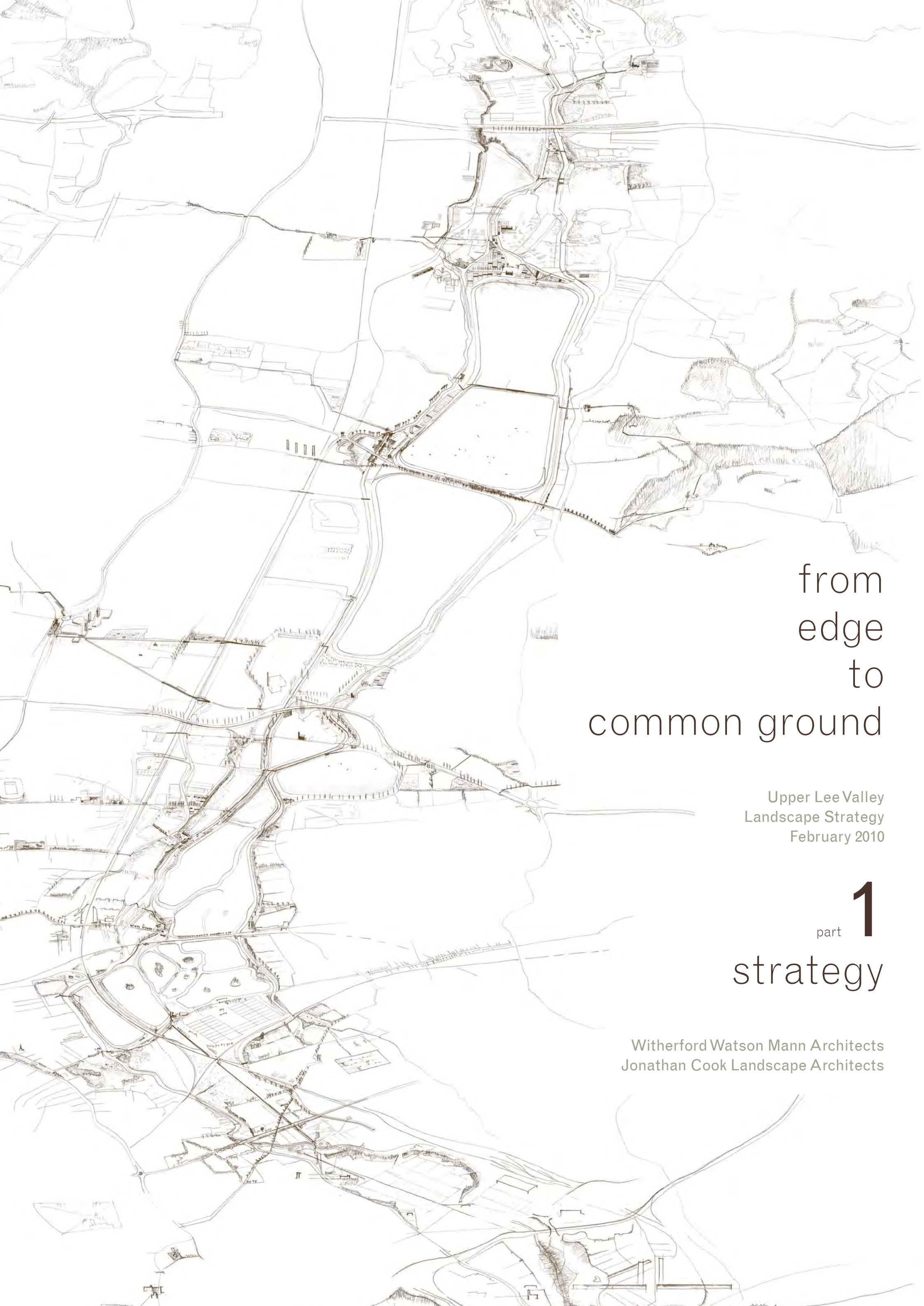

from edge to common ground

Upper Lee Valley
Landscape Strategy
February 2010

part 1

strategy

Witherford Watson Mann Architects
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supporting partners

British Waterways

DESIGN FOR LONDON

LONDON DEVELOPMENT AGENCY

ENGLISH HERITAGE

Environment Agency

GREATER LONDON AUTHORITY

Government Office for London

Homes & Communities Agency

Lee Valley Park

ENFIELD Council

Hackney

Haringey Council

Waltham Forest

NATURAL ENGLAND

NLSA

Thames Water

from edge to common ground

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strategy

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introduction

A project partnership of Lee Valley Regional Park Authority, Design for London / London Development Agency, Greater London Authority, English Heritage, Natural England, Environment Agency, British Waterways, Thames Water, Government Office for London and the London Boroughs of Enfield, Haringey, Hackney and Waltham Forest, has formed to develop the Upper Lee Valley Landscape Strategy. The project focus is on the environment of the Lee Valley Regional Park, its waterways and the relationship of these areas to the surrounding urban areas to provide a more accessible, more multifunctional area of open space of regional importance.

Stretching six miles from the Olympic fringe to the M25 the Upper Lee Valley is part of the London Stanstead Cambridge Peterborough (LSCP) Growth Corridor and is identified in the London Plan as an Opportunity Area. The Upper Lee Valley contains potentially outstanding areas of green spaces, waterways and reservoirs. These spaces have the potential to significantly improve the quality of life of people who live and work in the area and spread the benefits of the Olympic legacy. At the same time, the area suffers from significant fragmentation, a lack of visual and physical connectivity and unclear function, leading to a lack of a sense of place or strong unifying identity. A disconnected landscape, poor environment and low value land uses reinforce a poor image and an undervaluing of the area by local communities. Large sections of the local communities do not have access to quality open spaces. Transport corridors, industrial areas and land owned by Thames Water act as barriers to the River Lea and the Regional Park with public access to the area made more difficult due to a lack of physical and/or easily legible routes and connections.

There is growing recognition that attractive and high quality network of functional green and blue spaces (i.e.green infrastructure) can act as a catalyst for social, economic and physical regeneration, raise value and attract inward investment. Easy access to a high quality environment can significantly improve the quality of life and sense of well being of the people who live, work and visit the area. Open spaces also have a role to play in mitigating the effects of climate change and reducing the urban heat island effect. Improved parklands and waterways are therefore crucial to the success of the Upper Lee Valley and are at the heart of the Upper Lee Valley Vision.

The purpose of this study is to:

1. Develop a coherent landscape and public space framework owned by key stakeholders for the whole area. This should inform projects, designs and masterplans across the Upper Lea Valley and surrounding urban areas, and strike a balance between overall coherence and local identity.

2. Produce a prioritised Action/Delivery Plan that will define key intervention which will deliver an improved park and attractive, high quality green infrastructure.

3. Accelerate the delivery of projects by supporting capital funding bids and guiding the investment decisions of organisations such as LVRPA, British Waterways, Environment Agency and Thames Water, Borough Local Investment Plans, Growth Area Funding and funding programmes of the GLA, TFL, LDA and HCA, with a coherent programme of projects which include improvements to access, permeability and visitor offer.

4. Identify the parameters of an integrated management plan owned by partners and stakeholders which can ensure the sustainability of projects.

This study is presented in two parts:
This volume covering the vision and strategy, and part 2 with more detailed scoping of projects.

acknowledgements

With thanks to the steering group for their support and their valuable expert input.
Thanks also to the borough officers and experts who contributed to a series of thematic workshops at the start of the study.
Special thanks to Rose Jaijee (NLSA), Levent Kerimol (Design for London), Stephen Wilkinson (LVRPA) of the client group for their encouragement and advice.

contents

The Lee Valley is an extensive chain of green space and water stretching from the Thames to the M25 and beyond, starting only 5 miles to the Northeast of the City. The diverse leisure uses of the Lee Valley Regional Park attract more than 4 million visitors a year, and the natural and man-made landscapes of the wide valley floor - marshes, reservoirs, woodland and criss-crossing watercourses - have a highly distinctive character within the Thames basin: these combine to make the valley a significant open space asset for both adjacent communities and for residents of Greater London.

The lower section of the valley is the focus of an unprecedented combination of concentrated public investment of £6 billion in land, transport, infrastructure, amenities and facilities, around the 2012 Olympic site at Stratford, and along the tidal Lea with the creation of the Lea River Park.

The Upper Lee Valley, from Lea Bridge Road to the M25 presents the opportunity for significant growth and renewal, with the potential for 15,000 new homes and 15,000 new jobs in the area identified in the Mayor's London Plan. The quality of the area will be transformed through the renewal of infrastructure and industrial stock, and through higher density residential development supporting local services and public transport. The public realm and landscape have a key role to play in this transformation, supporting healthy living, play and leisure, citizenship, sense of place and the resilience of the natural environment. An integrated conception of open space and development is required, with open space adding value to development, active uses supporting sociability and safety of the public realm, and missing linkages in the open space network achievable within major regeneration sites. Delivery of open space improvements and new open spaces can build the confidence of residents and investors in the area. For these reasons this Landscape Strategy has been developed parallel to and in dialogue with the Mayor's Opportunity Area Planning Framework, and the spatial strategy will be incorporated in the next Consultation Draft of the OAPF.

With an area 9 miles long and 3 miles wide, but without the Olympic billions, it is essential to make the very most of existing assets, bringing their inner qualities forward, avoiding any attempt to make the area into something that it isn't. Based on careful investigation and observation, this study concludes that there are a number of remarkable landscape assets within the area, of considerable value and distinctiveness.

executive summary

However, a number of these, in particular the water spaces, have little or no public access. The areas which are publicly accessible are fragmented and confusing in their character, accessibility, and the relation between amenties. The Upper Lee Valley is characterised by a series of defensive edges, and does not add up to more than the sum of its parts. Three distinct character areas are identified:

• The urban wild from Lea Bridge Road to Tottenham Marshes, including Walthamstow Reservoirs, referred to in this report as 'Walthamstow Wetlands'
• The suburban, infrastructural landscape of Central Leeside, the currently industrial and infrastructural area around the North Circular
• The rural fringe, north and east of Ponders End and Lea Valley Road, where green belt farmland and Epping Forest are close by

The vision set out in this strategy, to transform the valley 'From Edge to Common Ground' harnesses the existing assets into a new framework, in which:

• The full width and breadth of the valley are made use of, including the adjacent parks and tributary rivers which extend deep into the urban areas, forming a single expansive valley space: adding the bits up physically.
• The current mix of characters and uses - wild, utilitarian and and productive landscapes - is retained but rebalanced, bound together in a network of public spaces that are civilised and inclusive, supported by a more varied leisure use.
• Locals, passers-by, residents and visitors to Greater London are invited to explore, by a series of circular walks, thematic routes, viewpoints and a programme of communication.

The benefits of implementing this vision will be both local and city-wide, supporting:

• Healthy living through walking and cycling, and local food production
• Inclusive play and leisure for young, old and excluded groups
• Citizenship through participation in associations
• Local identity through a distinctive sense of place
• Environmental resilience in the face of climate change
• Resource awareness through a new generation of accessible recycling and infrastructure facilities
• Sustainable transport through enhanced commuter cycling
• The growth of London at the same time as enhancing its liveability

The costs of realising the vision will need to be shared between the public and private sectors, with co-ordinated delivery of investment of national and regional government, statutory bodies and local authorities. Successful delivery will depend on continued co-ordination of large regeneration sites, infrastructure sites and projects for existing open space and public realm. To assist in this co-ordination, and in the preparation of funding applications, technical feasibility studies and design briefs, sixtythree projects have been scoped, with forty developed in greater detail, as strategic elements towards achieving the qualitative transformation of the three character areas. The costs to the public sector are estimated at £50 million, achievable in a 10 - 15 year period. For the scale and value of the existing assets, and the impact of the transformation, this can be argued to represent significant value for the investment.

The investment will necessarily be incremental, however, it is essential that the opportunity of the 2012 Olympics and their impact on the local visitor economy should be maximised. In particular, the cluster of projects in the Walthamstow Wetlands area can use the Olympic connections as an impetus to early delivery. The presence of the secondary Olympic site at Waltham Cross, of several strategic walking routes, and the momentum of recent Green Grid projects would increase the benefits of projects within the northern Forest and Green Belt area. A substantial long term opportunity exists at Central Leeside for simultaneously clearing blockages within the valley network and creating high quality landscape spaces at the heart of new developments.

The projects, landscape design principles and management plan set a clear direction for the transformation, and establish the foundation for next steps in terms of design, internal management procedures and partnership working. These elements of the study show:

- specific localisation and initial feasibility of individual interventions, along with their cumulative effect, demonstrating that profound change can be effected through a series of targeted projects.
- recommended design approaches for the key landscape types, to ensure that the distinctive 'natural signature' of the valley is reinforced by local and strategic projects, and that coherence is maintained across projects
- proposed partnership structure and draft aims for sustainable and inclusive long-term management.

Combined, these elements paint a portrait in words and images of a future Lee Valley that is coherent across its extent, diverse in character and offer, and inspiring to visit.

1

growth and open space

aims and context for the strategy

purpose and aims
of the landscape strategy

The fundamental importance of open space to the lives of individuals and communities in urban areas has been increasingly recognised in recent years. The potential of parks and public spaces as a catalyst for regeneration has also become better understood.

The following pages set out in greater detail the wider context in the Upper Lee Valley for this study:
- planned housing growth and regeneration
- recent and planned investment in green infrastructure
- planning and policy context for open space

In this context, the purpose and aims of the Landscape Strategy can be outlined as follows:

Support sustainable housing growth and regeneration

The projected increase in housing numbers, in compact urban form, places a premium on the quality and quantity of accessible public open space in the Upper Lee Valley. A generous provision of easily accessible open space is integral to the ongoing success of compact, higher density housing, itself key to achieving a more sustainable London. Coherent local movement networks can support walking, cycling and the use of public transport, thereby reducing car use.

Support the change to a greener, more diverse economic base

Renewal of industrial areas in more land efficient forms, and better integration of employment uses in urban networks can contribute to sustainable economic growth in the Upper Lee Valley. The quality of the environment and public realm of industrial areas can be part of the area's competitive offer to business. Expansion of the visitor economy and social enterprise can help the area diversify from its industrial employment base. The integration of more modern energy and waste infrastructure, driven by environmental legislation, is also an important part of a greener future for the valley.

Assist in the delivery of integrated spatial planning

Open space can act as the matrix that binds disparate uses and communities together, rather than being the accidental result of piecemeal site decisions. The recent shift in the planning system from a land use model to integrated spatial planning makes open space one of the key tools of co-ordination. At borough level, Open Space Strategies are important tools for this, however, across borough and regional boundaries, a further process of co-ordination, as this Landscape Strategy, can ensure coherent treatment of common assets.

Safer, healthier communities

Improved public realm and open space provision and easy, safe, access to outdoor leisure and to wildlife habitats will offer relief from built up urban areas, contributing to an improved quality of life and health and wellbeing of existing and new communities. Increased walking, cycling, sporting activity, local food production and access to nature have all been demonstrated to have physical and mental health benefits. Increased use and design improvements including visibility can enhance safety and improve public confidence in the safety of open spaces.

Support citizenship and inclusion

The Upper Lee Valley is marked by its diverse communities, and mutual communication and understanding are important to community relations. The valley's many landscapes and amenities should be recognised as important spaces for local civil society and associational life. In particular sporting clubs, allotment associations, environmental groups, open space users groups and residents associations offer a common space for people from different communities and age groups to meet and mix.

Enhance the distinctive sense of place

Public realm and landscape is fundamental to creating a sense of place and strengthening local identity, both in the retention and enhancement of existing spaces of quality and in influencing distinctive new places. The Lee Valley has a 'natural signature' that is both representative of and distinctive within the London area and Thames basin. By making the marsh, woodland and waterways of the Upper Lee Valley the starting point, it is possible to shape well designed, holistic new development that is creatively integrated with the landscape. The area has a long history of industrial innovation, still partly visible in remaining buildings and landscapes, which should also be considered a key part of its distinctiveness.

