

# Hertfordshire Strategic Green Infrastructure Plan (Incorporating the GreenArc area) - Appendices

Prepared for Hertfordshire County Council  
by  
Land Use Consultants  
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## LUC SERVICES

Environmental Planning

Landscape Design

Landscape Management

Masterplanning

Landscape Planning

Ecology

Environmental Assessment

Rural Futures

Digital Design

Urban Regeneration

Urban Design

**43 Chalton Street**  
**London NW1 1JD**  
**Tel: 020 7383 5784**  
**Fax: 020 7383 4798**  
**[london@landuse.co.uk](mailto:london@landuse.co.uk)**

14 Great George Street  
Bristol BS1 5RH  
Tel: 0117 929 1997  
Fax: 0117 929 1998  
[bristol@landuse.co.uk](mailto:bristol@landuse.co.uk)

37 Otago Street  
Glasgow G12 8JJ  
Tel: 0141 334 9595  
Fax: 0141 334 7789  
[glasgow@landuse.co.uk](mailto:glasgow@landuse.co.uk)

28 Stafford Street  
Edinburgh EH3 7BD  
Tel: 0131 202 1616  
[edinburgh@landuse.co.uk](mailto:edinburgh@landuse.co.uk)



# 1 Stakeholder consultation record



## **Record of stakeholder event, Gilwell Park, 15<sup>th</sup> February 2011**



## **HERTFORDSHIRE AND GREEN ARC STRATEGIC HIGHLIGHTS GREEN INFRASTRUCTURE PLANS (SHIPS): STAKEHOLDER CONSULTATION EVENT, 15<sup>TH</sup> FEBRUARY 2011**

- I.1 The table overleaf sets out the summary of the stakeholder sessions held at Gilwell Park on the afternoon of 15<sup>th</sup> February 2011, to validate the approach taken by the SHIPs. The afternoon took the format of short presentations by Natural England/HCC and LUC explaining the work done to date and introducing the draft proposals. This was followed by two breakout sessions: 1. 'Are we on the right track?' (broad validation of the network as a whole and 2. Projects – consideration of the appropriateness of specific projects within the SHIPs and thoughts on delivery. Attendees were split into eight groups (colour coded) for the first exercise, and considered two projects of interest for the second exercise.
- I.2 The table overleaf also identifies LUC's responses (where appropriate) in **bold** type.



## SESSION I – ‘ARE WE ON THE RIGHT TRACK?’

### *Yellow group*

#### *Existing GI assets not id'd*

- Building blocks missing from map:
  - Broxbourne Wood
  - Tring Reservoirs
  - Tring PK
  - Knebworth
  - Amwell - – **these are all shown on the map.**
  - Balls Wood – **LUC to check, as appropriate.**
- What is GI asset? Needs to be explained. **Will be explained in report.**
- No transparency – not sure of process of selection. **Strategic assets are those of multiple district significance.**

#### *Other General Points*

- Mimram project maybe less strategic than some others, but point is taken.
- More ref to Herts Highways. **Ok.**
- Broxbourne Woods to Epping a strong project. Lots of support for lateral links
- Wooded arc – strength of Green Belt
- Woods from Chilterns towns to Watling Chase to Broxbourne – Epping Forest. Motorways as barriers.
- *Urban Greening* – Project Supported

### **Mapping Issues**

- Need for clearer depiction of rivers outside area incl. Thames. **Ok, can show context.**
- Confusion over Project 6 corridor. **Unclear as to why.**

### **Strategic GI projects**

- Lafarge own Panshanger – major asset (existing form).
- Lafarge not happy that site is identified will have public access. **Project is a long term aspiration, taking account of landscape future of Panshanger after cessation of all workings and restoration. We have responded to Lafarge separately.**
  1. GU canal – yes
  2. New: should not to supersede what's already going on. **Agree, the two should be complementary.**
  3. Don't know
  4. Depends on right of greenspaces – what people want in envt.

*What about strategic GI links?* – missing text how link with others to 8. **LUC to check.**

6. Why use the caveat of IBDA? Will deliver lot more than biodiversity. River Valleys – deliver much more than biodiversity. Missing rivers in text: Ver, Stort. **Agree, IBDA is one of the hooks – project can deliver much more.**
7. Lee Valley Regional Park – text needs work. **LUC to check.**

## 8. Chalk – ok

### ***Are the strategic projects the correct priorities?***

#### **Concerns** (e.g. data / map)

- East Herts Council – river corridors important asset. Are they being developed in EI plans to maximum? **They have also been referenced as key assets in East Herts GI Plan.**
- Clarification on data sets used, i.e. GIS layers (e.g. Nature Conservation map – what data used?). **This will be explained in the report and appendix.**
- Restoration sites – how have they decided which ones to include? **We have used ‘Re Restoration site info provided by HCC’.**
- Local Access Forum – is River Ver included? Should be through the IBDA. **Yes – included in river valley project, although rivers are not named specifically.**

#### **Priorities?**

- Are there opportunities coming up to help deliver these?
  - Connections between LVRPA + Epping Forest & promoting links to woodland (Strategic Project 2)
  - Watling Chase (help draw on previous project)

#### **Anything missing?**

- Has mapping picked up on everything? **As far as possible within the scope of this strategic project.**

### **Pink Group:**

- Ellenbrook Fields CP. **Ok, use new name.**
- Assets not mutually exclusive (of wetland / wet woodland)
- Woodland assets look correct
- Refer to Hitchin River Valleys (Oughton / Purwell). **Agree in principle but are tributaries rather than main rivers, which have been focus for study.**
- Graphic representation of wetland zone
- Delivery: woodland creation schemes difference between managing woodland & crop yield therefore landownership liaison key (FWAG)
- Land ownership negotiation key next step
- How to rejuvenate WCCF? Should it be a project? **To consider.**
- Localism the way forward
- Links to agri envt schemes
- Localism – harness info from GAF work through local people/groups (cf. Harlow)
- Identify strategic plans: feed into local / neighbourhood plans – influence / use neighbourhood plans positively to link SHiP to LDFs.
- Could be support for initiatives at local level cf. Mimram
- Lottery bids
- Key to express functions in report. **Agree.**
- Identify opportunities to extend links / ensure all properly joined – for extending / improving (cf Lee + Stort) (Priorities) – show these on plan
- Show links to District GIPs better. **In hand.**

### **Green group**

- Profile of existing programmes (WCCF) needs to be kept high as part of this process. **Agree with principle**
- Economics is key in conversations with landowners
- Strategic woodland area NE of Stevenage across The Beane Valley / Weston

- Majority of Strategic links appear N/S. More E/W to be considered. Link to/between settlements (SBC) (learning from the WCCF Greenways Programme).
- Not to overlook significance of all woodlands (Regional Woodland economy)
- Project 8 – Question of Focus. Farmland rather than grassland?
- Landownership is key. **Yes, agree.**

### **Purple Group**

- Existing & proposed projects ok,
  - but some clarification needed about green links – some valleys should have them?
  - East of Buntingford - ??
  - Are promoted routes included in green links? **Yes.**
- Missing:
  - Circular / urban fringe routes around towns. **Check where appropriate.**
  - Strategic project for local food / growing / contribution of gardens + fruit trees. **Urban GI heritage project could encompass this.**
  - Connection with Queen Elizabeth Olympic Park legacy
  - Recognition/labelling of existing major assets. **As part of wider SHiP report and baseline mapping.**
  - ROW severance e.g. M1, M25 Hemel Hempstead, St Albans (Also HS2)
  - Accessibility
  - Extend AONB to link together – current boundary looks artificial. **A wider point than the SHiP can address.**
  - Connect White Paper – locally valued areas – status below AONB – that is recognised in planning
  - More obvious connection with Green Grid initiatives e.g. IBDA
  - Arable / uptake of HLS
  - Support for farming
  - Travelling horsiculture

### **Orange group**

#### **Omissions**

- Missing link from Bishops Stortford to north to link with route, along river.
- Watling Chase Community Forest – like to see identified as woodland enhancement zone (key proposal: St Albans Plan). **LUC to check.**
  - More should be happening. Developer contributions. Hospital development.

