterations of the spatial plan for East Herts;
- With the Council, convene regular updates, meetings and opportunities for progress reporting during the life of the GI Plan and wider spatial plan, to disseminate results, good practice and lessons learned (e.g. with reference to good practice case studies, such as Broxbourne Woods and Amwell Quarry regeneration).

POTENTIAL FUTURE WORK

GI checklist for development management decisions

4.11 In addition to the general pointers shown on **Figure 4.1**, this could cover the following subject areas:

- Sense of place: Including historic character and landscape management;
- Nature conservation enhancement and management;
- Sustainable resource management and climate change adaptation;
- Healthy and cohesive communities including access for all;
- Choices for responsible travel;
- Sustainable design and construction techniques and specifications.

GI Design and Delivery Guide

4.12 This could take the form of accessible, concise, written and illustrated design principles aimed at developers and to inform Development Management Officers in evaluating planning applications in terms of green infrastructure. The aim with such a document should be to ensure that the most positive consideration is given to GI planning, design and management, from the outset of the development process.

GI Supplementary Planning Document (SPD)

4.13 It may be desirable for the District (possibly with adjacent authorities) to consider production of a green infrastructure SPD, although this must not detract from the wider need to embed green infrastructure more generally within the LDF, the Core Strategy and relevant

policies. It may be more useful to include aspects of the Green Infrastructure Plan and potential future work within other SPD (e.g. Planning Obligations/Developer Contributions, or a Design SPD).

More detailed and local level GI planning work

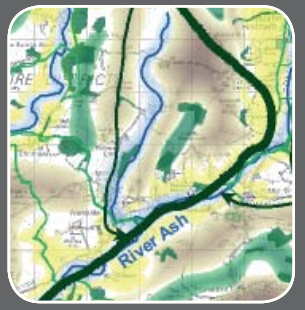
4.14 This is a strategic level GI Plan and more detailed and 'site specific' GI planning work, drawing on this plan, is likely to be required within the District, particularly as growth locations and areas of change become more fixed.

Outward facing projects to 'launch' the GI concept

Interactive/web/app based mapping project – GI for people – 'Green Hertfordshire'

4.15 This is described in the 'Green Hertfordshire' project (Project 6) at **section 3** of this GI Plan. This project could also be linked to promotion through established greenspace events in the District, such as those held in Hartham Common. Another focus of the project could be to promote local suppliers and producers (local food).

[i] http://www.hertsdirect.org/infobase/docs/pdfstore/giframework.pdf
[ii] http://naturalengland.etraderstores.com/NaturalEnglandShop/NE176
[iii] NE176, **Op Cit**
[iv] Natural England/The Landscape Partnership **Analysis of Accessible Natural Greenspace Provision in Hertfordshire**
[v] Source: V4C Project. Study produced for Hertfordshire County Council
[vi] http://www.hertsdirect.org/libsleisure/heritage1/landscape/hlca/
[vii] Groundwork Hertfordshire 2004 **Trees Against Pollution: A Strategy for Tree Planting and Air Quality**
[viii] Liz Lake Associates 2009 **Landscape and Visual Impact Assessment: Re Restoration Sites - Hertfordshire**
[ix] Planning Advisory Service 2008 **Local Development Frameworks: Evidence Base**
[x] The Planning Inspectorate 2008 **Local Development Frameworks: Examining Development Plan Documents – Soundness Guidance**
[xi] http://www.sustainabilityeast.org.uk/index.php?option=com_content&view=article&id=17&Itemid=22



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