Mitigate the effects of climate change and reverse environmental damage

The wetter summers and warmer winters associated with climate change make urban flood and habitat management more important than ever. The natural resilience of the open space network can be enhanced by flood storage provision in open spaces, and by habitat extension and linkage. This work can go hand in hand with the reversal of historic environmental damage: the reopening of culverted rivers, the interception of industrial and urban impacts on water quality, the remediation of contaminated ground.

Boost confidence and awareness of the qualities of the area

The Upper Lee Valley suffers from a poor image and lack of identity within London. Moreover, local communities are largely unaware of its hidden landscape assets and amenities. As well as generating projects which will encourage greater community awareness and participation, the strategy can be used as a basis for challenging negative perceptions and promoting a strong and positive image of the area.

An improved public realm with good access to the exceptional blue/green assets of the valley, can act as a catalyst for growth and regeneration, helping to raise value, attract investment particularly around the growth areas of Tottenham Hale, Blackhorse Lane, Central Leeside and Ponders End.

Extend the Olympic legacy

The proximity of this Upper Lee Valley landscape to the Olympic park presents the possibility of extending the legacy offer northwards, based on fully accessible open spaces and waterways extending from the River Thames to the M25.

Target and align investment

The Strategy offers a structured way for partners to work together to attract and target new investment and align existing investment programmes, to secure systematic, continued process of renewal and transformation.

housing growth and regeneration

the upper lee valley opportunity area

The Upper Lee Valley is identified as a priority area for regeneration and growth at national, regional and local level. The plans under development for the area, which are set out below and presented on the map opposite, reflect a number of conditions:
- the dynamic economy of London and the South-East
- the capital's growing population
- the competitive potential of locations in the area with good public transport or highway infrastructure
- the environmental benefits of redeveloping disused urban industrial land (brownfield development)
- the concentrations of deprivation in the area

At national level, the London - Stansted - Cambridge - Peterborough Growth Corridor directs housing and employment growth in relation to Stansted Airport and the knowledge-based industries around Cambridge; both this and the Thames Gateway regeneration area, following the river estuary to the East of London, benefit from substantial investment focused in Stratford: stations on the Channel Tunnel Rail Link and Crossrail, and the 2012 Olympics.

The Upper Lee Valley is designated as an Opportunity Area in the 2005 London Plan. An Opportunity Area Planning Framework (OAPF) for the Upper Lee Valley is in preparation, draft publication for public consultation due in January 2010. This identifies potential for 15,000 new homes and 15,000 new jobs in the area. As a part of this, new waste, sewage and energy infrastructure is proposed.

This study has been prepared in consultation with the GLA team preparing the OAPF, and the spatial strategy (chapter 4) forms a chapter within the OAPF.

A steering group has been established of project partners and stakeholders to steer and guide the strategy development process. This group has been consulted on the proposals in this study. In addition meetings have been held with partners on a individual basis.

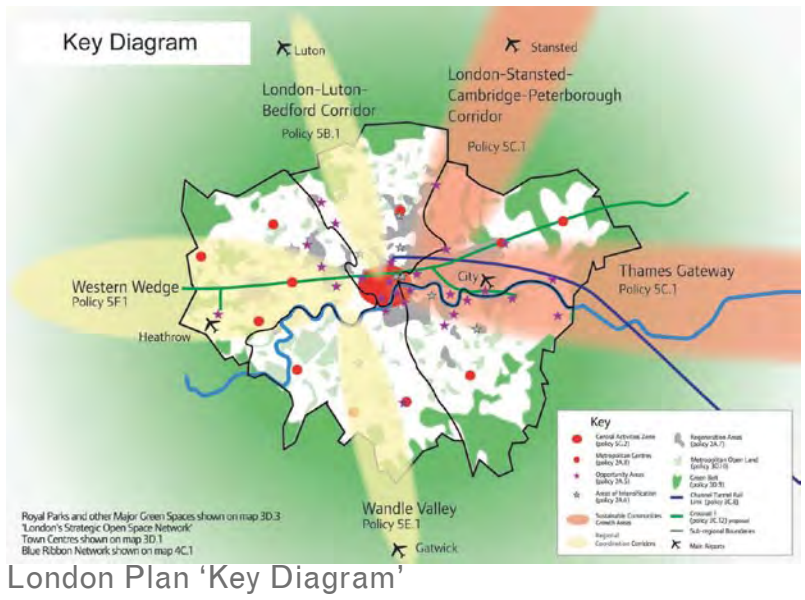
The boroughs of Enfield, Haringey and Waltham Forest are at varying stages in the preparation of their Local Development Frameworks. Through consultation with officers we have attempted to align this study with existing and emerging borough LDF documents.

Supplementary Planning Documents and Area Action Plans prepared for the boroughs have been studied and responded to, according to their status:
- 2004 SPD for Tottenham Hale
- Lea Bridge Road Planning Framework
- Ponders End Framework for Change
are largely reflected and have been commented on in the course of this study

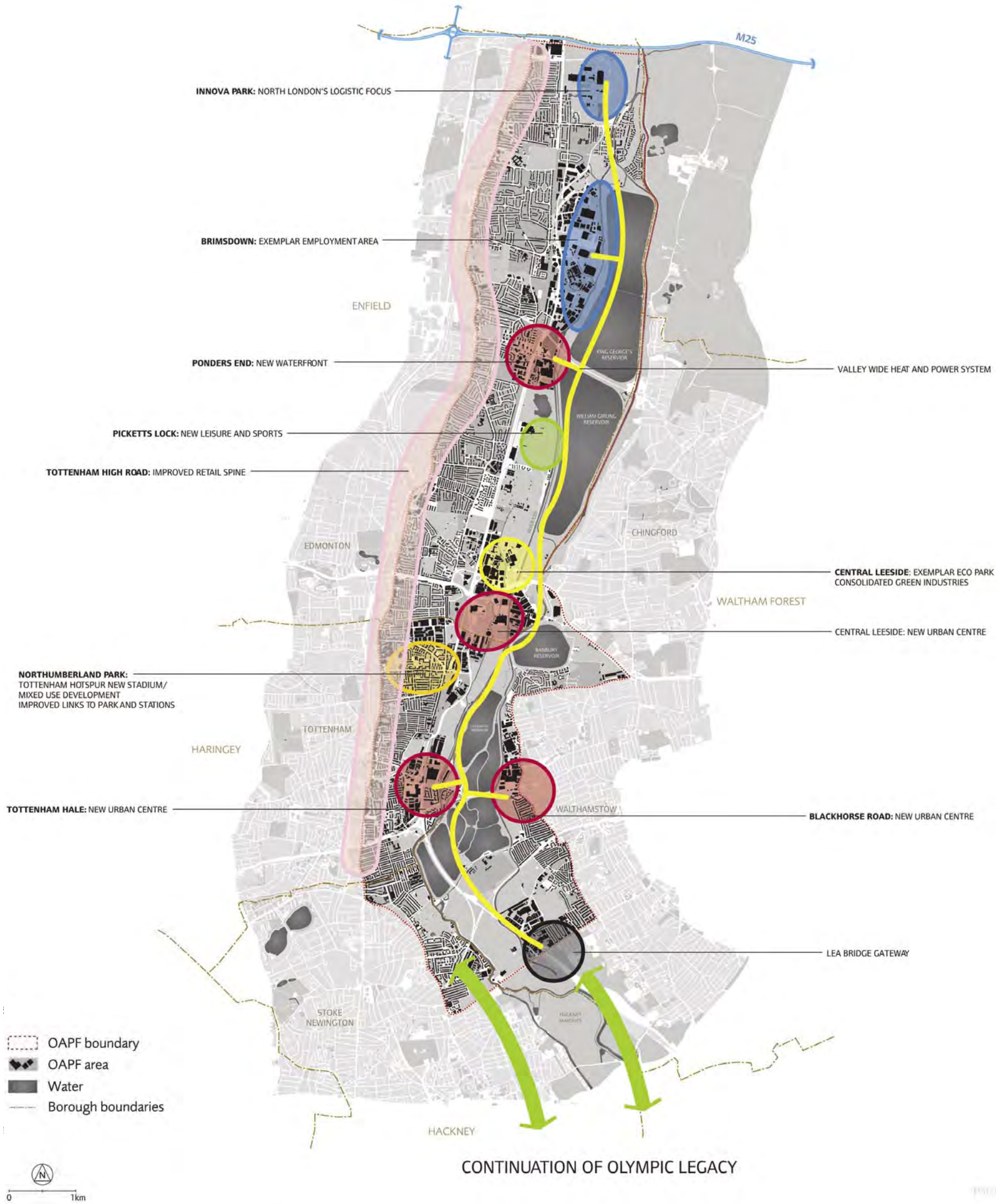
- Blackhorse Lane Waterfront Park Feasibility Study
- Central Leeside Joint Area Action Plan - Issues and Options 2008
have been considered in the formulation of site specific recommendations

These development and regeneration proposals form the context and establish the scope for the Landscape Strategy.

This study ranges in scale from the whole valley to individual elements and projects, in order to:
- inform planning documents in preparation which range across the same scales
- to serve as a basis for funding bids and further technical feasability studies



London Plan 'Key Diagram'



Vision map from the amended NLSA vision document

Opportunity Area Planning Framework opportunity sites diagram

green infrastructure investment
in the lee valley

This study draws on a wide range of existing initiatives and policies which bear on the opportunites for open space and green infrastructure in the area.

The East London Green Grid initiative has established the strategic ambition for East London's open spaces as a network that is both locally distinctive and regionally connected. This study represents the next step in the Green Grid process for this area, developing the distinctive vision from strategy further towards its delivery through projects.

The positive transformation of the landscapes of the Lee Valley starts in many ways with the substantial achievements of the Lee Valley Regional Park Authority (LVRPA) over the forty years since it was established, in safeguarding and maintaining open space and habitats, in building and operating sporting and leisure facilities, and in realising the physical infrastructure to access these. This study responds to the original vision for the Lee Valley, and has been undertaken in parallel with the 2009 Park Development Framework, with consultations to establish alignment at both strategic and project level. Nonetheless, the significantly wider study area, the wide range of stakeholders represented on the steering group, and the illustration of strategic principles through projects all make this study complementary to, and not simply parallel to, the Park Development Framework.

Emerging proposals for Hackney Marshes, for the Olympic Park in its 2012 and legacy modes, and for the Lea River Park have formed the wider spatial context for this study. Together, realisation of these proposals will amount to the fulfillment of the original ambition to realise a park from the upper reaches of the Lea to the Thames. Clear understanding of the complementary and place-specific character of the Upper Lee Valley in relation to these other sections of the Lee Valley has been a priority for this study.

The Mayor's 'Blue Ribbon Network' policy emphasises the importance of London's rivers, brooks, canals and reservoirs, setting out principles for their enhancement and sustainable use. The principles of multifunctionality and access for all are strongly represented in this policy.

Natural England's London Region Landscape Framework sets out a vision of embedding the 'Natural signatures' of the city's varied natural landscapes in perceptions and decision making, reinforcing a sense of local identity and distinctiveness throughout London.

Extending and reinforcing the 'natural signature' is key to achieving a coherent sense of place. Natural England's principles of Green Infrastructure should be followed in the further development of projects, supporting the delivery of multi-functional open spaces combining social and environmental value:
- Natural Signature: a sense of place informed by the natural environment
- Natural Connections: active engagement by children (through play in wild places) and adults (food growing and environmental volunteering)
- Natural Resilience: greening the urban environment, thereby contributing to flood management and urban heat island mitigation
- Natural Health Service: easily accessible open spaces for physical activity, relaxation, mental well-being and healthy living

A review of listed buildings and historic monuments prepared by English Heritage ("Upper Lee Valley Landscape Strategy - a Heritage Audit") has supported the preparation of this study with detailed information on remaining heritage and historical finds. While a full Historic Landscape Assessment has not formed part of this study, interpretation of landscape character has been formed by a review of historical maps.

This study draws on the Environment Agency's information and knowledge relating to flood risk, water quality, contaminated land and habitat enhancement, which has been used to steer the overall direction and where possible the detail of proposals. It should be noted however that no environmental audit of recommendations has been undertaken, these would require further study on an area or site basis. Projects develop both the principles and, in some cases the detail, of the London Rivers Action Plan.

Environmental legislation, such as the EU Landfill Directive and the Water Framework Directive are likely to have a profound effect on the Upper Lee Valley, providing the impetus to halt and reverse environmental damage.

In preparing this strategy, we have liaised with the boroughs to achieve alignment with current and emerging borough open space strategies. The growing importance within local policy of local food production and biodiversity have informed the understanding of the issues and proposals in relation to local open spaces.

recent and planned investment

East London Green Grid projects plan, 2007

Waltham Cross White Water Canoeing Centre, 2012
£30,000,000

Gunpowder Park, 2004
£4,000,000

Swan and Pike, 2005
approx £350,000

Picketts Lock: LV Athletics Centre, 2007
£15,000,000

Stonebridge Lock, 2007
£450,000

Hale Wharf, 2007
£1,000,000

Markfield Park, 2009
£3,600,000

Waterworks Centre, 2007
£2,000,000

Hackney Marshes, 2013
£4,000,000

Olympic Park, 2012
£20,000,000

Three Mills Lock, 2009
£20,000,000

Lea River Park, 2012
£28,000,000

2

the upper lee valley
as it is now

a fragmented edge landscape

distinctive, specific places

It is important to recognise that with the Upper Lee Valley, we are not starting with a blank sheet on which an abstract vision can be imposed, quite the opposite: the valley is made up of a number of highly specific landscapes. These range from vestiges of ancient landscapes, such as Walthamstow Marshes, to engineering on a grand scale, as the Chingford Reservoirs. Water is not just water, it is still or flowing, clean or contaminated, with naturalised or engineered edges.

This specificity will resist any attempt to impose an abstract or simplistic model onto the open spaces and water of the valley. What works in one place can not be assumed to work elsewhere - because of different topographic conditions, access, character, health and safety constraints.

This means not trying to force an artificial unity onto the valley. What is required is a vision which works with a realistic and discerning assessment of the diverse conditions that are there, and shapes a future that evolves from the strange, engaging qualities already present in the Lee Valley. In short, the challenge is to make best use of the existing assets.

The assets are indeed remarkable: extensive areas of river, reservoir, marsh and woodland. You see them on satellite photographs and maps, but the experience on the ground is much more mixed, contradictory even.

We have represented the valley's many facets through a series of maps with keyed photographs, reproduced in Appendix 1. Our analysis, summarised below, is derived both from this map-based analysis and from observations made during extensive site visits across the area. The detailed vision put forward in chapter 4 responds directly to this analysis of assets and shortcomings.

fragmented valley, incomplete networks

The glacially formed valley floor varies in breadth between one and two kilometres, an expansive space at the edge of the densely inhabited city, and only five kilometres to the east of the City. The 'big landscapes' of reservoir and marsh are among the valley's principal assets, highly valued by those who know and use them. Working with these significant existing assets is a key starting point for consideration of the valley's future potential.

Yet large areas have limited or no public access. The elevated reservoir bunds restrict views severely, narrowing the valley experience to the width of a single footpath along the edge of the valley. The principle of public access to the reservoirs is, however, already established, with the sailing club on King George V Reservoir, another (currently not operational) on Banbury Reservoir, and permit access to the Walthamstow Reservoirs. With appropriate management of security, the level of access could be greatly enhanced, and the valley could be experienced by all.

Experiencing the width of the valley should be possible, but isn't, in several publicly accessible areas: at Tottenham Marshes, Wild Marsh West and East cannot be experienced together (they are joined only at the northern end, by Chalk Bridge, and separated by an unbroken line of trees and vegetation); Rammey Marsh and Gunpowder Park are separated rather than linked by their rivers. The rivers run through the centre of these valley spaces, but currently act as barriers at their edges, not connectors in their centre.