#### **General**

- Plan difficult to follow – distinct boundaries, label Epping Forest. **LUC to consider.**
- Habitat enhancement zones – not exclusive e.g. woodlands – small areas of grassland within = key
- Woodland enhancement – not clear within colouring / different greens
- Plans need to allow for a balance / not prohibit house building. **Agree, GI sets positive framework and does not seek to prevent this.**
- What link to core strategies + LDFs? Planner answered that linking to core strategies. SHiP forms evidence document
- Need a shift in mindset. Judging by quantity. Should be more of a focus on quality. Score projects on the 11 functions for example.
- Trees Against Pollution – little known
- Would be good to see ANGSt deficiencies info and how it has been used. **Part of SHiP report.**
- See stronger link – how info can support sustainable urban extension. Concern than Panshanger designation could hamper other plans. Balance.
- Is the plan still deliverable with less housing + less developer contributions?

#### **Judy Adams' group**

- Welcome the rivers focus!! North Herts – arable farming too close to rivers
- + what do we do about North Herts? Large area, only river corridors featured?
- + GI Strategy needs to inform LDF? Agree with principle.
- + Harrow – needs to link with HCC – to link access. Agree.

- 1 Some are well known (Lea Valley, Colne, Stort Valley) and Broxbourne Woods. Others are less well known; e.g. the rivers. Also value of woodland in Herts is not well appreciated, even if Broxbourne Woods is well known.
- Promotion needed for other river corridors – and perhaps the lesser known woodlands and chalk.
- 2 The priority strategic projects are sound. But note that the strategic woodland should include ash/maple woods, as well as the Broxbourne Woods etc complex. **Ok.**
- There was also a query that Mimram/Panshanger should be singled out? Why is it not part of ‘rivers’ project? **It forms a strategic project to address cross boundary multi functional GI deficit.**
- 3 *Functional issues captured?* Yes
- 4 *Broad support for proposals?* Yes.
- 5 **Priorities** – not easy to answer, as choice of priority relates to opportunity as well as strategic importance.
- Important to first preserve what we have; expansion comes next. **Agree with principle, although should be complementary.**  
Woodland is rather special to Hertfordshire and includes wood fuel initiatives, recreation and biodiversity. It ought to be high up the list.
- Note – Harrow keen to ensure links with HCC. **HCC are following up.**

**SESSION I SUMMARY**

There is broad support for the scope/emphasis of the strategic GI plan, with queries relating mainly to points of detail/baseline info which will be referenced in the accompanying report.

## SESSION 2: PROJECTS

### *Project 1: Colne Valley*

#### **General point**

Clarification that it is the Colne Valley, not just Colne Valley Regional Park. **Agree in principle, although Regional Park is clearly a focus.**

#### **Colne Valley Partnership/Park Project**

- Rational approach
- Other initiatives
- Constraints to achievement?
- How could you be involved in delivery?
- Other things needed

#### **Approach**

- To engage people, need clearer wording. **Check.**  
Grand Union Canal, towpath – good linear links. Lateral are poorer.  
Colne, access variable. Links upwards towards St Albans poorer
- Include rail networks in addition to tube. Include access to nature reserves/parks. Opportunity in future when developments take place, to secure better access.
- Approach and work with landowners early.
- Prioritise tackling of barriers i.e. identify and prioritise barriers.
- Element of increased education needed through?? e.g. Forum
- Identify opportunities for wetland creation coupled with public access
- Connections to NW London – cycle as well as pedestrian
- Note – need to add words
- Identify and address barriers
- Providing a continuous and viable transport link. **LUC to check.**

#### **2 Complementary initiatives include**

- Fisheries action plan

- Wetland study
- City Bridge Trust Wildlife Trust funded People engagement three year post
- Water Framework Directive
- River Basin Plan
- Gade project in Watford
- Colne Valley Action Plan

**Reference as appropriate**

**3 Constraints? Nothing additional**

**4** WT's , Groundworks, Fishery clubs, Councils, Local Access Forums, ROW, Landowners e.g. access, cycleways, Environment Agency

**5 HMWT – Nature reserves**

- GW – access projects, cycleways. Both grounds
- Fishery clubs – biodiversity gain
- Lafarge – land for people, Broadwater
- ROWs – access ways
- Develop delivery projects, Perhaps using EA model for River Basin, include biodiversity, access and other as per the Rivers Project in London EA

**Project 2: Strategic Woodland Creation and Linkages**

- Need to bring benefit to small woods outside the key areas – urban fringe woods
- Needs to be a balance between new planting as links and buffers and the management of existing woodland for conservation. **Project is about enhanced management and linkage.**
- The economy of managing woodland: needs to incentivise management + creation of woodlands.
- Consider how trees function as links through the landscape between woods.

**Links**

- Tree strategies

- Street tree initiative – FC
- Epping Forest Transport Strategy

**Constraints**

- Historic environment
- EIA-considerations
- Deer + pest / disease / climate change
- Land availability and value

**Agree – can be referenced as appropriate.**

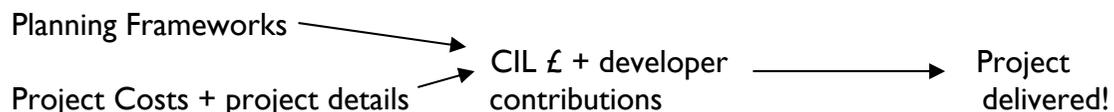
**Delivery**

- HMWT – HLF in South Herts Woods Area
- HCC, CMS and WT in Broxbourne Woods
- DC officers with CMS and others advice across Herts.
- SHiP
  - Planning Policy support
  - Planners DBC
- Social network communication
  - Community volunteers
  - Groundwork / CMS
  - Advice on planting + PAWS
  - WT
  - Advice – W sites
  - HMWT
  - Expertise in Ancient Forest - City of London
- \*Clustering of projects to enable funding streams to support existing agents to deliver an economically viable market for woodland products. **Agree with principle.**

- Consider woodland as a mosaic of habitats – open land, scrub, wood pasture, wet ground
- Planting: respect local woodland types with an eye to climate change /pest threat
- Consider appropriate access
- Woodland links south from Hertfordshire into London Boroughs
- Include Hainault (in Epping Forest / Hatfield Forest list)

#### Delivery

- Market stream for local woodland products essential. Sustainable, i.e. Developers fitting (not retrofitting) woodburning stoves to new dwellings
- Communication between DC + strategic delivery agents required. **Agree.**
- Land prices a key issue / impediment to tree planting.
- Planners: ensure project is recognised in CIL / Developer Contributions



Above is articulation of the need for a means to bringing advice + action together in a way that enables immediately without endless meetings. **Agree.**

#### **Project 3: Mardyke Valley Greenway Extension**

No stakeholders discussed this project. However, we feel it should stay as it is strategically significant. It contributes to Thames Chase Community Forest objectives, provides a key cross authority link and helps address deprivation.