The rivers have substantial potential to connect to a wider local catchment, offering traffic free routes for pedestrians and cyclists: this potential is currently unfulfilled. Of the many miles of rivers and brooks in the area, remarkably few have public footpaths along their length.

The north-south railway lines along the valley edge at Leyton and Walthamstow, and from Tottenham Hale to Enfield Lock form strong barriers to access, cutting the adjacent communities off from the valley landscape. A number of local parks extend from the valley edge towards the local high streets, presenting opportunities to connect better, in terms both of physical access and identification with the valley landscape.

Coverage of the valley by foot and cycle paths is fragmentary and inconsistent. In particular, the eastern side and central area are poorly served: the North Circular is the only route across the valley in the four miles between Ferry Lane and Lee Valley Road. This diminishes choice and the offer to visitors, who must generally turn around and return by the same route. With the growth of commuter and leisure cycling, there are pressure points in the network where demand exceeds capacity. The network of routes across and along the valley is not yet coherent and complete enough to offer both choice and a clear sense of direction.

an accidental mix - a series of defensive edges

The wide range of uses that have grown in piecemeal fashion in the Upper Lee Valley have led to a highly mixed character. At its best, this creates surprise and contrast, at its worst, this simply leads to a form of 'mutual degradation', where one neglected or defensive edge becomes the cause of another.

This mix could not be restored in its entirety to an original, pure state, nor should it be. However, spatial planning of the mix and design of boundaries and interfaces would significantly improve the confidence of users.

There are extensive areas of wild landscape, in the form of original marshland at Walthamstow Marshes, disused and operational water infrastructure and areas of made ground in sympathetic and biodiverse management regimes. Local parks and playing fields can contribute by becoming more multifunctional (this tendency is already in evidence), including habitat areas and flood storage.

However, the relatively recent spread of this overgrown character to key public routes across the valley (as at Lea Bridge Road) has contributed to both the incidence and fear of crime. The majority of routes across the valley are dominated by vehicles, and offer a cramped, exposed experience to pedestrians and cyclists, despite their significant width.

Leisure uses are generally self-contained and internalised in conception, and correspondingly do not add up to more than the sum of their parts. The cluster of watersports uses around Springfield Park, and their relation to other sports and park uses, and to the cafes and pubs, is a successful exception. It should be a principle of future leisure provision that any additonal or refurbished uses are conceived to complement the neighbouring offer, and that this is carried through in their siting and design.

Infrastructure sites in the centre of the valley and industrial areas along its edges are a significant presence in the visitor experience, with steel palisade fencing ever present, and planting where it exists lacking in distinctive local character. These are the uses that are most impermeable: despite the presence of internal service and access roads, public routes are often forced to make a long detour around these sites.

It should be however be recognised that infrastructure and industry are an important part of the area's history and heritage, and that renewal of these uses offers significant opportunities for the creation of a more sustainable valley. Despite the constraints of overhead powerlines, river walls and site security, new planting can contribute to the distinctive landscape character of the area.

Traces of formerly extensive productive uses remain in localised grazing and market gardening. Generally, despite good soils, much of the land within the Upper Lee Valley is used a long way below its productive capacity.

low profile - uninviting - hard to understand

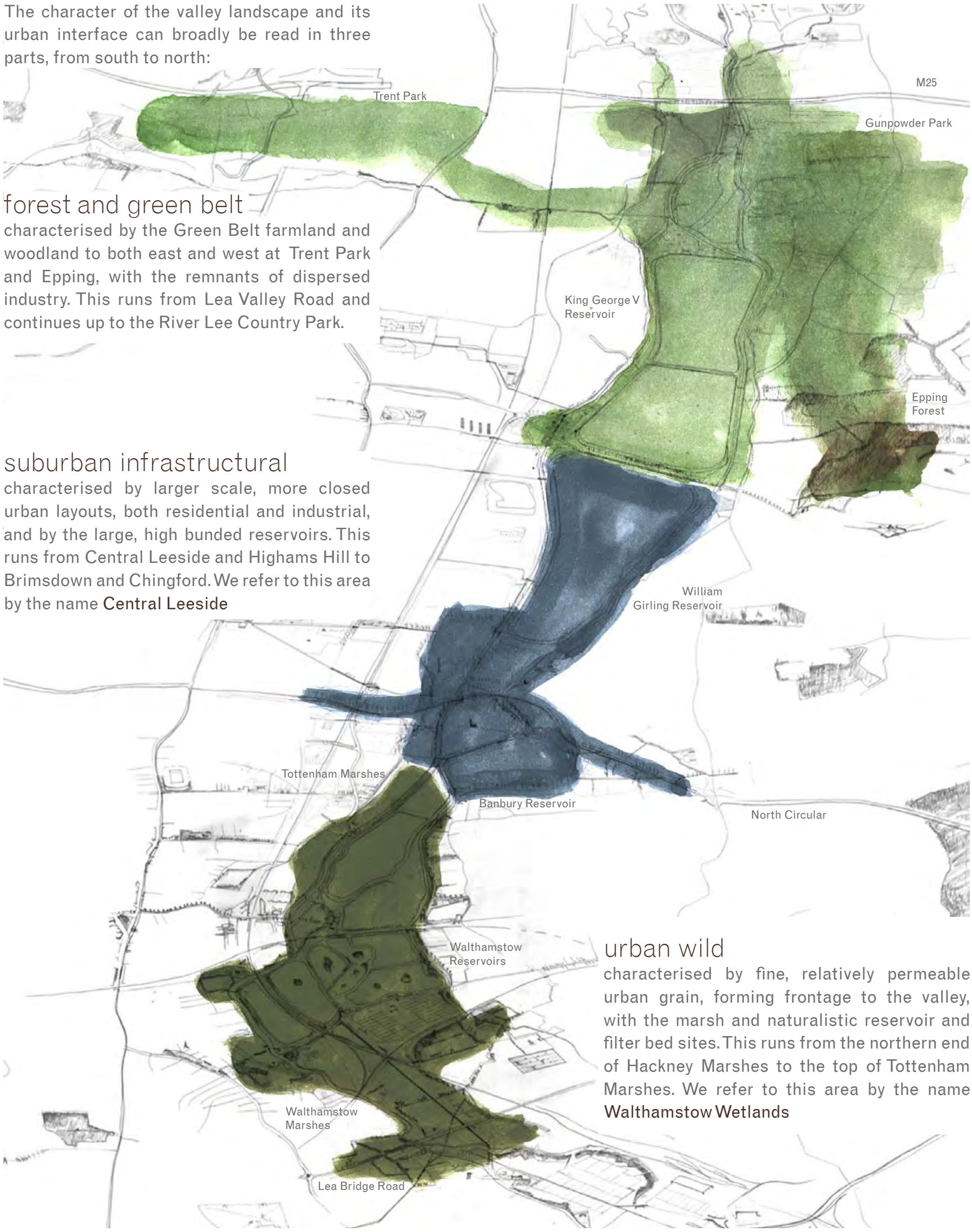
Existing open spaces and amenities have loyal and diverse local publics, but there are many who live and work nearby who are unaware of what the Upper Lee Valley has to offer them. The profile of the Lee Valley within London is relatively low, or tinged with the negative associations of some neighbouring areas. Although there are specialist facilities, such as the elite athletes training facility at Picketts Lock, there are few amenities with a wider regional appeal: ice skating and horse riding at Lea Bridge Road and Springfield Marina have a solid East London catchment, but function in relative isolation from each other, as do the golf course, campsite and athletics centre at Picketts Lock.

A 'critical mass' of amenities, of open spaces of diverse characters, and a choice of routes to explore these are needed to build up the appeal locally and within London as a whole. Significant potential for regional appeal exists around Walthamstow Reservoirs; other sites have the potential to act as local draws. Key considerations are the sense of continuous open space, overcoming current fragmentation; the multiplication of routes, offering circular walks, where these are currently linear; and the clustering and interaction of different amenities (sharing parking and refreshments). Entry points are at present uncertainly poised between preventing vehicular access - and in the process complicating access for wheelchairs or pushchairs - and signalling the attractions within.

The low visibility of the Lee Valley is reflected in the fact that books of walks typically feature just the two strategic walks - the Lee Valley Walk and London Loop - for an area that is extensive and varied. The absence of viewpoints, despite the valley topography is also significant - there are only a few points which offer a view of the wider surroundings of city and countryside, and the viewpoints are neither well-signposted nor is there adequate interpretation material. There are numerous other elevated points which would offer remarkable views if open to the public and well-publicised, such as the West Warwick Reservoir at Walthamstow Reservoirs. It is also worth noting that a mixed landscape such as this can be expected to require more explanation and publicity than an existing natural landscape.

distinct areas of the upper lee

The character of the valley landscape and its urban interface can broadly be read in three parts, from south to north:



forest and green belt

characterised by the Green Belt farmland and woodland to both east and west at Trent Park and Epping, with the remnants of dispersed industry. This runs from Lea Valley Road and continues up to the River Lee Country Park.

suburban infrastructural

characterised by larger scale, more closed urban layouts, both residential and industrial, and by the large, high bunded reservoirs. This runs from Central Leeside and Highams Hill to Brimsdown and Chingford. We refer to this area by the name **Central Leeside**

urban wild

characterised by fine, relatively permeable urban grain, forming frontage to the valley, with the marsh and naturalistic reservoir and filter bed sites. This runs from the northern end of Hackney Marshes to the top of Tottenham Marshes. We refer to this area by the name **Walthamstow Wetlands**

...in the context of the whole valley

The Upper Lee Valley is bracketed to the north by the woods and farmland of the green belt, and the wooded lakes (former gravel pits) of the River Lee Country Park, and to the south by the festival set-piece of the 2012 Olympics venues at Stratford; further to the south, where the tidal river runs through relatively dense urban industrial fabric, Lea River Park is in preparation. The distinct areas and characters of the Upper Lee Valley are then three of the seven distinct sections of the Lee Valley as a whole:

wooded lakes

The former gravel pits are a series of lakes, ringed by woodland, forming the River Lee Country Park. The slope of the land eastwards is relatively shallow.

forest and green belt

The Chingford Ridge demarcates the valley sharply.

suburban infrastructural

Central Leeside

urban wild

Walthamstow Wetlands

The valley twists between Highams Hill to the East and Stamford Hill to the West, marking the transition from valley to floodplain.

leisure marsh

The made ground of Hackney Marshes forms an expansive, flat recreation ground between the Hackney Cut of the River Lee Navigation, and the meanders of old River Lea.

olympic park

Raised islands of made ground carved up by the manders of the Bow Back Rivers. A biodiverse new park is being formed around the Old River Lea for the 2012 London Olympics.

tidal industrial

The Lea River Park is being formed around the tidal river, linking Abbey Mills and Three Mills, Bromley-by-Bow Gas Works and the East India Dock Basin.

what some users think

interviews by Olivia Tusinski

We have listened to what users and locals told us about the qualities and shortcomings of the area, through thirty interviews undertaken within the valley and in neighbouring urban areas. These views support many of the conclusions of the consultants' analysis.

getting away from the city

" It's quite a relaxing area even though you're only a half a mile away from the High Road it's quite a beautiful area...It's a wonderful place...picking blackberries, you know what I mean, picking them with kids"

"I live a country lifestyle in the middle of the city and this is a really interesting place because I'd call it an urban wild. "

"I use the river almost exclusively for cycling- it's flat, traffic-free and it's beautiful to look at. I generally move south because it's more countryside..."

"Go to the top of King's Head Hill in Chingford and you see wonder and depth of the Valley; its water, its industry, its passive role as abreak from the urban sprawl either side of it."

a social space

" I feel like there's not a lot of integration between the communities that live here... Here at the allotments it is quite idyllic...everyone has a common interest here which is to grow vegetables and to hang out and be a bit mellow and connect to something which isn't part of the city. Here is a place where you do get a lot more integration because people have something to focus on and have a common goal towards."

"...that boating to me is beautiful to see that happening and I'd love to be part of it, but I'm old, too old to start working it...you've got the rowing club. I stopped here and everybody was getting out of the river... I was having a cup of tea, and you feel part of it, just watching it."

"See, everyone [on the river] knows each other. I do like to say hello to people and it's part of the...about being on the waterways. We make it safer in a way...because we're here"

" this club does appear to have opened sailing to a new audience, which I think is a very good, positive thing,...a much stronger legacy for Olympics than any building"

not for everyone?

"I think they need more facilities apart from football, because there isn't a basketball ground...all this ground...even a couple of tennis grounds...I mean you can't force all the kids to be footballers"

"there's not that many nice places to go take the family and go out to eat, after you go sailing. So it's usually just me coming out on my own.. I tend not to bring my wife along"

not adding up?

One of the problems I think is that all these different groups look after different areas of it...I walk through Millfields, Middlesex Filter Beds, Leyton Marshes, Walthamstow Marshes, sometimes I go to Springfield Park as well. Now all of these areas connect, and there are a lot of us that are walking in all those places but the bodies and the powers that be don't take into account that we are all walking through...to us it's just one huge open space."

hard to find your way

"You have to know where you're going...I often meet Ramblers who have very complex maps who can't necessarily work out where they are. It's confusing because you've got the Lee and the Lea navigation – that's a very easy place to get muddled- where you're going- if you're following the waterways... People are often asking me, 'Can you tell me how to get here?'"

"The club is a bit out of the way... you really need to know.. I searched on the internet... getting out here on transport is probably quite difficult..."

do people know it's there?

"I don't think many people in Edmonton go anywhere near the river. ...Because they're just not aware of it...it's also a bit more difficult to get to. You have to find somewhere to park or get public transport...I don't think they're aware of how beautiful this place is."

"We have done some work with school groups and they go home and tell mom and dad...and their mom and dad come in and say "I've lived here for ten years and I never knew there was a river here..." because they'd not actually ventured into the park"

ambivalence about change

" if people get to know the southern end of the Lea Valley with the Olympics, they're more likely to come up to this end I would think...Would that be a good thing? Well, yes and no. Yes from the point of view of getting interest in the area and if people visit there's more investment and they take better care of it and develop it, and no because it's nice not to have too many people."

photographs by Philipp Ebeling

tensions

The issues which emerge from considering this remarkable area, in particular in relation to any change, are complex. To do some justice to the issues which affect the realisation, operation and experience of places in the Upper Lee Valley, we set out a series of thematic discussions encountered and explored in the course of this study.

Flour Mill

contrasting - complementary

The expanse of Walthamstow Marshes experienced after passing through the Argall Industrial Estate; the verdant Small Lea winding its way through a concrete box under the M25; the Flour Mill rising out of the streams and meadows at Ponders End; a morning commute on a bike and a day's fishing; the travellers site and cemetery back to back at Folly Lane; a walk through the city edge landscape and the loading of freight barges; wildlife refuges and boy racers: contrast is a byproduct of the sheer diversity of the Upper Lea Valley. Contrast is part of the pleasure of experiencing this unusual landscape, but it shades easily into conflict, either personal or institutionalised. The key to maintaining civilised contrasts lies both in a degree of positive planning, and in open negotiation between interests as issues emerge. Some will require design solutions, others lighter touch management solutions. We have used an understanding of the character and coherence of different parts of the valley to assess the compatibility of proposals.

Lea Bridge Road

wild - civil

For some people, the wild character of the valley is a fundamental principle. The importance of wild spaces, and areas without street lighting are indeed critical to the health of urban nature. However, the remnants of the natural landscape aside, the wild character of many sites is a relatively recent development, a result of deliberate light touch management - as for example at Walthamstow Reservoirs - or of benign neglect, as at the Royal Gunpowder Mills. There are people who consider the wildness a reflection of a lack of maintenance, while others find it threatening in places - and not without reason, since the foliage at Lea Bridge Road has been used as a screen for dealing drugs (much reduced by recent clearance). As raised above, there may be light touch solutions, for example the support of a women's running group. It is our view that the balance between wild and civil - places where there is a clearer human presence - may need local adjustment. Progressive delivery of habitat enhancement and appropriate access should form part of this process, permitting other areas - mostly the routes across the valley, but not exclusively - to be cleared of lower shrubs and scrub, with pruning of tree canopies to a clear height, allowing a view both of the landscape and of the people around.

Wild Marsh west to east

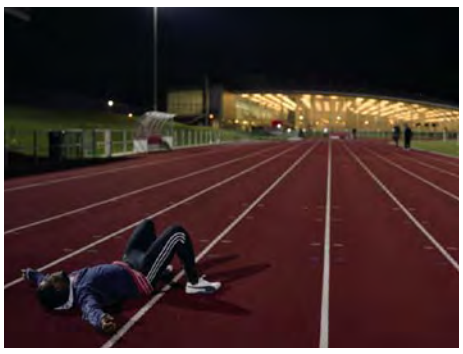
surprising - legible

The meandering watercourses which part and then meet again further downstream are the basis of a landscape that is full of surprises but sometimes confusing. Thick foliage in places obscures views, some routes seem frustratingly indirect and disorienting (entry to the Essex Filter Beds from Lea Bridge Road requires almost a full circuit before one can enter the central part of the reserve) paths that seem like they should meet up don't (either side of the Pymmes Brook, or of the Lea Navigation at Tottenham Marshes), the result in part of an incomplete network. Small things affect one's confidence - "am I meant to be here?": the disappearance of the pavement and the industrial yard on Picketts Lock Lane, the buses and trucks heading towards you on Harbert Road. This is not simply a matter of signage, although this may need review, but of the connectivity and legibility of the network. There will be places that a path, particularly in the case of strategic links, will be better straight rather than winding: this would seem in part to be a matter of hierarchy.

Enfield Lock: energy centre and pumping station

consumption - metabolism

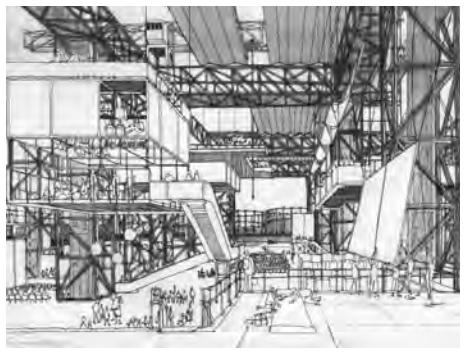
The Lee Valley has been a fundamental part of London's metabolism since the middle ages: providing power, drinking water, transport of food and raw materials, and common pasture for the East London villages. In the industrial period it became a receptacle for the city's toxic and dangerous industries, its sewage and bomb rubble, an aggregates mine to then fill with household and industrial waste: a dumping ground, used and abused. It has changed from common land to a neglected backyard, with most development looking the other way. The impulses behind brownfield land regeneration, flood storage, district combined heat and power, productive landscapes are all the same: to restore balance to the metabolism of the city. While there are and could be attractive open spaces which new residential construction can look out over, this is not really the point: managing the resources and functions of the valley landscape to mitigate existing damage and halt further negative impacts requires a shift in awareness as well as a change of management. The environmental future of the valley and of the city is an issue requiring widespread public participation, making the valley a public space in the widest sense.



Picketts Lock Athletic Centre

international - regional - local

The Olympic venues will bring an international public for a short period to the Lee Valley. The impact on the national and international public consciousness can be expected to last for much longer, promising to bring a greater share of London's visitor economy to the area than has been the case until now. Existing facilities such as the Athletics Centre at Picketts Lock and the Ice Centre, new facilities such as the White Water Rafting Centre, and possible regional attractions, such as visitor access to Walthamstow Reservoirs could all bring greater numbers of visitors from a national and regional catchment. The effectiveness of this depends in part on the transport infrastructure, both in the form of public transport, and in the smooth transition to walking, cycling or water transport. This makes the stations important hubs, and the public space around them a vital part of the connective tissue of the area. It is critical that each of the places and activities has a strong local public, supporting activities in and out of season, and even volunteering to sustain services.
This also relates to the debate about the branding of individual attractions within the wider Regional Park: an overarching identity, which includes the management of how different uses sit next to each other, should also be able to support local distinctiveness.



Fun Palace

serious - playful

Serious ecology requiring protection from humans, serious sport the level of which most of us will never reach, the deadly serious business of supplying London with water: the Lea Valley is a landscape of much seriousness. This contrasts with the early vision for the park in the Civic Trust's 1964 report, "A Lea Valley Regional Park", which included a rollercoaster, a permanent circus, speedway racing, a maze, and a "Fun Palace" - a flexible, interactive cultural venue - as well as the bird sanctuary, winter sports venue, and leisure lakes that came to be realised. While this early vision is an unreliable yardstick, it is a useful reminder that entry level sports or places of play for children and families should form a part of the mix: paddling pools, pedalos, mini golf that offer toddlers or pre-teens to the pleasures of open air play in the setting of the valley landscape. The scope for culture should also be considered as a periodic animation of spaces, an introduction of new audiences, and a way of considering and debating the many issues that the Lea Valley asks us about our city and our culture.

3


vision
LADY

our vision for the Upper Lee Valley landscape:

from edge to common ground

a valley space that is more extensive, more diverse but also more coherent, bound together by its many rivers: an inviting landscape of regional appeal

a single valley space stretching out to the high streets

A loose-fit but coherent overall framework, binding the valley's natural and man-made assets for the first time into a single experience along the length and across the breadth:

- whose chain of marshes and reservoirs put fresh air, space and nature on hundreds of thousands of doorsteps
- a coherent network of paths across the valley and along its watercourses, for commuter and leisure cycling, and for regular walking
- an inspiring metropolitan landscape where you can escape the city without leaving it
- a fundamental part of the area's liveability, a social good but also an economic advantage

a balanced mix

Locally distinctive open spaces reflecting existing character and opportunity, catering to the diverse needs of residents and workers, ensuring long term sustainability of planned growth:

- economically sustainable leisure sites which add up to more than the sum of their parts
- local food production
- with modernised, clean industries and infrastructure
- with substantial areas of protected habitat for the herons, ducks, grebes and other wildlife

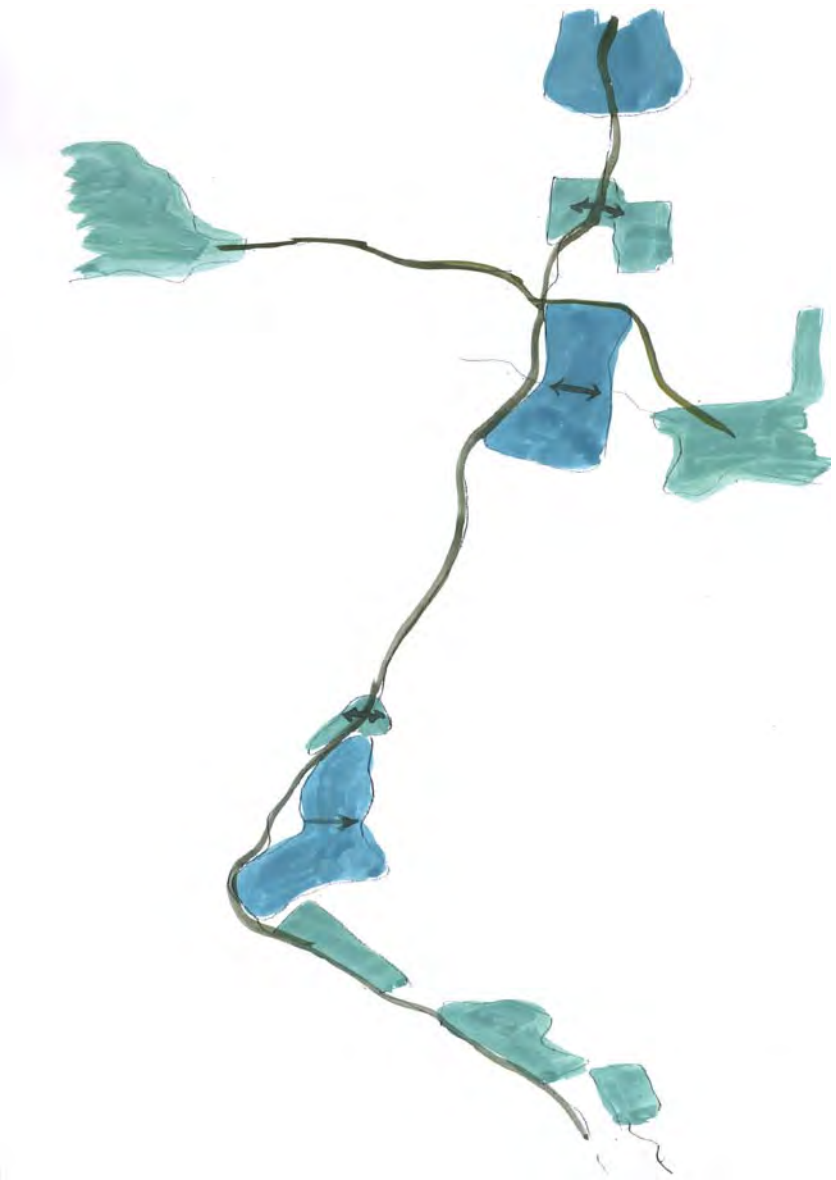
inviting to explore

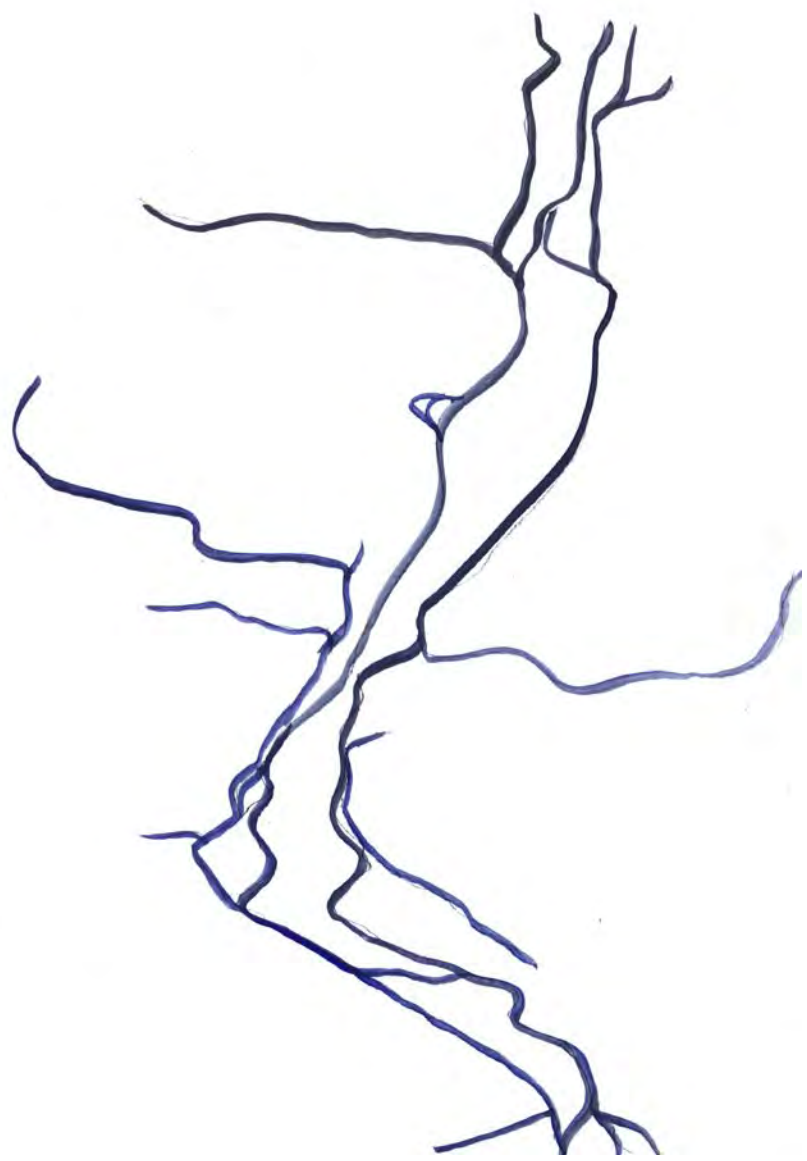
A set of routes, walks and views that help the users find their way in and through; a place where navigating is not just about not getting lost, but is about understanding our city and its landscapes, about identity and sense of place:

- regular paths in and across, places of real quality, an invitation into the valley landscape
- a spine path linking historic industry and infrastructure with the valley's new green utilities
- viewpoints on high ground or existing engineering structures, lifting you above the valley floor where you can get your bearings amongst the distinctive landmarks
- planned walks that lead you through the valley's treasures


M25
Waltham Cross
Waltham Abbey
Sewardstone
Enfield Town
Ponders End
Chingford Green
Edmonton Green
North Circular
Epping Forest
Walthamstow
Tottenham Hale
Leyton
Upper Clapton
Olympic Park
Hackney
Stratford
Victoria Park
Bow
Lea River Park
City of London
Greenwich

a single valley space





a chain of big landscapes

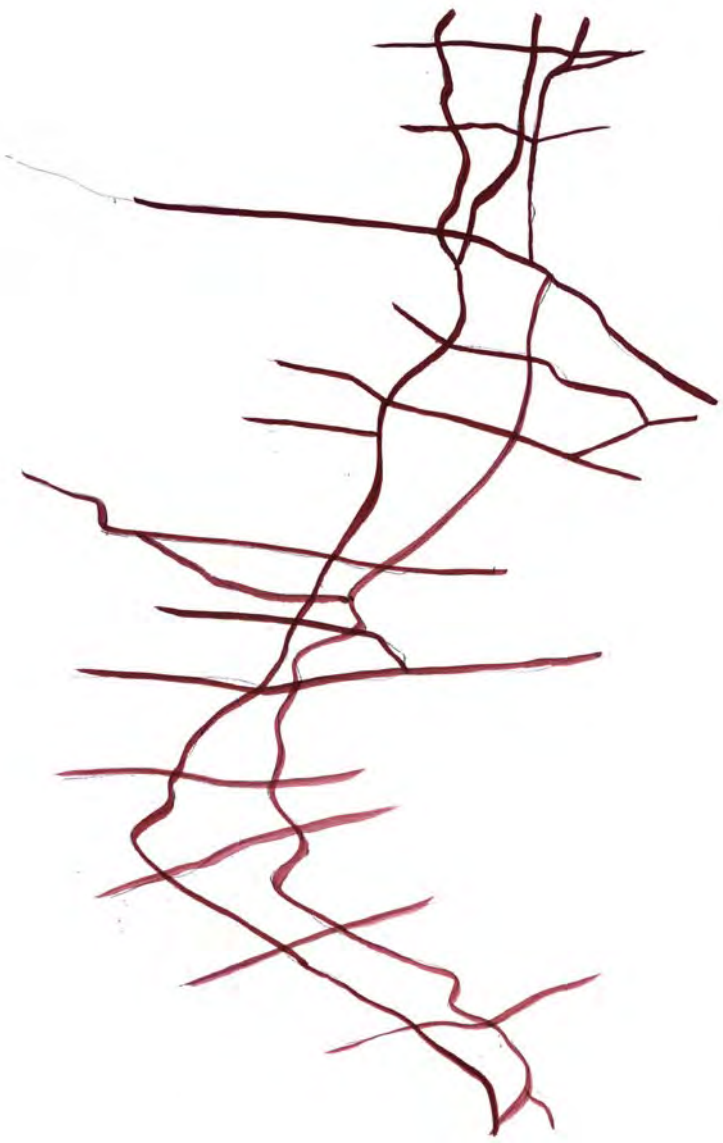
The big marsh and reservoir landscapes are perhaps the valley's greatest assets - places with special qualities, all of them with a sense of expanse that stands out from the city around. Opened up and joined up, these large scale landscapes would transform visitors' experience - the landscape would no longer be just a pathway wide, you would feel it extending across the valley floor. To complete the chain of big landscapes, it is necessary to:

- Open up public access through the reservoir sites
- Unite open spaces divided by the river

connected by its rivers

The watercourses are natural connectors: the tributary brooks feed into the valley, and the different branches of the Lea spread out over the full breadth of the valley floor and then join up again. To make full use of their potential, it is necessary to:

- Make new waterside paths beside the rivers which are currently inaccessible
- Continue the slow work of cleaning and renaturalising the rivers



a network offering choices

The routes into and across the valley are, for car users and commuter cyclists, important contact with the identity and offer of the area. Enhancing the landscape quality of existing crossings can both improve the pedestrian or cycle experience and communicate a sense of place to passing motorists - an invitation to stop, or to come back and visit. What is needed is:

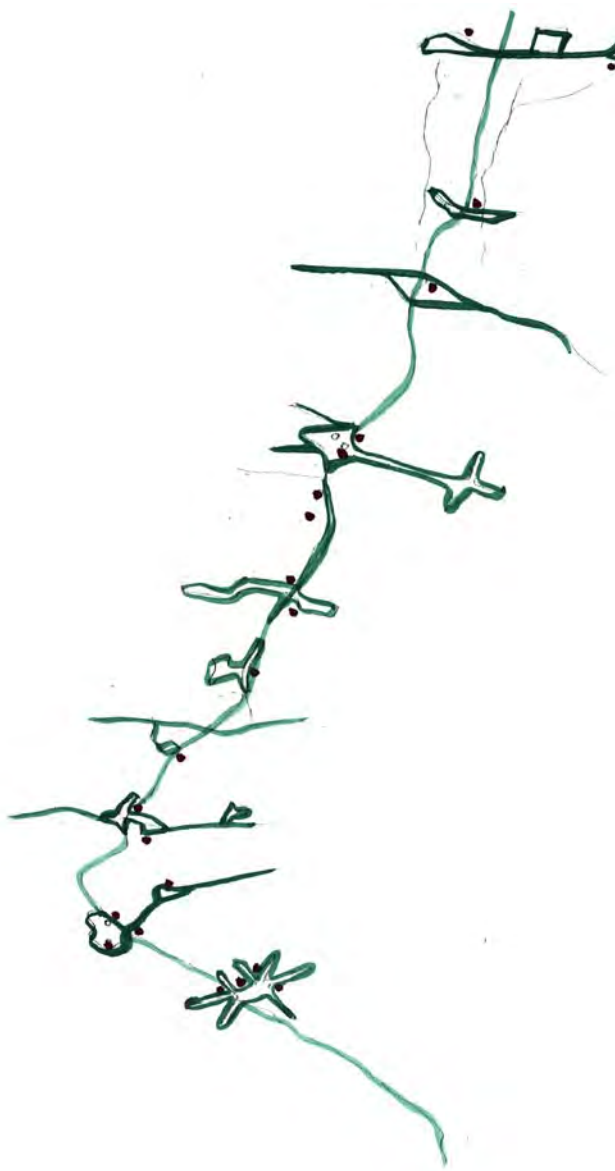
- A set of public realm inprovements for the main roads across the valley, with street trees and set back foot- and cycle-ways
- New foot- and cycle-paths across the valley to fill the large gaps in the network

stretching out to the high streets

The adjacent local parks, tributary brooks and valley centre should be seen as all part of the same thing: a single landscape with many facets, designed, signposted and maintained to common standards. Key actions are to:
- Identify and agree the extent of the valley landscape's 'area of influence'
- Adopt a common set of design palettes that find coherent answers to the valley's common conditions
- Agree a common maintenance regime for these spaces.

Together, these take the strong identity of the Lea to the doorsteps of its bordering communities.

a balanced mix



inclusive and civil public space

The routes that cross the valley are key entry points to attractions but also to the big landscapes. These should balance permeability with focus, offering passers-by a sense of the varied offer of the valley, and of its identity.

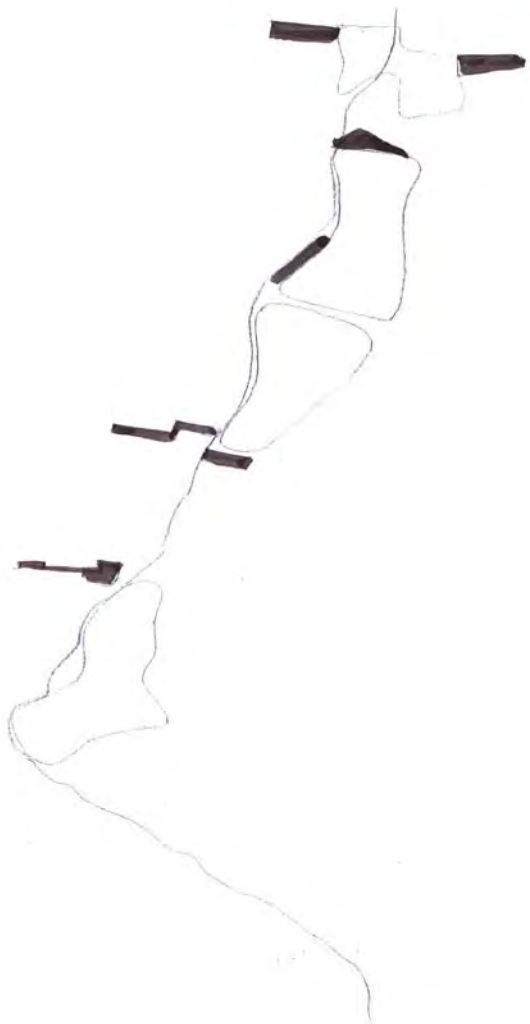
Build up clusters of activity along the valley, conceived as multiple facilities for different age groups, supporting the valley as a local and regional destination for all interests and capabilities. For both economy and sociability, cafes should relate to the public space, so they can be shared between venues.

Events and festivals with a cultural dimension could bring in another public to the valley. These should be inclusively conceived, perhaps with temporary events catering for travellers (trotting races) and boy racers (a moto-cross).

consolidate and link wild spaces

Consolidate and link the wild landscapes to form a consistent, not a piecemeal experience, joining together the marshes, disused infrastructure and habitat rich reservoirs into coherent and extensive blocks of land, with good public access.

- Habitat linkages along the Flood Relief Channel, Essex Wharf to Back River
- Access linking the wild landscapes of Walthamstow Reservoirs, the Lea Diversion, Tottenham Marshes



tame the utilitarian landscape

Temper and celebrate the infrastructure and industry of the valley. The progressive renewal of the waste, energy and sewage infrastructure should contribute to the quality of the public realm in the valley; use of byproducts (energy, organic waste) to support local food production.

Renewal of industrial stock to be supported by habitat enhancement, water management, and improved public realm.

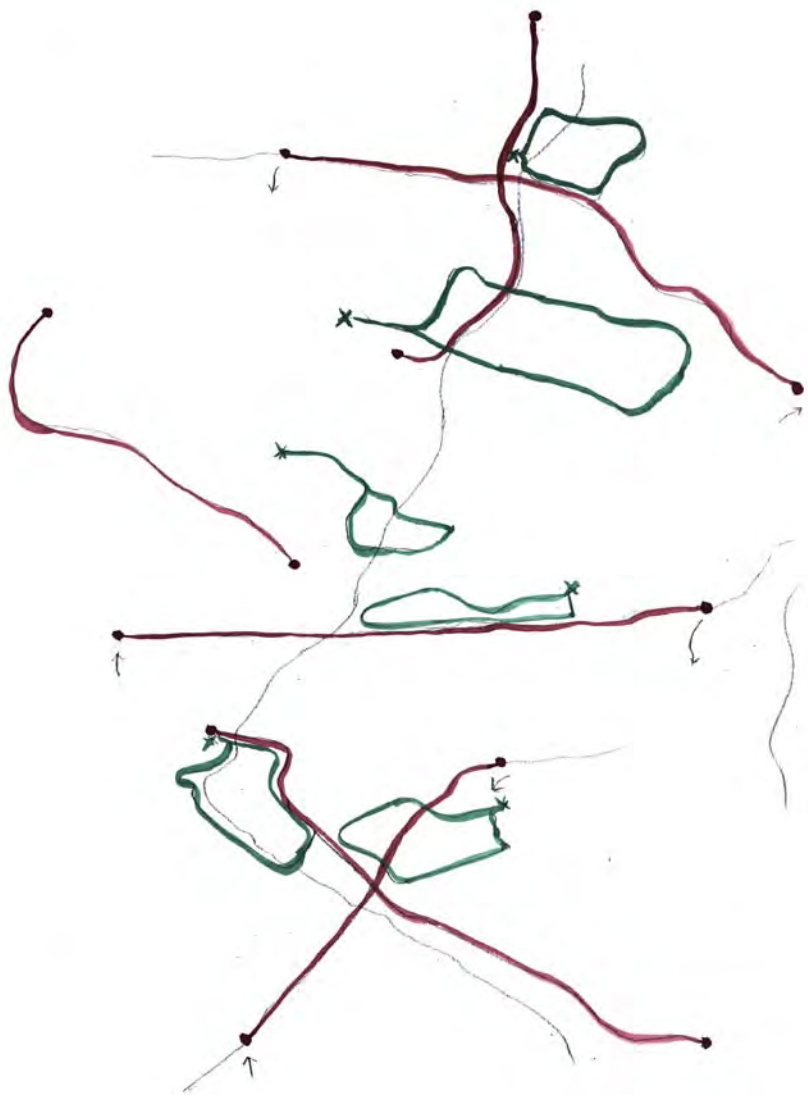
Water based freight should be integral to the transport strategies of the infrastructure and industries, with robust but generous industrial urban public spaces to the river

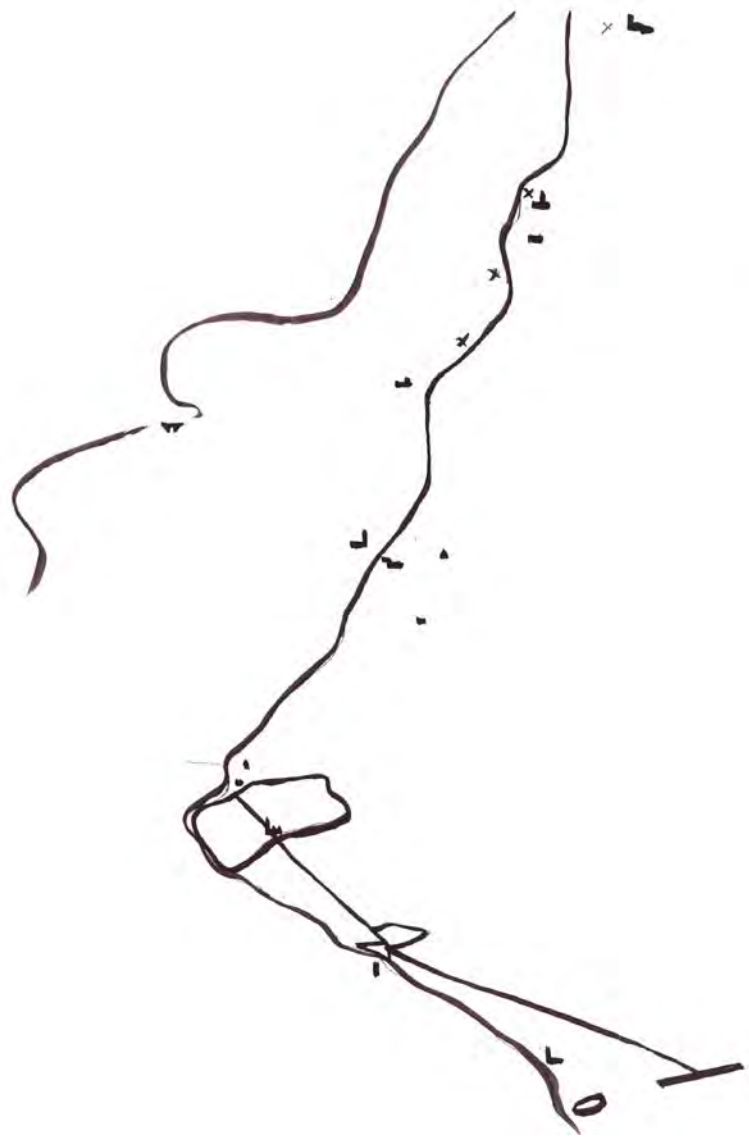
extend local food production

Use the leftover corners of infrastructure land and the edge of the green belt for local food production, in the form of horticulture (community gardens, glass-houses), finding sites for more bees, chickens and fish in the valley, supplying the adjacent urban areas, and providing places for education and communication on healthier lifestyles.

The presence of these users in the valley will enhance the safety of the valley environment.

inviting to explore





circular walks

The network of paths should not be presented just as routes from A to B. The pattern of leisure walking and cycling is rather one of loops, starting and finishing at the same point (a station or car park).

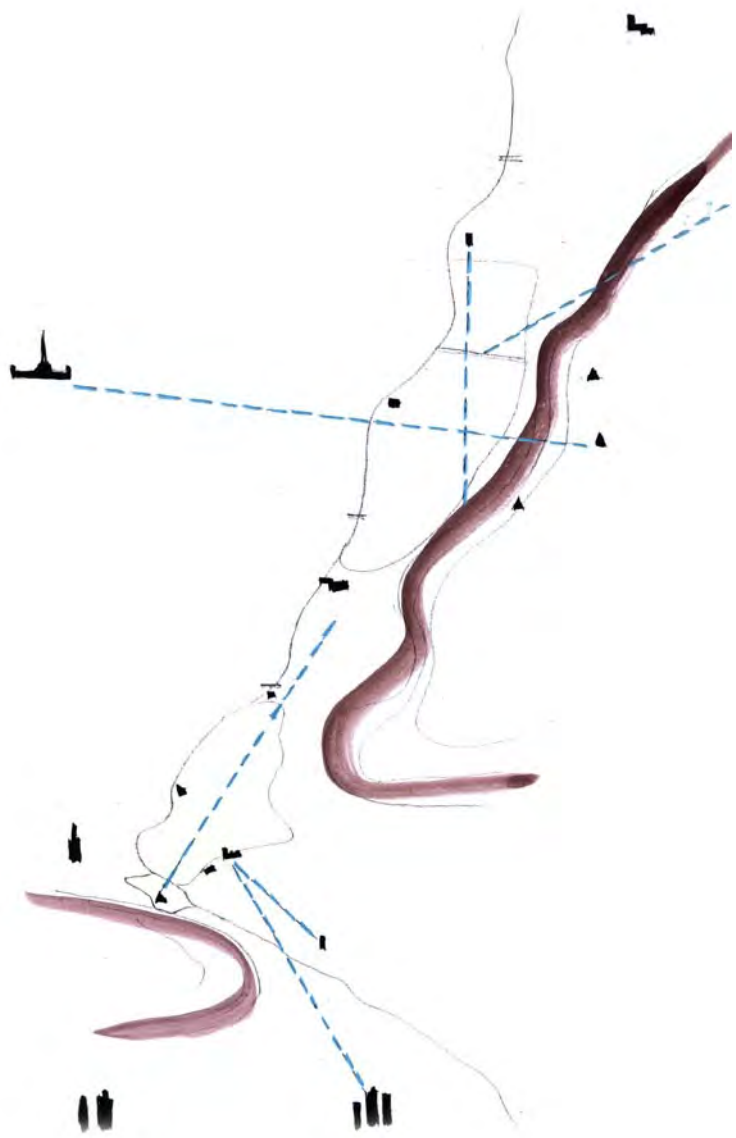
The paths are constrained by opportunities and costs, but with a finer grain and more paths, a great variety of walks will become possible, and will need planning and signing: natural, historical, industrial, watersports walks, valley field and forest rambles; routes for walkers, cyclists, horse riders and canoeists.

London walking guides mostly have just the one walk listed for the Lee Valley: with realisation of paths, and planning of walks for all ages and interests, the Lee Valley will need its own book.

thematic routes

The presence of historic infrastructure at Lea Bridge Road and Walthamstow Reservoirs, and the sense of ancient landscape at Walthamstow Marshes create a rich counterpoint to the 2012 Olympics and the regeneration of the formerly industrial Lower Lee Valley, and to the sustainable infrastructure and urban quarters to be developed at Central Leeside.