#### **Project 4: Urban GI Heritage Conservation and Enhancement**

##### **What**

- Very generic – some reference to make more ‘real’ locally. **This is covered in the Herts District GIPS where relevant.**
- First bullet – ‘management + new tree planting’ – not all there is. **Check.**
- Improve connectivity between urban, urban fringe + countryside, e.g.

Letchworth Greenway. **Ok.**

- Also increasing biodiversity, movement – multifunctionality. **Agree.**
- Definitions – last bullet – why small scale, high value in Watford. Other towns. Is it trying to explain quality. Specify. **The point made in relation to Watford refers to addressing historic 'green' deficit due to high density of urban development. Consequently small scale interventions here will be of high value.**
- Visual value of trees, open space etc missing. **Make general reference.**
- Refer to value of allotments. **Make reference.**

#### **Delivery**

- Mention more deliveries. Local community – neighbourhood plans. Parish councils where relevant
- Schools, volunteers
- Health authorities, County – highways, own land. Community housing associations. Effect of selling off assets

#### **How take forward**

- Local delivery will happen. Different projects take place + need to learn from each other.
- List the projects people doing + aspirations
- List of people here, contact details + area of work + interest
- What to add:
  - Need to recognise role of veteran trees. Trees generally – climate change / shading. **Agree with principle.**
  - New planting – keen on link to local food. Heritage varieties existing
  - Value of bees – extension of community gardening / food link
  - Deficit – remember it is quality of green space not just existence
  - Reword final bullet to remove 'historic' use longstanding? May help prioritise?
  - Refer to positive influence
  - Title = remove word 'planned'? Split reference to garden cities and others?

### **Check above points**

- Function
  - Remediation – cover vacant land that could be used temporarily
  - Also remediation of town tips etc (not just extraction) derelict
- Complementary Plan
  - Needs to be delivered in partnership with communities, amenity groups. Volunteers missing – donated labour.
  - Role of businesses – CSR, visual, environmental & contribution (missing)
- How
  - Work detail at local level consultation
  - Info sharing useful – knowing what's working, what being discussed – can the inspiration be shared centrally? Project 10?
  - Funding – possibly work together to fundraise together on a theme
- Others to involve
  - Herts Highways / Highways Agency (motoring corridors) – control much land
  - Network Rail
  - Important to continue the cross boundary work / discussions. Ensure that links between the local authorities continue / promoted.
  - Young people element – work with, get ideas, involve, engage - offenders, apprenticeships, training scheme – delivery.
- **LUC to check above, as appropriate.**

### **Project 5: Mimram**

#### **Approach / Rationale?**

- Lafarge
  - Panshanger Park will be restored following extraction based on phased basis.
  - High quality site based on consultation with key advisors
  - Example of best practice to follow elsewhere. **Agree, which is why Panshanger has been referenced as part of a strategic project.**

- **Constraints**
  - Busy road B1000 + A414
  - Access along river isn't possible. **But should state long term aspiration.**
  - Access poor due to private land
  - Reliant on goodwill / support pf owners
- Herts Rights of Way – could improve access for pedestrians / cycles
- B1000 – establish adjacent cycleway
- Resourcing – S106?
- Plotland @ Poplar's green – multiple ownership
- SG
  - Local residents
  - Local access forum (Ramblers, BHS, Cyclists)
  - Tewin Flyfarmers
  - Use it to highlight best practice to other travel companies
  - HMWT
  - East Herts DC
  - Williams Family
  - Lafarge
  - WHC
  - HCC
- Ok for strategic policy

#### **Mimram - Rationale / Approach**

- Lafarge
  - not a distinct project – why Mimram as opposed other river? **Mimram is cross district link which also encompasses Panshanger and is therefore strategic.**
  - Surprise to landowner
- Change title to Mimram Valley (drop Panshanger). **Ok.**
- Question future growth of WGC? This is unknown. **Yes, but GI should**

**account for all eventualities.**

- Access within Panshanger needs to be opened. Yes, is longer term aspiration.
- “Contribute to enhancements including delivery of the BDA” (London + Tribs/integrated biodiversity delivery area). **Agree.**
- Remove references specifically to Panshanger
- Issue – water abstraction – Veolia Water. **Need for future liaison with Veolia.**

**Constraints to delivery**

- HLS – application for Panshanger if target area
- Reliance on co-operation of landowners
- Access to river – popular but leads to littering

**Project 6: River corridor and valley enhancement- delivering the IBDA**

- Make wider than just IBDA. Also river basin plan. **Ok, will ensure referenced on project.**
- Ver & Stort missing. **They are shown on the map. Rivers now not named specifically in project due to number.**
- Need more emphasis on chalk rivers as well. **Ok.**
- Also more ref to water quality and structures
- Thames River Basin Plan ACTION Sarah Jane Scott **Ok**
- Also deliver Living Landscapes river valley working. Add to plans list and include importance of rivers for GI connectivity, for access & visibility particularly into London. **Agree, Living Landscapes info already referenced.**

**Actions**

- Map ROWs + green access links against river corridor. **This has been done. There is a limit to what we can show on strategic map.**
- Importance of bringing people together
- London Rivers Action Plan a good model to follow with targets for each river. **Ok.**

- Good policies in LDFs. **Agree, this is needed – future consideration.**
- Link to water demand management with water companies. **Agree, useful future step.**
- Water cycle studies. **Yes, referenced already.**
- Chilterns Chalk Streams Project. **Yes, account taken.**
- Gade, Bulbourne + Ver restoration strategy. **Ok, make reference.**
- Will need to prioritise
- Concern over loss of revenue payments for access under HLS \*Chilterns Society, and to Wetland Group.
- Mimram project perhaps a model for future river action groups
- Floodplain land valleys will be lower – helps delivery
- Don't forget Upper Lee towards Harpenden. **This is already shown and forms part of the river valley project.**
- Don't reinvent the wheel.
- Maybe need to consider zoning for some v few areas with sensitive biodiversity
- Mention of recreational value of rivers in intro of project sheet. **Ok.**
- Importance of local community involvement, e.g. Ver Valley Society. **Ok.**
- Water recreation on Lee Valley (canoe), R. Colne + G. Union + non-powered craft

Links to mineral workings – Opps

### ***Project 7: Lee Valley Regional Park***

- Is rationale acceptable?
  - Broxbourne – signage + awareness
  - Enfield – different because LVF land ownership but tow park
- Strengthen opportunities for links west – Epping Forest. (already there in Harlow Delivery Plan)
  - links from Waltham Forest in + out (London Green Grid)
- Places where E-W links need to be physically strengthened (see above)
- Conceptual challenge to encourage people to visit – all the way down Lee Valley

(Apps) – **potential link to interactive mapping project.**

- Epping Forest transport strategy – expand to link to other areas
- Olympic Canoe Centre - Link water activities – marketing
- Signage problem
- Lots of physical barriers
- Links to Woodland areas of Valley (green wooded area around Hub in Lea Valley)
- Olympic legacy
  - Access for All in place
  - Project: place led by various partners
  - Economic development exercise (ECC, LVRP Boroughs, etc) to identify economic regeneration; LV – improve area as day out destination.
  - Linked to natural play in Cheshunt – landscape driven + arts finished after Games
- Olympic north route NCN 1 – deliv – Harlow (reinforce N/S links) + Lee Valley path
- London Loop (needs upgrading / renovation)
- Capital Ring
- Roydon Loop missing – Nazeing (**LUC to check**) – Harlow (see Harlow GI Delivery Plan recommendations)

**Constraints**

- £!
- Physical barriers – parallel in Lee Valley
- Land values / hope value
- Enthusiasm – this is good process to capture
- Deliver strategy through CIL etc
- Neighbourhood plans – link strategic – micro level
- Lee Valley – edge effect – constraint to get strategic projects included (except for Harlow).