A path through the centre of the valley linking these places is not simply a connection but a timeline, helping visitors to understand the history and future growth of London.



create views

Seeing the Lea Valley as it has never been seen before: this can be achieved with modest means, creating viewing towers where there are no points of elevation, 'borrowing' a reservoir embankment or railway bridge abutment to present the wide view, or improving paths to and visibility of the existing hills.

These are the places where you can see where you are going, or where you have come from; where you can look out between the branches and see the towers of the city you have left behind for a moment: places to get your bearings, places to reflect.

communicate and publish

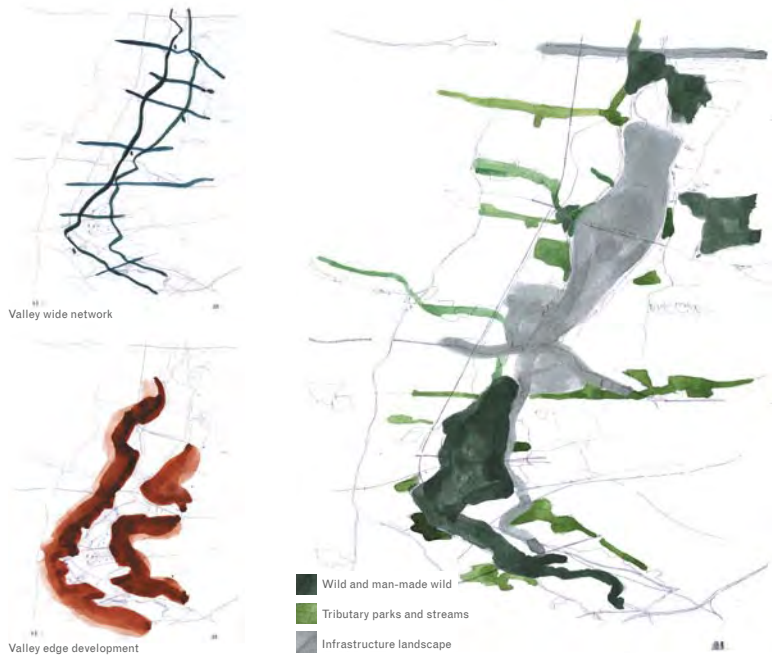
Encourage people who have yet to discover the Lee Valley:

- by using its landscapes as an educational resource for primary and secondary schoolchildren
- by striking a balance between the parts and the whole in marketing
- by organising events targeted at different groups to widen the appeal and reach non-users
- by publishing guides, studies and books of walks, presenting the many sides of this remarkable area to diverse audiences

The following chapters and second volume of this study set out different tools for different scales of action and co-ordination, for the realisation of this vision.

The relation between these scales of action, and the prioritisation of projects, is set out in chapter 6, 'Delivery'.

from vision to spatial strategy...



valley-wide network
gateways, signage, paths

A focused palette of materials and species should be used in the valley-wide network of paths, unifying areas under different stewardship and connecting the valley floor with the surrounding valley slopes, tributary streams and parks.

Markers
Entrance Gateways: Tall formal tree clumps proposed to announce entrances – within a carpet of brick surfacing, formally defined and edged and associated with seating signage and information. Visible across the wider landscape.
Markers: Orchard Clumps: Set within the wider landscape, groves of orchard trees, sitting within floristic meadows and associated with seating and picnic tables, providing recognisable places of rest and play.

Pathways
Clear pathways with good sightlines will connect the entrance gateways, with less formal tracks leading away into the wilderness. It is important that the language of these pathways should not be that associated with that of a 'park' – decorative dressed gravel finishes, for example, are less appropriate than plain tarmac, although suited to the more formal defined 'tributary parks'.
Suitable informal treatments would include short mown tracks within meadows, rough hoggin paths with timber edgings, and twin concrete wheelhead strips with grass between for vehicle access. Main pathways should be blacktop, or where there is an infrastructural / navigational connection (as with the canal towpath or former aqueduct through Walthamstow Marshes), brick.

Boundaries
The emphasis should be upon hedges and ditches as opposed to fences. However the security needs of landowners and infrastructure mean secure fencing is inevitable. This can be screened by hedgerows – flowering and fruiting.
Ditches and ha-has provide an alternative, seamless means of securing a site, as successfully employed at Walthamstow Marshes.
Where fencing closely adjacent to footpaths is unavoidable and the need to preserve sightlines preclude the use of hedging, quality steel mesh fencing should be employed instead of palisade fences.

Furniture, Signage
The diverse assortment of unco-ordinated and incongruous posts, barriers, seats and gateways is one of the main detractors from the appearance of the valley at present, and a major obstacle in the path of achieving a distinct valley 'feel'. The materials required should be simple and tough, the information on signs and noticeboards clear and straightforward. A palette based on oak and corten steel is proposed.

Gates
It is difficult for vehicle and bicycle barriers to be both effective obstructions and welcoming. The signage welcoming the visitor to the park or landscape should be separated from barriers, with the latter painted in subdued colours such as dark brown or green instead of bright blue. Simple 'farm-type' timber barriers and gates will be appropriate in many locations, with rocks, tree stumps or bollards also effective
It is difficult to impede motorcycles without also excluding motorised wheelchair users, or to stop speeding cyclists without making life difficult for parents with pushchairs. A pilot scheme in reducing the number of barriers, possibly with greater ranger presence initially, should be attempted. Inclusive treatment of problem users (e.g. motorcycle users), offering greater occasional usage in return for cessation of anti-social behaviour, may be considered.

Lighting
Lighting should be accommodated in the valley only where absolutely necessary for safety and security or to highlight key buildings or locations. There is great value in having dark spaces in the city, for wildlife (bats in particular) but also for the sense of wilderness.
Lighting in the wilder areas inevitably invites people in, bringing with it commensurate needs for patrolling and surveillance. Security lighting should be set to come on only when triggered and not left on full time.
Where lighting is deemed essential, timing can be limited. Is it really necessary all night? In quiet residential streets lights can be switched off after midnight.

Adequate lighting will remain necessary on the main network of paths and around housing, employment areas and community or leisure facilities. The impact of lighting for these should be considered carefully in the siting and layout of access. There is scope for the use of dim or low level lighting in sensitive areas, with grilles to avoid excessive light spillage.

Light columns may be located behind mature trees using several spots shining down through the foliage. Ground luminaires provide low key lighting along pathways.
The column style should be co-ordinated with the street furniture and should be straight, simple and functional.

Planting
Planting in general should reflect the natural signature of the Lea Valley floor (generally riparian and marshland species), changing subtly to a palette on the valley slopes related to the clay hills and gravel terraces. There should also be room for an edible component of planting, and an emphasis on flower, colour and scent at key locations such as path junctions and adjacent to public facilities.

Park entrances
Clear entrance, allowing for views and wheelchair access.
Coherent signage throughout the valley.

Boundaries
Swale as boundary, Walthamstow Marshes
Fence and hedge
Fence and climbing plant

Furniture
Timber and steel bench
Bench made of railway sleepers
Corten lighting

Planting
Black Poplar, Downy Birch, Crack Willow
Trees reflecting the natural signature of the valley floor.
Pedunculate Oak, Hornbeam, Rowan
Trees reflecting the natural signature of the river terrace.

spatial strategy - chapter 4

The valley wide maps are separated out into the different key elements of landscape and public realm:
- Open Space
- Foot- and cycle-paths
- Venues and park activities
- Water
- Productive landscapes
- Valley landscape extent

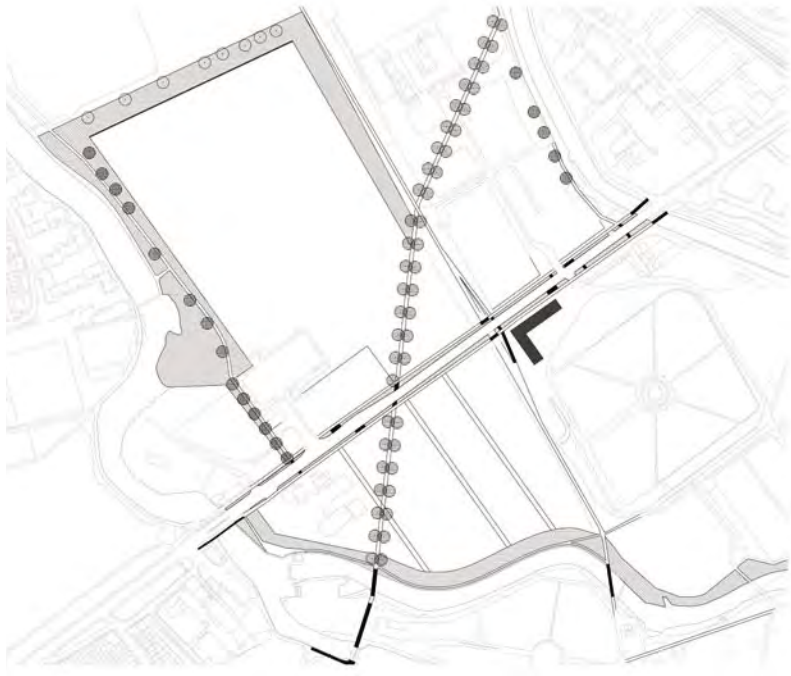
These maps show the existing provision and record additional provision for which both need and opportunity has been identified in this study. Combined with the existing, delivery of this new provision across these different aspects of the valley landscape would effect the transformation set out in the vision 'From Edge to Common Ground'. 63 projects are identified, all of which are scoped in greater detail in volume 2.

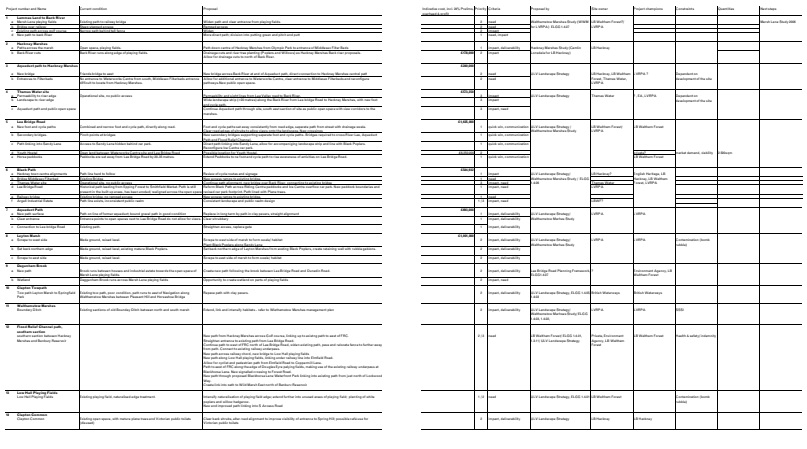
design principles - chapter 5

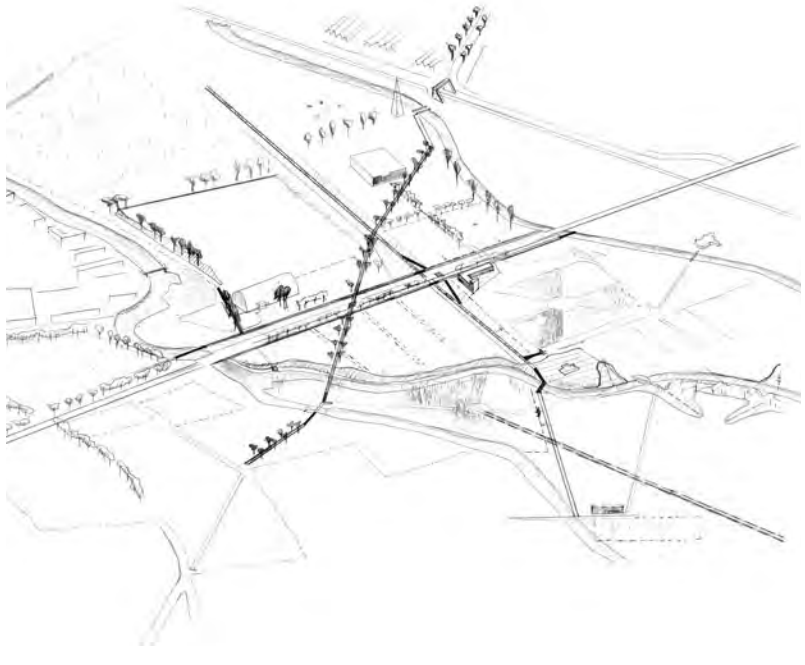
The principles for coherent landscape design within the range of existing character types, and through the valley-wide park infrastructure, are set out in this chapter through description and reference examples. These design principles inform the public realm projects developed in volume 2, and should inform their further development. In addition, these principles should also form a starting point for management and maintenance practice within the wider valley area, in particular by the large landowners.

It is intended through these landscape design principles that all future landscape interventions ement the 'natural signature' of the Upper Lee Valley.

...from strategy to projects







strategy areas - part 2

Project scoping and more detailed project identification are grouped by the three distinct areas of the Upper Lee Valley:

- Forest and Green Belt (rural fringe)
- Central Leeside (suburban infrastructural)
- Walthamstow Wetlands (urban wild)

Maps, schedules and overview drawings show the role of individual projects in the delivery of the strategy for each area. Both for the purposes of this study, and for co-ordination of future partnership working, these strategy areas offer a useful tool for considering the interrelation of strategy and projects.

public realm projects - part 2

The individual projects are developed, and their interrelation further demonstrated, in plans and overview perspectives which give a clear indication of the localisation, character and impact of the proposed interventions. This information is intended to form the basis for further project development, in particular:

- fundraising bids
- technical feasibility studies
- briefing for design development

4

spatial strategy

spatial strategy

Each of the elements of the spatial strategy have been considered for internal coherence and functionality, as well as for interaction with the other elements. These maps define the spatial strategy for the Upper Lee Valley area in relation to landscape and public realm, and are to be incorporated in the Upper Lee Valley Opportunity Area Planning Framework.

As such, the projects identified in this section will form a material consideration in the determination of planning applications for sites within the area. In the case of large regeneration and infrastructure sites, redevelopment will be required to deliver the strategic projects identified; while some may be delivered by management solutions of existing sites, many will be dependent on redevelopment for delivery.