- Some from Epping Forest Conservators

**Involved:**

- LVRPA already – making links through strategic framework – leverage of funds
- Show all strategic landscape initiatives in SHiPs doc. Acknowledge all various initiatives + links between. Ok – **LUC to check as appropriate.**
- Harlow strategy access subgroup:
  - Sustrans rep sent lots of info – sent rest to input to projects
- Also Epping Forest GI subgroup under Harlow GI Partnership – Stort missing – need to add to LV (existing v.g. Stort WGP)
- \*Data missing for Essex\*. **We have only been able to work with what we have been given/been able to obtain from partners.**

**Rationale**

- Should be existing Lee Valley as whole, not just lateral connections. **Note that the existing Regional Park is endorsed as a project. There's a strategic need for better lateral connections, hence this project.**
- Regional park is 10,000 acres. LVRP own 4000 acres, so focus on rest (6000 acres)
- Routes into park – North-south as well as east-west better served Lee Valley walk + NCNI
- Functions – more emphasised, not faded out – should all be in
- Specific link south to Olympic Park + to river (already in) + is used
- Should include woodland + habitat creating not just access links. Scope to link.
- Missing:
  - M25, through Waltham Cross, across Holmswood tunnel – London Borough?
  - Dependent on severance + linkage
  - Potential for multi user status
- Complementary plans – mention development issues. **Ok.**
- Headline – deprivation – key driver is health + wellbeing – important focus to LAs

- Missing:
  - Green Grid
  - IBDA – **account has been taken of these.**
  - Links from Broxbourne – Epping. **LUC to check.**
  - Links to Olympic events
- National review of level crossings – potential increased severance. Level crossings in Lee Valley will be targeted.
- List of crossing points from Broxbourne to LVRP: info available from Janet Groom
- Missing:
  - Connections Olympic Park to Waltham Forest to Epping (northern Olympic Fringe boroughs)
  - Broxbourne BC v keen on linking Barclay Pk, etc
  - Route there but not well used
  - Needs promotion

**Check above as appropriate.**

**Constraints:**

- £
- Land ownership
- Permission from EA, etc
- Inter-authority liaison
- Economy (national context)
- Staffing cuts
- Big society overkill / scepticism
- Time to engage local people via neighbourhood plans
- Physical severance
- Complementary. Plans (add in):
  - NE – leadership – driving it forward
  - Develop an integrated LV project

- GI linked to Olympic Park as springboard to GI delivery

### **Delivery**

- All partners to need to agree priorities. **Agree.**
- Need to set up working group to progress. **Useful idea.**
- HCC RoW
- Lee Valley Regional Park Authority feed into existing gaps
- LB Waltham Forest
- Broxbourne – various colleagues in different departments

### **Missing Project Surgery (Session 2)**

#### **ROWS**

- Severance Issues
- East Herts – could there be more strategic links? **LUC to check.**
- Issue of just ‘on foot’ access or shared multi-user. **Point taken but is a ‘detailed’ consideration.**
- Tie in with Watling Chase Community Forest / Greenway Network. **Yes.**
- Wrotham Park – links to London Loop – strategic inter-urban links.
- Consider path links to Olympic Legacy?
- Not just link Lee but also Broxbourne canoe site (Holdbrook)  
(dual benefit – public access + River Restoration Scheme)
- Radial Town loops may be a theme for project? **Could be part of urban greening project, e.g. Letchworth Greenway. Also shown on GI network map as revised.**
- HLS – no access payments from now on. What now is incentive for farmers to ensure HLS referenced?
- GI assets also act as severance (Rivers). **Agree.**
- Closure of level crossings (what does this now mean for access network)
- HS2 an issue but only 1 clips 1 path link.
- ROWIP (Statutory duty but no funding for implementation). Rely on S.106 / CIL
- Will proportion of CIL for GI be enough for more ‘engineered’ projects (e.g.

Nicky Line - reinstating lost bridge?)

- Could lost rail line at Quin Valley be opportunity? Also dual use (SUDS?). **We have looked at this as an opportunity.**
- (Flexible use – slow does this work?)
- Links to stations (Enhanced cycle provision on trains + stations / limitation at commuter times + should be more acceptance of provision for cycles.
- Groundwork NE leading Holbrook?
- Potential access conflicts with bird interests and key biodiversity areas.
- Friends of Icknield Way KBA have National trail aspirations

**All useful points for consideration.**

***Harrow Council***

- Secure connections to Herts (see draft Harrow Green Grid). **Agree with principle – HCC to follow up with Harrow as Herts GIPS are finalised.**
- Woodfuel
- What of WCCF?
- Aspiration for WCCF to be revived? (possible recommendation?) **To consider**
- Other strategic ROWS (non-designated e.g. permissive)

### **Project 8: Chalk Scarps & Grasslands / farmland**

#### **Is the rationale / approach for the project acceptable?**

- Grazing livestock essential – few graziers in that area. Otherwise not realistic. Arable farming doing better than pastoral / livestock so who would want to switch? Skills base has gone. Need to be a reasonable size of enterprise for viability?
- Thick corridors / hay strips Stewardship driven. Or long-term management agreement with farmers using developer contributions e.g. s.106 for west of Stevenage to compensate loss of farmland.
- Theoretically Wildlife Trust would consider operating a flying-flock
- **THE GRASSLAND VISION IS UNVIABLE** Corridors may be more viable. **The vision is flexible and about establishing over-arching principles. Corridors can contribute to this. Project is not about ‘blanket’ grassland creation.**
- Explore potential of horse-grazing?
- Explore mowing / silage
- Find farms with balers who are prepared to make hay / haylage
- FWAG has background information
- Volunteers trained up to check animals – might enable smaller sites to be viable
- Explore possibility of demonstration farm like Hope Farm / Leaf Farm or Regional Research Centre
- HLS – Identify key landowners, look for opportunities & that they are willing to participate. Will need someone / organisation to pursue this, e.g. CMS / FWAG
- Link to local food, e.g. Pilkingtons Estates / Offley
- Farmland birds
- Archaeology & PPSS
- Link projects to neighbours farms

#### **Chalk Grassland**

- Icknield Way should follow Ridgeway & Peddars Way in being promoted

nationally – and receiving Govt. funding. Spin-offs: tourism, archaeological sites – Icknield Way to be the focus. **A wider issue, beyond the scope of the strategic GI plan.**

- Don't vision for wholesale de-conversion / arable-isation but look at linking local sites and using steeper slopes for grass, e.g. places Therfield / Sandon where soil is so, thin how economic is arable – or will it be?
- Find sympathetic landowners (as it happens most are already in HLS)
- May the pressure to reduce N. inputs drive a low input approach affecting crop yields and thus economics of grazing?
- (Project heading needs to be tweaked) **LUC to check.**
- If any farmer puts land into grass they need an EIA if they want to plough it up again.

#### ***Chalk grassland or Icknield Way Corridor?***

- If chalk need to stick to chalk
- S.Beds – several hundred hectares achieved – learn lessons / link
- Cartography misleading – spots rather than tone? **Consider that cartography shows principle of broad zone clearly as it is.**
- Missing link = local food economy like Offley = a driver that may encourage some farmers to go with sheep
- Chilterns Lamb – too complicated. But Herts needs a formal food strategy e.g. brand with Icknield Way Corridor
- Progress with this project may be slow – but still try. **Worth signposting e.g. project is part of a long term vision.**
- NHDC may be prepared to give developer contributions to these projects. Stevenage not sure.
- Hitchin gap – check: misleading?
- Constraints: No local markets / abattoirs.
- More permissive access needs to be negotiated
- St Albans – disconnected? But horse grazing possibilities

- Add lamb grazing to deter dogs

## **SESSION 2 SUMMARY**

There is broad support for the strategic suite of projects. Project 5 will be renamed; wording of project 8 will be considered. Although no stakeholders signed up to project 3 – Mardyke Valley Greenway Extension - on the day, it is still considered a strategically important part of the plan, for the reasons set out in the entry for this project above.

## **Notes of stakeholder steering group meeting, LUC London, 7<sup>th</sup> March 2011**



## Decisions of SHiP Steering Group 7 Mar 2011

Present:

Rachel Penny (Natural England/GreenArc) - Chair  
Claire Martin (Lee Valley Regional Park Authority/GA)  
Jim Smith (Forestry Commission/GA)  
Tom Day (Herts & Middlesex Wildlife Trust/GA)  
Richard Cuthbert (Hertfordshire County Council)  
Simon Odell (HCC / Hertfordshire Biological Records Centre) – Secretary and Contract Manager

Apologies:

Rob Rees (HCC)  
Bryan Thomsett (Hertfordshire Technical Chief Officers Association)  
Sarah Jane Scott (Environment Agency)  
Helen Leitch (HTCOA)

with

Andrew Tempany (Contractor - Land Use Consultants)  
Kate Ahern (LUC) part meeting only via telephone link

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The Stakeholder event had raised a number of points. Some of these have been answered in draft by LUC and the Steering Group meeting formally agreed to adopt those responses as its own but with the following additions and amendments.

1) In response to concerns raised about the profile of “existing” Projects/Initiatives it was agreed that lead partners for existing Projects/Initiatives would be invited to draft similar sheets as for the Proposals.

2/3) As regards the suggestions that had been made that the Watling Chase Community Forest was in need of rejuvenating, and that the focus and profile of the Strategic woodland work should be widened to include all woodlands, the Group decided that the focus of woodland work should be an arc/zone

linking and including the two Community Forests. The WCCF could be reinvigorated as a project within that. It was agreed that other woodlands were important but these would be addressed through the GIPs.

4) With a similar rationale it was confirmed that the focus of work on watercourses would be linked with the principal Thames catchment area rather than all watercourses. The Anglian catchment watercourses in the north of the county were important and should be picked up in local GI plans, and if considered to be strategic to the remainder of the catchment, as part of a catchment-wide initiative. This approach would also align with current Environment Agency and Natural England strategic priorities.

5) In response to the concerns about the undeliverability of the North Herts grassland proposal and that either the Icknield Way Corridor should be targeted or that this proposal should extend to the better management of farmland more generally, it was recognised that the rendering of the proposal on the map and the reference to grassland had possibly misled some stakeholders to the focus of this proposal, which was more inclusive than grasslands and not as naïve in believing that extensive arable reversion could be achieved. The existing proposal was confirmed but it was considered that using the underlying chalk as its identity might help as might different rendering on the map.

6) HCC presented a proposal concerning the reconnection of severed rights of way. It was agreed that where multifunctionality was being offered (e.g. through a wider green access corridor or associated green works) that repairing severance, as promoted in the ROWIP should become a strategic proposal. Some further suggestions were agreed concerning strategic links and HCC was invited to revise its proposal for inclusion.

7) LUC presented revised mapping at the meeting and improvements were noted, further suggestions to the consultants were made.

8) It was agreed that the ££... symbols should be converted into actual ranges. Some consolidation of proposal sheets could be effected if appropriate.

9) The group confirmed that the ten proposals (as tabled at present) formed an appropriate strategic GI ask for Hertfordshire and the GreenArc area (and if anything were conservative). It did not think it appropriate to prioritise these.

10) It was agreed that the final outputs would be presented to HTCOA and GreenArc with the suggestion that they should be sent out for affirmation, endorsement and sign-up, and with a request for HTCOA and GreenArc to propose the extent of that mail-out.

11) It was also agreed that the secretary would contact facilitators for a final time to check that no points raised had been misinterpreted, and that LUC should check that all comments had been attributed to the correct groups.

*Simon Odell 9 Mar 2011*

## 2 Summary findings from the document review

This section also includes messages useful for future, strategic level GI planning, and which go beyond the scope of this high level strategic GI Plan. Where relevant; appropriate projects and proposals in the GI Plan (**section 3** and **Figure 3.1** in the main report) are also identified.

### KEY MESSAGES FROM THE LITERATURE REVIEW, BY THEME

#### Access and recreation (open space)

- 2.1 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans which included a review of the Open Space Assessments and Strategies as appropriate. Also considered were Rights of Way Improvement Plans and Natural England Accessible Natural Greenspace Assessment.*
- 2.2 Provision of accessible open space varies significantly across the County. Through county-wide mapping of the Accessible Natural Green Space Standards, East Herts, Hertsmere and Welwyn Hatfield are identified as having the biggest deficiency in accessible natural greenspace. Watford, a predominantly urban Borough, also has long standing deficits in relation to greenspace provision.

- 2.3 There are several strategic, long distance rights of way which run through the study area, including National Cycle Routes 1, 6, 12 and there are a number of promoted routes such as the Alban Way, Nickey Line and Hertfordshire Way as well as longer distance routes such as the Icknield Way. There is mixed provision of rights of way, and a county-wide problem is the lack of an integrated rights of way network, with gaps in provision, and poor provision of off-road access to the network from some residential areas. This has formed the focus for a project which addresses strategic rights of way severance which can be seen on **Figure 3.1** at **section 3** of the GI Plan main report.

#### Landscape character, experience, settlement setting

- 2.4 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were also reviewed: Landscape East/Natural England, 2009: East of England Regional Landscape Framework: Landscape Typology Final Report, Hertfordshire County Council, 2001: Hertfordshire Landscape Character Assessment, CPRE, 2007, Intrusion Mapping, CPRE, 2000, Night Skies Mapping.*
- 2.5 Much of the county is defined by a landscape of wooded chalk plateaux cut by tranquil chalk valleys with wooded crests, often associated with the principal chalk rivers which flow through the county and lie within the Thames catchment. The chalk river valleys often have an intricate

landscape of meadows and wetland/riparian habitat. Large parts of the county have a settled character with market towns and villages established on the strategic trade routes to London and the Thames. Garden Cities are distinctive parts of the settlement pattern (Letchworth was planned as a completely new settlement, whilst Welwyn Garden City grew from the village of Welwyn). Also New Towns, which had a green infrastructure and landscape focus from the beginning (Hatfield, Stevenage and Hemel Hempstead).