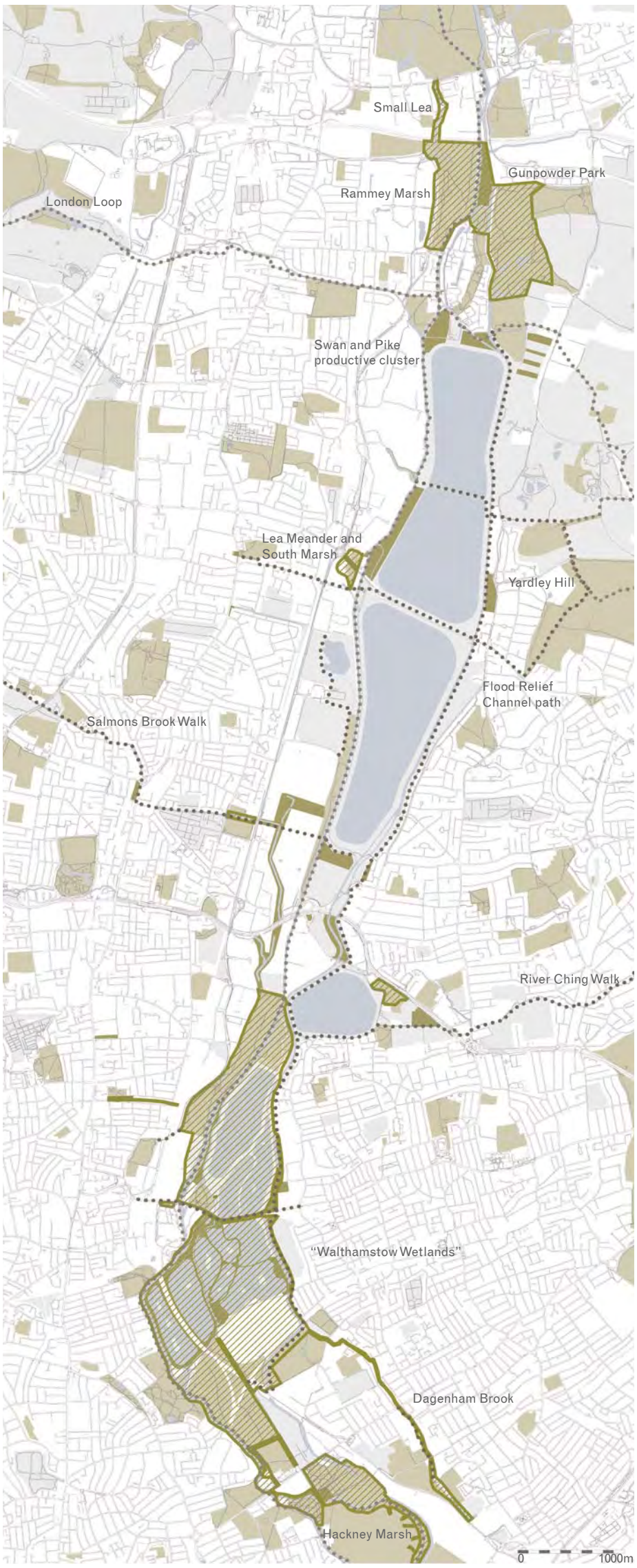
A significant number of interventions identified here lie within existing public open space. Projects for these are developed in greater detail in volume 2 of this study. Identification within the spatial strategy demonstrates the strategic contribution of each of these interventions, and forms part of the evidence base for applications in relation to these projects.

The interventions identified are shown in relation to existing provision, which they strengthen, complement and expand.These are set out in relation to the following elements of landscape and public realm:

- Open Space
- Foot- and cycle-paths
- Venues and park activities
- Water
- Productive landscapes
- Valley landscape extent

The combined overview of the identified interventions combine to define 63 projects which will cumulatively deliver the vision ‘from Edge to Common Ground’.

open space



A series of relatively modest areas of existing open space have been identified for public access, in order to achieve the connected, expansive valley landscape that will offer a coherent and inviting experience to visitors.

One major area with only limited access currently is the Walthamstow Reservoirs. These are an integral part of the proposed Walthamstow Wetlands which has the potential in terms of area, distinctiveness and diversity to attract a regional public. With a combined area for both existing open spaces and the reservoirs of 400 hectares, the highly distinctive wooded islands at the reservoirs, and the variety of adjacent parks and visitor amenties, this area presents one of the most significant remaining opportunities in the Lee Valley as a whole.

New open spaces for public access are identified in the Central Leeside area, ensuring continuity of landscape experience across and along the valley in an area where open space and landscape character have been most severely eroded. Beyond the links which would be achieved by opening up the landcscape around the North Circular, this area presents interesting opportunities for green links along the watercourses: completion of the River Ching green link, and delivery of green links along the Salmons Brook up to Enfield Town and along the Flood Relief Channel would capitalise on the open watercourses in an otherwise extensively built up area.

Sites fringing King George V. Reservoir, at Ponders End, Swan and Pike pool and Sewardstone Paddocks are identified for enhanced public access, diversifiying the open space offer in this area. An open space connection between Rammey Marsh and Gunpowder Park is identified as having a significant effect on both existing open spaces, placing the rivers at the centre of a wide valley.

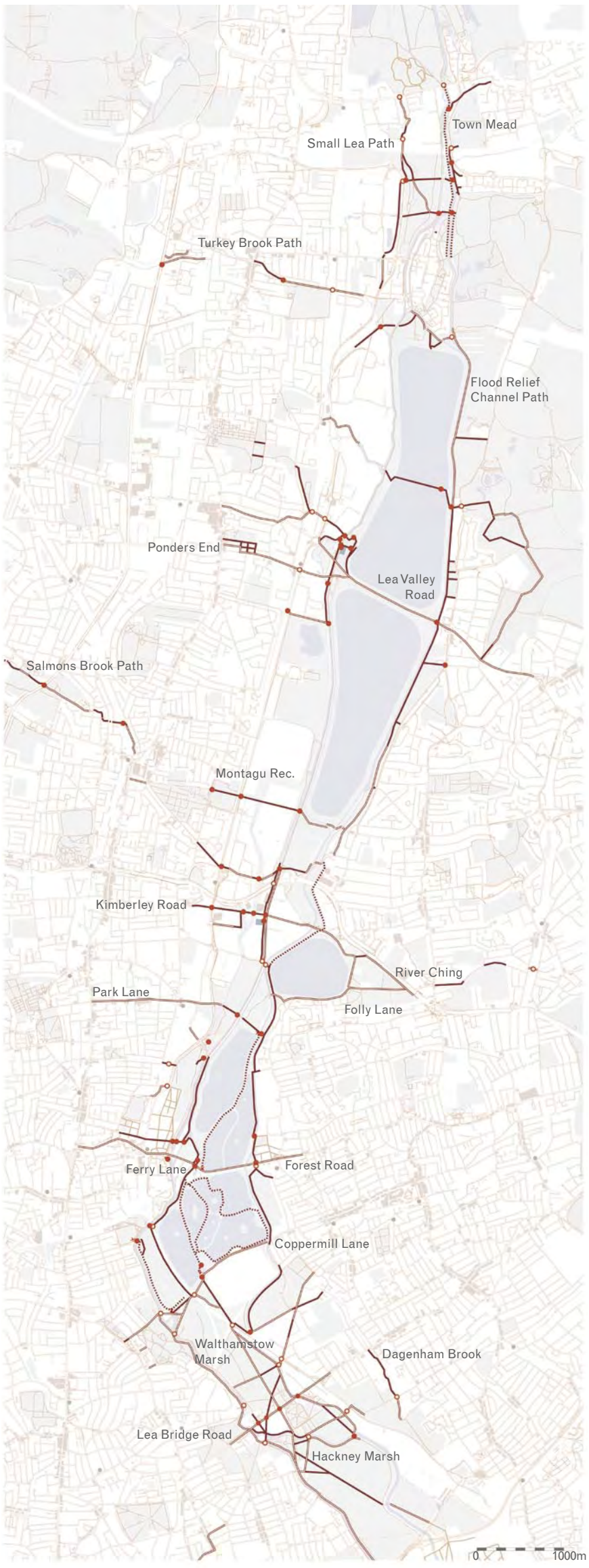
Since the SSSI (Site of Special Scientific Interest) covers both the wooded reservoirs and the bunded concrete reservoirs, the areas of predominantly wild landscape character are identified on this map, for retention and enhancement. Green links establish both connections for pedestrians and cyclists, and a coherent network of habitats.

- Proposed open space with public access
- Retained open space with public access
- Proposed area of predominantly wild landscape character
- Proposed green link
- Existing green link

Other

- Watercourse/ water body
- Other open space

network of paths



Two main means of completing and enhancing the currently fragmentary network of foot- and cycle-paths are identified:

a) New foot- and cycle-paths across and along the valley, including new bridges, to fill the large gaps in the network.

Possible crossings for foot- and cycle- traffic are identified in the following locations across the valley:
- connections between Rammey Marsh and Gunpowder Park
- across King George V reservoir dividing wall, connecting Brimsdown with Yardley Hill
- across the current Deephams site, connecting to existing paths to Chingford Mill
- to north and south of the North Circular
- connecting Tottenham Wild Marsh West and East, and Tottenham High Road to Chingford
- restoration of the line of the Black Path across the valley, connecting Walthamstow and Hackney

And along the valley:
- along the Small River Lea to Waltham Cross
- along the Flood Relief Channel
- through Walthamstow Reservoirs

b) A set of public realm improvements for the main roads across the valley, with street trees and set back foot- and cycle-ways:

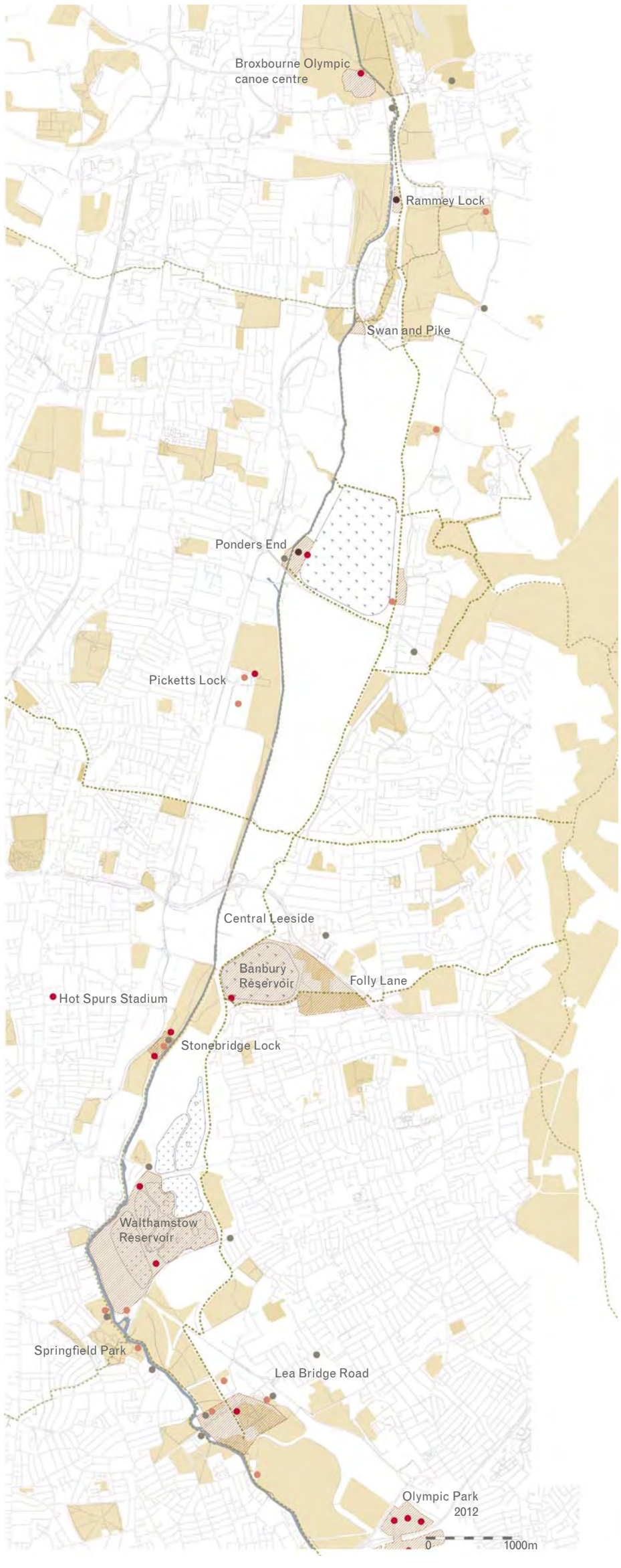
- along Lea Valley Road
- along Ferry Lane - Forest Road
- along Coppermill Lane
- along Lea Bridge Road

Combined, these new and enhanced paths will offer off-road routes for pedestrians and cyclists in a regularly spaced network of routes, easing local movement and communter cycling, and multiplying choices for circular leisure walks and rides.

Proposed
- Gate
- Proposed path
- Path to be opened to public
- Improve path
- Path to development area
- Proposed bridge / crossing / underpass
- Improved bridge / crossing / underpass

Existing
- Existing path
- Station
- Retail
- Watercourse
- Open space

venues and activities



Two actions are proposed to widen the public appeal of amenities within the valley, and to increase the synergy between different activities:

a) Extension and diversification of the valley leisure offer
New facilities complementing existing sporting and recreational offer, including:
- Walthamstow Reservoirs visitor centre
- Lido and paddling pool ('urban beach')
- Mini-golf
- Adventure playground
- Scrambler motorbike track
- Youth hostel
- Opportunities for 'natural play'

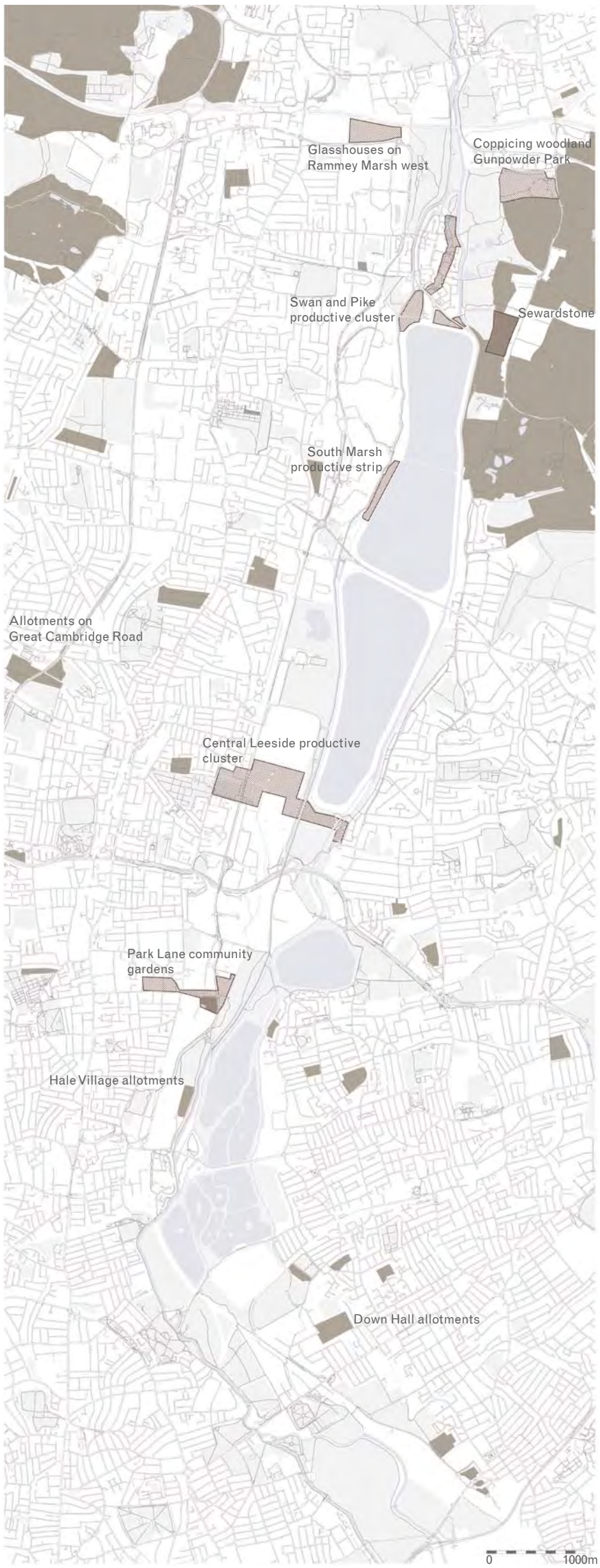
b) Clustering of different activities at existing leisure sites or locations well-served by local and regional access
Build up clusters of activity along the valley, conceived as multiple facilities for different age groups, supporting the valley as a local and regional destination for all interests and capabilities. For both economy and sociability, cafes should relate to the public space, so they can be shared between venues.

Both the above will tend towards reinforcing the importance of the River Lee Navigation within the structure of the valley. Please refer to the water strategy for more detail on:
- Marinas and moorings
- Waterbus to Tottenham Lock
- Watersports on Banbury Reservoir
- Canoe hire

- Existing cafe / pub
- Existing leisure building
- Proposed cafe / pub
- Proposed leisure building
- Leisure area
- Leisure area proposed / under construction
- Sailing
- Sports fishing
- Navigable watercourse
- Existing strategic walk
- Proposed strategic walk

productive landscapes

produced with Peter Clarke and Claire Pritchard



Given the current city-wide vogue for local food production and the amount of available land within the open spaces of the valley floor and tributary parks, new productive landscapes have high potential and would serve to populate the landscape and directly involve local communities.