- 2.6 The southern parts of the county towards the London commuter belt and the M25 corridor are often defined by *Lowland Settled Farmland* on the river terrace gravels, often influenced by landed estates and wooded parklands (Wooded Hills and Ridges). Severance is however created by the M25 and other trunk road corridors and arterial routes which follow important valleys e.g. the canal and railway network. The Gade and Bulbourne Valleys are notable in this respect. Further information is contained in the Regional Landscape Framework and at a more local level in the Hertfordshire Landscape Character Assessment.
- 2.7 The elevated chalk ridge running broadly north east-south west (including the outlier between Hitchin and Luton) and parts of the associated chalk valleys which cut it, such as the Chess, forms part of the Chilterns Area of Outstanding Natural Beauty (AONB), designated in 1965 for its scenic quality at a national level. Special qualities of the AONB relevant to green infrastructure planning include steep chalk escarpments and downland, woodland and commons,

tranquil valleys and chalk streams, a network of ancient routes and also archaeological features/earthworks. All of these features are found to varying degrees in the part of the AONB within the county.

- 2.8 Key issues which are relevant to green infrastructure identified in the AONB Management Plan are pressures relating to development in districts such as Three Rivers and Dacorum along the county's western edge. There is also a level of fragmentation of parkland estates and their settings due to mineral extraction, agriculture and development, the severance of intimate valley landscapes such as the Stort and the Ash by transport corridors, and exposed settlement edges which jar with landscape character. Additionally visitor pressure acting on the AONB is an issue due to the proximity of the AONB to London and the fact that the London transport infrastructure serves it (Metropolitan Line).
- 2.9 Large parts of the southern half of the county form part of the area of the Watling Chase Community Forest, the aspirations of which are large scale woodland/tree planting and afforestation. The initiative affects large parts of St Albans District, Hertsmere and Welwyn Hatfield Boroughs.
- 2.10 The CPRE Tranquillity Mapping and more recent Intrusion Mapping both show low levels of tranquillity in relation to the settlements in the southern half of the county (densely built up ring of settlements around London and the M25 and extending along the lower reaches of the valleys in the

Thames catchment - Gade, Colne, Lee). Similarly low levels of tranquillity are shown in relation to the arterial transport corridors such as the M1, A1(M) and M25. This picture is reinforced by the CPRE Night skies mapping.

- 2.11 Key opportunities relate to enhancing access to and along the river valleys associated with settlements and in the landscape adjoining settlements, to provide alternative GI and to relieve pressure on sensitive sites such as the AONB. Link to restoration and enhancement of wetland/valley landscape character, recognising that a number of chalk valleys are by their nature tranquil and this is an important part of their character (e.g. valleys in the rural landscapes of East Herts, Lilley Bottom Valley in North Herts).
- 2.12 Key opportunities are to use landscape/parklands and woodlands as foci for the GI network and to enhance their setting and understand such landscapes through interpretation. Also to link strategic proposals in the Watling Chase Community Forest Plan and Heartwood Forest to wider landscape fabric and character as well as providing better physical connections to urban areas and to other GI assets e.g. greenway networks which have been established on disused railway lines. Tranquil lowland river valleys and the network of ancient woodlands in the south of the county and chalk escarpments in the north, will form primary components of the strategic green infrastructure network.

## The historic environment

- 2.13 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were reviewed: Historic Landscape characterisation (HLC), Hertfordshire County Council, 2001: Hertfordshire Landscape Character Assessment, The Hertfordshire Historic Environment Record.*
- 2.14 Hertfordshire's historic landscape has a considerable sense of time depth, visible in tangible and documented pre Roman and Roman remains, notably parts of the Roman road network (Watling Street), planned Roman towns such as Verulamium – a rich legacy of scheduled archaeology. Other influences on the landscape include former monastic ownerships e.g. the Abbey of St Albans and the see of Ely in Hatfield (Bishop's Palace and Hatfield House/Park).
- 2.15 With reference to the HLC, Hertfordshire often displays a relatively intact historic landscape character with widespread areas of early Enclosure and small scale, co axial field patterns often associated with manorial estates and landscape parks. Landscape parks form prominent elements overlooking river valleys and meadows e.g. Gorhambury in St Albans, and Hatfield Park. Clusters of ancient woodland are often associated with the boundaries of such parklands. Principal issues in respect of the fragmentation of the historic landscape are 1950s agricultural rationalisation and fragmentation associated with arterial transport corridors such as the A1(M), M1 and M25.

- 2.16 Historic parklands, many of which are registered, often form prominent 'chains' in the landscape e.g. overlooking the Gade/Bulbourne Valley (Ashridge), along the Shenley Ridge in Hertsmere, or the cluster of parklands in Welwyn Hatfield Borough, including Hatfield, Gobions and Nyn.
- 2.17 The historic pattern of settlement relates mainly to the river valleys which cut the landscape, and to the presence of strategic/arterial routes. In the western districts of the county, key routes are the old London-Oxford Road (A41), the Grand Union Canal and the West Coast Mainline Railway. In the central part of the county it relates to the Roman Watling Street and the pilgrimage route to the medieval Abbey of St Alban (Cathedral) and the Great North Road.
- 2.18 The Historic Landscape Characterisation (HLC) has identified large scale presence of intact early enclosure field systems across the rural landscape of the county, allied to historic parklands and designed landscapes, ancient woodland and a network of river meadows.

### Health and deprivation

- 2.19 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were also reviewed: Open Spaces Strategies, PPG17 Audit and Assessments, 2004, Hertfordshire Rights of Way Improvement Plan, 2008 and Indices of Multiple Deprivation.*

- 2.20 There appears to be gaps in ANGSt provision across the county with only 6.7% of all Hertfordshire households having all their ANGSt requirements met, whilst 6.4% have none of their ANGSt requirements met. This is a key issue in relation to health, as there are pockets of significant health deprivation in many parts of Hertfordshire, particularly Watford, Hertsmere and Welwyn Hatfield. Areas of health deprivation are often focussed in locations of higher settlement density or where severance is created by transport corridors. Several of the identified areas of health deprivation coincide with areas deficient in access to green space, and there is potential to alleviate some health deprivation by providing better access links to and information on spaces for health and exercise in these locations. The functional analysis in relation to health at **section 2** of the GI Plan contains more information in relation to health deprivation issues.
- 2.21 There are a number of strategic assets in Hertfordshire where access (particularly lateral access) could be enhanced to help promote healthy recreation, including the Chilterns AONB, Watling Chase Community Forest, and the Colne and Lee river valleys. Networks of rights of way exist in Hertfordshire, which have been discussed in more detail in the Access and Recreation section for each of the District Green Infrastructure Plans. In addition to this, the Hertfordshire Rights of Way Improvement Plan (ROWIP) highlights a number of constraints on use, including barriers to access, lack of off-road access

provision from residential areas, and lack of appropriate information. These issues have informed proposals in **Figure 3.1** at **section 3** and also a specific project to address rights of way severance at section 3 of the GI Plan.

### Functional ecosystems and flood risk

- 2.22 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were also reviewed: Strategic Floodrisk Assessments, Environment Agency Thames Catchment Flood Management Plan and Thames River Basin Management Plan, and Hertfordshire County Council note on drought sensitive landscape character areas.*
- 2.23 Hertfordshire is located within the Thames catchment, with the northern part of the county also falling within the Anglian catchment area. Environment Agency indicative flood maps show areas at risk of flooding throughout Hertfordshire. The county is hydrologically complex with the eastern half in particular cut by an intricate network of chalk river valleys.
- 2.24 The River Lee and its tributaries, which rise in Hertfordshire and flow south to the Thames, have a significant flood plain area, especially to the south near Bishop's Stortford, Ware and Hertford which all lie on or immediately adjacent to the floodplain. Water consumption in Hertfordshire is continuing to rise according to the Quality of Life report while the Anglian region has been identified as the driest region in England

and Wales and the Thames region also suffers from demand pressures. High population growth and a valuable natural environment make careful management of water resources essential. Chalk Rivers and in particular those which flow from the Chilterns AONB are vulnerable to fluctuations in rainfall. Climate change, land use and rising demand are all likely to affect water quantity and quality in future.

- 2.25 Much of this region is designated green belt and as a result development is restricted to concentrated zones which occur along or in close proximity to river valleys with many of these Chalk Rivers emerging from the surrounding Chiltern Hills. Flood risk management provides a significant challenge to current and future development in this region but also offers major opportunities for urban regeneration and enhanced biodiversity. Increasing pressure has been put on the water resources in the Thame and South Chilterns area and as a result careful water management and creating additional space for water could help alleviate these issues. Creation of more informal spaces along the River courses where they pass through settlements will perform the function of flood mitigation while also providing additional recreation and improving biodiversity in the County.
- 2.26 Key issues are in respect of abstraction pressures resulting from existing urban areas and potential future settlement growth, the vulnerability of the valley landscapes to climate change, and consideration of urban flooding (due to lack of space for water) where rivers flow through towns such as

Watford, Hertford and Rickmansworth (see **Figure 3.1** at **section 3**). Riverine issues form the foci for a specific Thames Tributaries River Valleys and Corridors project at **section 3** of the GI Plan.

- 2.27 Primary opportunities for the Strategic Green Infrastructure Plan are therefore to conserve, enhance and extend floodplain landscapes, to create more space for water, specifically flood storage in the event of drought. Sustainable Drainage Systems (SuDS) should be an integral consideration in planning any new development. This would both assist with flood storage functions and with management of run off and groundwater re charging, alleviating pressures in respect of water abstraction and therefore assisting in conservation of landscape character and biodiversity.

### Productive landscapes

- 2.28 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were also reviewed: PPG17 Audit and Assessments, 2005, Natural England mapped data on traditional orchards, HLS Target Area mapping ([www.natureonthemap.org.uk](http://www.natureonthemap.org.uk)) and statements, Woodland For Life: The Regional Woodland Strategy For The East Of England, November 2003, Hertfordshire Low & Zero Carbon Technical Study – Final Report, March 2010.*
- 2.29 Historically the county has been important for its productive land use. This is still evident in the thin

scattering of traditional orchards spread throughout each of the districts. However not all of these orchards are now being actively managed and some are in decline.

- 2.30 Allotment provision throughout the study area is mixed with deficiencies recorded in some districts particularly in the high density urban areas of Watford and some rural settlements in Dacorum. Where allotments are provided, these are not always well managed and plots have become overgrown.
- 2.31 There are potential opportunities for biomass through diversification of agricultural land and increased management of lowland broad leaved woodland. There is little guidance for promotion of biomass within local authorities' strategies but it can be complementary to the aims of the Watling Chase Community Forest.
- 2.32 Orchards have been an important feature of Hertfordshire's environment for over 250 years. They have provided sources of local food and employment, as well as representing valuable landscape, ecological and cultural components of both rural and urban areas alike. The total area of orchards in Hertfordshire increased from 27 ha in 2007 to 37 ha in 2008, an increase of 38%. However, there was a slight decrease of 2% in the total number of orchards in the East of England as a whole.
- 2.33 The Regional Woodland Strategy states that biomass is seen as the second most significant resource for the country behind wind. The strategy estimates that if 14% renewable energy target by 2010 was adopted, the region

would have to produce 700GWhr/ year from biomass. This would require 92,000 hectares of woodland, either existing or specially planted short rotation coppice. The East of England has about 140,000 hectares of existing woodland; although about 50,000 hectares are not currently managed to produce much, if any timber. There is potential for significant increase in the area of woodland and to link existing woodland areas. Where appropriate to landscape character, this could also include short-rotation coppice specifically for energy generation, as a form of farm diversification. An opportunity 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. This review has helped inform the Woodland Arc project (see **Figure 3.1** at **section 3**).

### Land remediation

- 2.34 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were also reviewed: Strategic Housing Land Availability Assessment (SHLAA), Minerals and Waste Development Framework for Hertfordshire – Waste Core Strategy, Indices of Multiple Deprivation (IMD), National Land Use Data (NLUD).*
- 2.35 The 2007 Index of Multiple Deprivation (IMD) shows that overall the county has relatively few areas of deprivation (refer to the ‘Health and Deprivation’ document review above and the ‘Health’ functional analysis at **section 2** of

the GI Plan). Much of the land in the county is used for agricultural practices; however areas in the south of the county surrounding London and the larger urban areas have higher levels of deprivation, due to settlement density and severance issues.

- 2.36 Existing road and rail infrastructure corridors across the county are often linked to quality of land and poorer quality of life standards. The M25 runs through the study area and there are a number of additional roads across the County (M1, A1(M), M11) which act as barriers and reduce permeability for both people and habitats.
- 2.37 There has been a long history of mineral workings in the county which has led to previously restored land becoming degraded over time. The main types of damaged land which require further actions are former mineral workings, especially where infilling with waste material has occurred and certain areas affected by former industrial processes. A large number of these sites which have formerly been used as mineral extraction sites and have since been restored, provide interesting landscapes with an enormous GI resource potential in landscape, recreational and biodiversity terms. These sites exist across the County with main areas of concentration in St Albans District, with many of these occurring close to the M25 road corridor. However, due to the previous and outdated restoration techniques used, many of them have the potential to be re-restored once again and become key GI assets throughout the county.

## Nature conservation

- 2.38 *The following review was informed by analysis from the Hertfordshire District Green Infrastructure Plans and the following documents were also reviewed: East of England Biodiversity Mapping Project 2005, Hertfordshire Biodiversity Action Plan 2006, Hertfordshire & Middlesex Wildlife Trust Living Landscapes, Statutorily designated sites (Natura 2000, SSSI, NNR, LNR), County Wildlife Sites.*
- 2.39 Three of Hertfordshire's key habitat types include chalk rivers, woodlands and chalk grassland. The predominant land use across the north of the county is arable agriculture, although is increasingly urban in closer proximity to London, urban areas dominate at Stevenage, Watford and the Welwyn Hatfield conurbation, and occur through the Three Rivers District, the southern part of St Albans district and south east Dacorum including Hemel Hempstead. Semi-natural habitats are present largely as relatively small fragments in this wider matrix of built up areas and intensive agricultural land use.
- 2.40 The river network of Hertfordshire largely originates as chalk streams from the Chilterns that flow south to the Colne and Lee, although north of the Chilterns, a few small rivers drain into the Ouse. The river network is not only associated with a range of wetland features but provides a key feature on which to focus inter-county green infrastructure connectivity. Nationally important chalk streams are particularly valued in Hertfordshire. The Mimram (north of Welwyn Garden City), is one of the most natural rivers in the county, and the Chess (north east of Rickmansworth) maintains considerable wildlife value throughout its length. In comparison, the Lee and Stort in East Herts are more degraded, although these still support sites of nature conservation value and provide important recreational foci.
- 2.41 Hertfordshire supports c.15,000 ha of woodland distributed in four major ancient woodland complexes with widely scattered smaller habitat patches. The Broxbourne complex (south east of the County) encompasses oak-hornbeam for which the county supports a large proportion of the national total. The Ashridge complex (across the Chiltern dip slope) exemplifies wood pasture, Whippendell (west of Watford) beech woodland, and Knebworth (west of Stevenage) parkland. Ash-maple woodland also occurs in the county across the chalky boulder clay of the East Anglian Plain, e.g. at Great Hornead Park SSSI. Approximately 32,313ha of ancient woodland occurs in Hertfordshire, distributed across 3,591 sites. Approximately two thirds of this is ancient and semi-natural woodland (21,483ha over 2,345 sites) and one third re-planted (10,829ha over 1,246 sites). Woodland conservation, enhancement and linkage has formed part of the focus for the Woodland Arc project at **section 3, Figure 3.1**.
- 2.42 Unimproved chalk grassland within the county totals only 177ha, scattered over more than 30 sites. The majority occurs on Therfield Heath SSSI in the north of the county but the remainder, in typically small, isolated patches.

This is complemented by c.300ha of species-rich semi-improved chalk grassland. Even more restricted in distribution is the county's heathland habitat, estimated to total c.20ha of dry and wet heath communities distributed over 15 sites. This is complemented by c.80ha of degraded open heathland (including associated acid grassland, bracken and scattered scrub communities). This review has informed proposals for the Chalk Arc project which aims to improve the quality of chalk grasslands throughout the north of the County (see **Figure 3.1** at **section 3**).

- 2.43 Alleviation of severance along transport infrastructure corridors 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<sup>i</sup> initiative pioneered in St Albans District are also important measures to be considered (see **Figure 3.1** at **section 3**). These issues also link to the Woodland Arc project proposal at **section 3** of the GI Plan.



### 3 Functional analyses: methodology

- 3.1 For each function analyses at **section 2** of the GI Plan, the methodology behind the GIS spatial analysis is summarised below.

#### Access to recreation

- 3.2 Accessible open space was mapped using open space datasets in the Open Space Study, together with other datasets such as Local Nature Reserves. Access links (paths and rights of way, promoted routes and cycleways) were mapped, as was point data for ROWIP priority projects. A number of open space provision standards were also applied, mainly in the form of Natural England Accessible Natural Greenspace (ANG) and Woodland Trust Accessible Woodland Standards. GIS spatial and visual map analysis was then used to identify gaps in provision and barriers to access, to identify potential foci for proposals.

#### Prestige on Settlement Approach Corridors

- 3.3 Using data developed for the earlier Hertfordshire V4C project, a series of assets and detractors were mapped around settlement fringes. Assets included open space and areas of woodland planting, as well as water bodies and main rivers. Detractors included degraded land such as mineral workings and industrial sites. These were mapped within a 500m buffer of main road and rail corridors on

settlement gateways, to understand where experience of GI assets may be impaired currently and to inform the spatial direction of proposals. Detractors were also considered with landscape character areas of lower quality as identified in the Landscape Character Assessment, to target areas where landscape enhancement could contribute to GI proposals development.

#### Health

- 3.4 In addition to paths and rights of way and other access routes such as cycle routes, the Indices of Multiple Deprivation (IMD) were mapped, considering the 40% most deprived wards in the settlements within the county. Taking this with mapped information on barriers such as arterial transport corridors enabled the analysis to target areas where green infrastructure could potentially address deprivation issues through enhanced linkages.

#### Sound ecosystems

- 3.5 Environment Agency Water Framework Directive (WFD) GIS data was used for the main rivers and their catchments, to understand issues of ecological quality, low flows and abstraction pressures. High intensity traffic flows and main roads were also mapped to provide a broad picture of air quality issues. These two datasets enabled targeting of strategic GI proposals in terms of wetland enhancement and large scale tree and woodland planting.

### **Productive green environments**

- 3.6 This analysis mapped provision of allotments, traditionally managed orchards and farmlands covered by higher level stewardship agreements, as well as land in organic stewardship. Patterns were noted in terms of distribution and opportunities for new provision noted. Performance against recommended provision standards (e.g. for allotments) was also considered.

### **Conserving historic landscape character**

- 3.7 Designated historic assets such as registered parks and gardens and Conservation Areas were mapped and the qualifying features of designation relevant to green infrastructure noted. Consideration was also given to non designated assets important to urban green infrastructure heritage in general (e.g. in the Garden Cities and New Towns). Ancient woodlands were mapped, and the proportion of both these and registered parks and gardens actively protected through schemes such as environmental stewardship identified. As much of this function is about understanding and conserving historic legacy, the Historic Landscape Character types identified as regionally rare by Hertfordshire County Council, were mapped. The aim was to understand distribution of historic landscape elements and boundary networks which could contribute to the green infrastructure network.

### **Sustainability and responding to Climate Change**

- 3.8 Woodlands and accessible woodlands were mapped using National Woodland Inventory data. Visual analysis of aerial photography was also undertaken, to understand opportunities for urban greening. Gaps were noted as possible opportunity areas for green infrastructure.

### **Land remediation**

- 3.9 The county has been mapped and analysed for this exercise in order to identify where former waste, restored minerals and contaminated land sites could be restored and aid the development of the GI network. Any disused mineral sites (re restoration sites) within the county were identified and their current use and surface condition were noted. Also considered in the analysis were the IMD (Indices of Multiple Deprivation) and Landscape Character Areas of lower quality, with reference to the Hertfordshire Landscape Character Assessment.

### **Nature conservation**

- 3.10 Consideration was given to the whole county, noting distribution of internationally, nationally and locally designated assets. Cross referring to the earlier document review, main issues and vulnerabilities were noted. Hertfordshire Biodiversity Action Plan Key Biodiversity Areas and Living Landscape areas were mapped, to

understand where there may be potential for enhanced landscape and habitat linkages through green infrastructure.

### **Experience**

- 3.11 The analysis considered the whole county. Using the Regional Landscape Typology as a starting point, the 27 rural landscape types of the region were assigned rarity based on percentage distribution. The three rarest landscape types were considered for analysis as these often form a potential focus for place and conservation orientated green infrastructure proposals (e.g. chalk landscapes). Their distribution was noted as was the percentage distribution as a proportion of the total regional distribution of the landscape type. Tranquillity, intrusion and night skies mapping were also used to build a broader picture of landscape experience and quality.

### **Flood attenuation and water management**

- 3.12 This considered the flood zones throughout the county, and proximity to designated nature conservation sites, to understand vulnerabilities in the context of water level fluctuation.

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<sup>i</sup> Groundwork Hertfordshire 2004 **Trees Against Pollution: A Strategy for Tree Planting and Air Quality**





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