Community allotment gardens
- New productive landscapes should generally be on the community allotment gardens model - in the form of residents' associations, voluntary unincorporated associations or charitable organisations - rather than the traditional allotments model which have a strong presence in the area. More accessible, more landowner-friendly and more compatible with public open space than the traditional allotment model, they combine food production with community action and facilities for children. Local organisations such as Friends of Tottenham Marsh, Organic Lea or Under One Sun would be essential to the setting up and future success of such operations, ensuring long term management and addressing the concerns of many that the extension of traditional allotments would equate to a perceived 'privatisation' of public open space. Guidance on community allotments is included in the LVRPA Park Development Framework.

A permaculture 'zoned' landscape model would be appropriate with secured vegetable growing immediately surrounding a communal facility, and less intensive, more robust production in the wider landscape, of fruit, nuts and berries. Opportunities for such groups to market their produce, including farmers markets in the valley, should be permitted.

Existing path
Proposed productive landscape
Existing productive landscape
Open space
Watercourse or water body

Edible Landscapes
- Within the wider landscape the provision of orchard clumps and areas for herb and berry picking including fruiting hedgerows of blackberries, blackcurrants, gooseberries, raspberries etc offer an 'edible landscape' available to everyone. Land managers should be encouraged to incorporate planting and management of these edible elements.

Horticulture
- Promote glasshouses where appropriate, in combination with use of waste heat from power generation, industry or anaerobic digestion systems.
- A system could be set up to put owners of under-used glasshouses in touch with potential users, such as community groups.
- Public landowners should look at their estates to see if there are any opportunities to create tenanted smallholdings. Priority should be given to tenants who plan to produce food to meet the needs of local people.
- A 'Cucumber Heritage Centre' could be set up as an educational tourist attraction.
- Use of organic waste from anaerobic digestion and sewage treatment for compost.

Arable
- A project should be set up to put owners of suitable land, together with experienced arable farmers, in the hope that the fields can be brought back into environmentally sound productive agriculture, to the benefit of both parties.

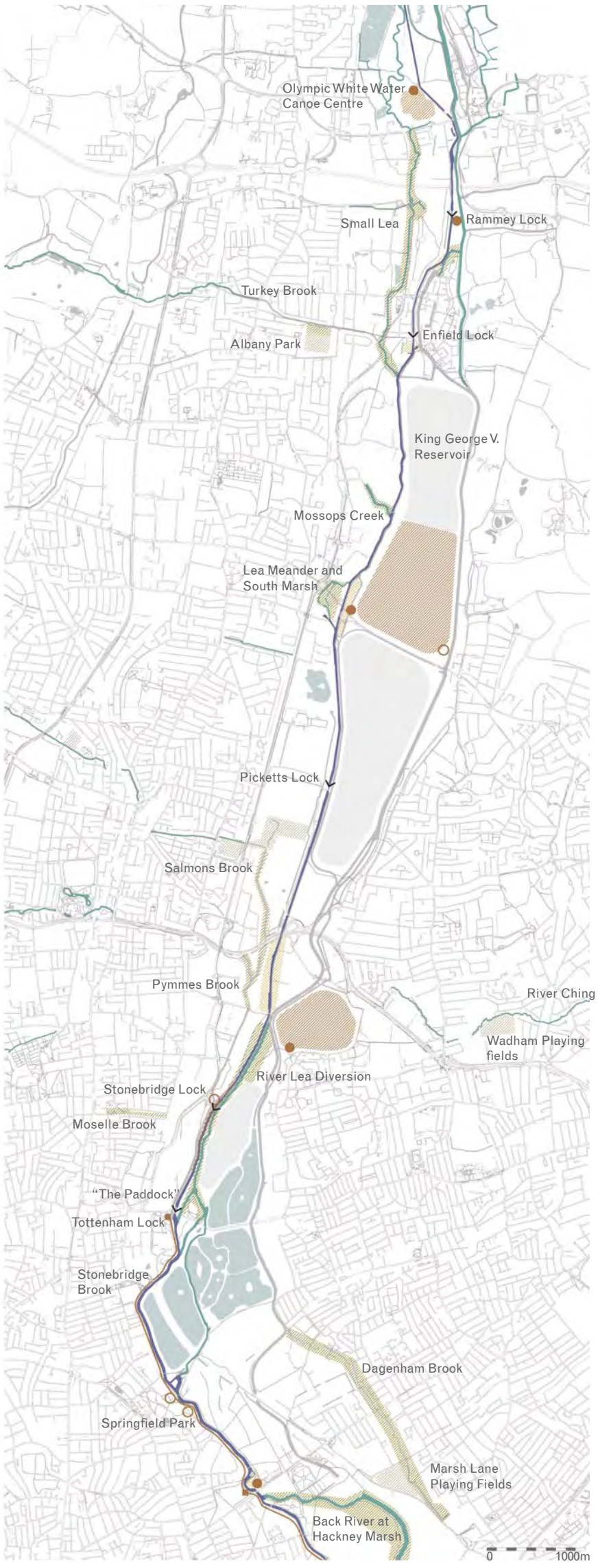
Pasture
- Review winter feed storage for reservoir flock, permitting increase in flock size
- Hold a pasture management event to help land owners learn how to manage their grass better.
- Organise a system to put the owners of underused grassland in touch with graziers and assist them to set up arrangements that are of benefit to both parties.

Bees
- We propose that a 'bee park' should be developed, where bee keepers can rent a site for their hive(s). The site would need careful selection to be suitable for bees and away from local residents, who may not be supportive – rafts on water may be suitable.

Fisheries
- Review the scope for increase of fish stock in the Upper Lee Valley reservoirs, e.g. trout.

Woodlands
- Scope for coppice woodlands in the north of the study area. Short rotation coppice of willow and poplar for biomass, can provide aesthetic interest and ecological value. Surrounding belts of woodland can be managed as mid-rotation coppice on the traditional coppice-with-standard model. Access rides would permit access and be sown with wildflower meadow.

water strategy
prepared with British Waterways



The watercourses and water bodies of the valley are generally substantial assets, offering scope for greater public access and use: both reservoirs and watercourses require a combination of physical and management measures for the protection of water quality, and for visitor safety. High levels of water pollution (e.g. Pymmes Brook), the presence of contaminated land, and flood volumes (Flood Relief Channel) constrain the extent to which the water in the valley can be naturalised and made accessible.

Substantial investment (of the order of £30 million) has been made in the waterways in the last decade, which can be capitalised on through localised interventions:

Water freight transport benefits from the investment in Three Mills Lock south of the Olympics. Conflict of wharfs and towpath in the Harbert Road area requires long term resolution - possibly through the transfer of the towpath to the west side. The wharf frontage at Central Leeside north of the North Circular can contribute through water-based freight to the sustainable working of waste and power infrastructure in this area. Existing areas of wharf in industrial areas should be retained, maintaining the capacity of the area for increased use of water-based freight transport.

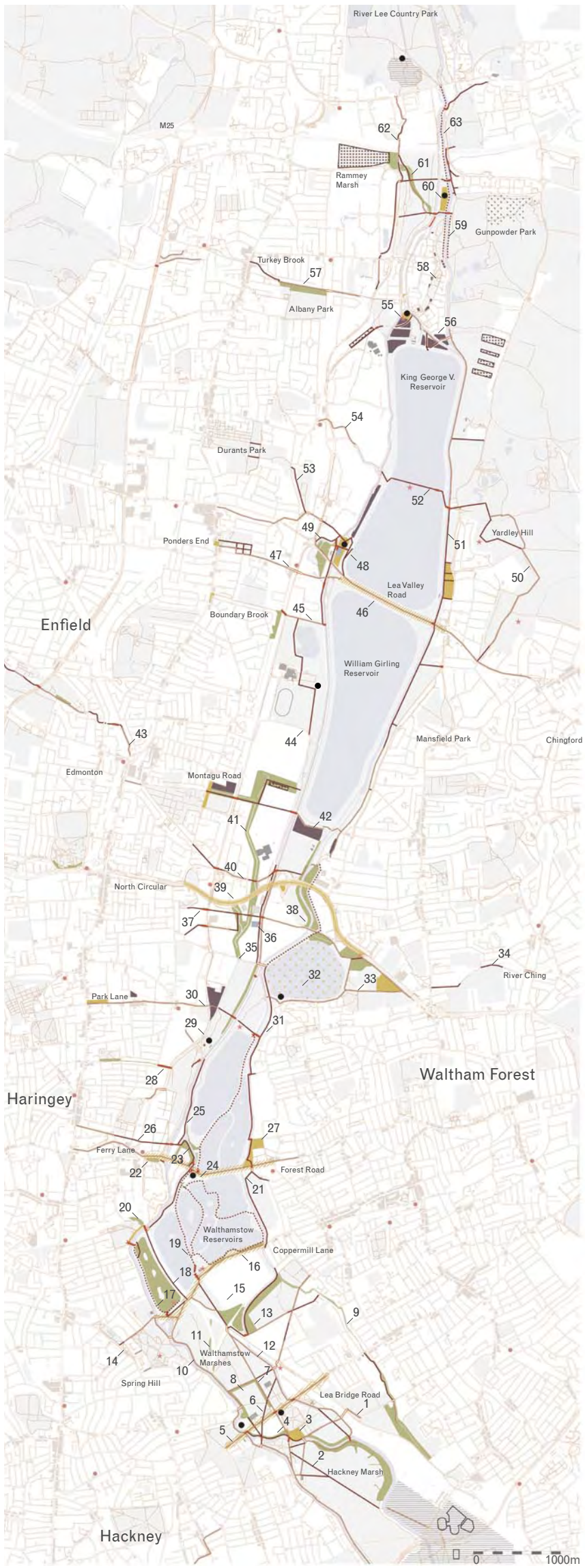
In leisure terms, the waterbus currently being investigated between Old Ford Locks and Tottenham Locks offers the opportunity of a further transport link to the Olympic site at Stratford, profiting in particular from the meanders of the old Lea course. The 4 mile stretch between locks at Old Ford and Tottenham hosts a current concentration of watersports facilities: there may be scope for further provision in this area. More modest river sports hubs can be developed from existing moorings at Stonebridge Lock, Picketts Lock/ Ponders End and Enfield Lock/ Rammey Lock. A number of opportunity sites for marinas exist along this stretch of river, and would be supported by the existing moorings and marinas being at or close to capacity.

Reservoir watersports exist at King George V. Reservoir, with the sailing club, and the possibility remains at Banbury Reservoir, which sits outside the SSSI. Synergy between reservoir sailing and other waterspace activities would benefit both reservoir and Lee Navigation watersports.

Significant fluvial flood risk exists, particularly in relation to the tributaries and their junctions with the Lee. Creation of flood storage would in these locations contribute both to flood mitigation and habitat creation.

- Existing water leisure building
- Proposed water leisure building
- Proposed water bus and water bus stop
- Existing and proposed watersport hub
- Proposed area for new moorings / marina
- Existing and proposed area for river edge naturalisation
- Proposed area for flood storage
- Lock
- Navigable watercourse
- Naturalised watercourse
- Naturalised reservoir / lake
- Bunded reservoir
- Watercourse in concrete channel

project overview



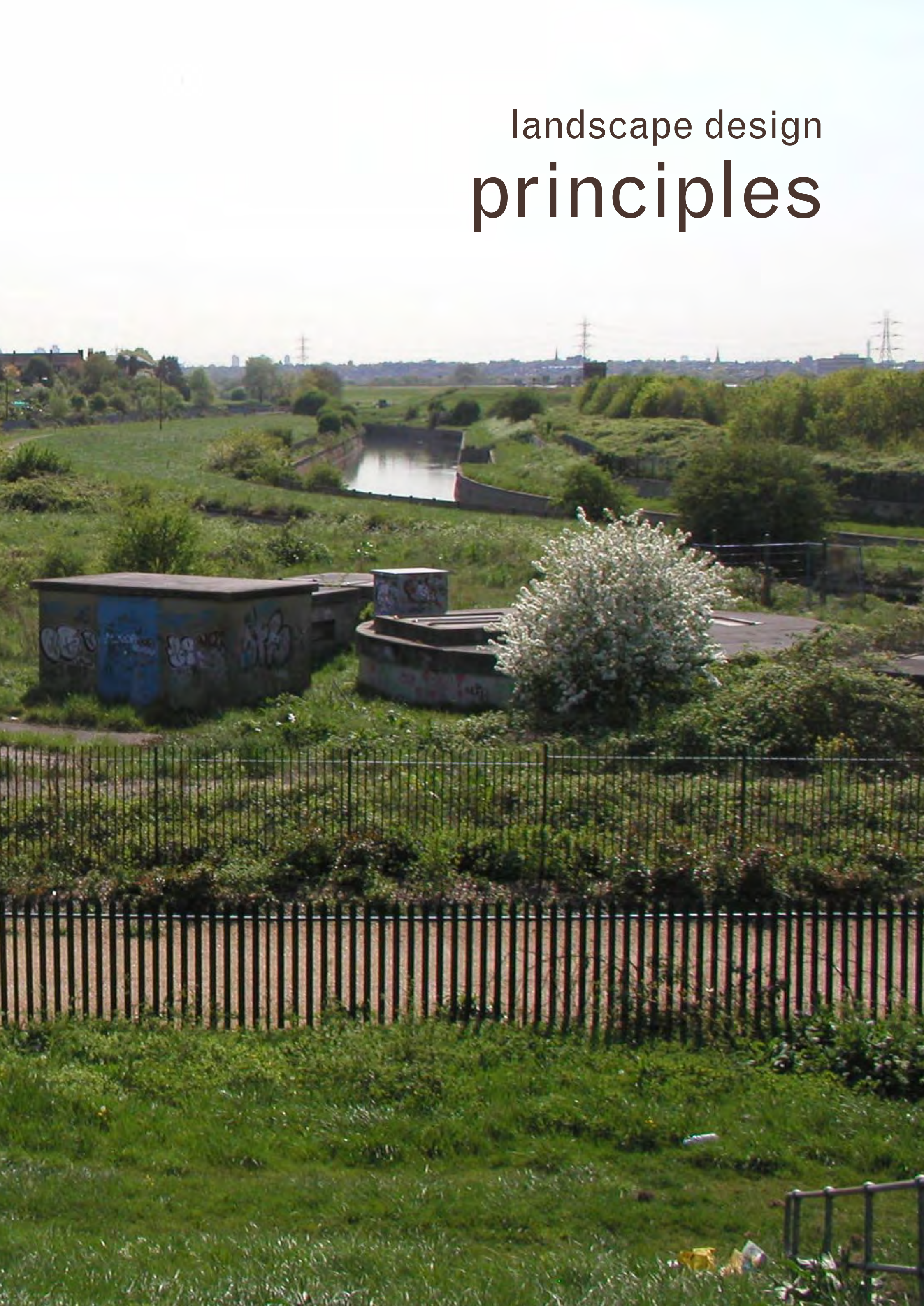
1 Lammas Land to Back River
2 Hackney Marshes
3 Aqueduct path to Hackney Marshes
4 Thames Wate site
5 Lea Bridge Road
6 Black Path
7 Aqueduct Path
8 Leyton Marsh
9 Dagenham Brook
10 Clapton Towpath
11 Walthamstow Marshes
12 Flood Relief Channel path, southern section
13 Low Hall playing fields
14 Clapton Common
15 Thames Water Coppermill Works
16 Spring Hill - Coppermill Lane
17 West Warwick Reservoir
18 Alternative N1 foot and cycle path
19 Coppermill entrance to reserovirs
20 Markfield Recreation Ground
21 Douglas Eyre Playing Fields
22 Ferry Lane - Forest Road
23 The Paddock
24 Walthamstow Reservoirs
25 Backriver Path
26 Chesnut Road to the Paddock
27 Blackhorse Lane Waterfront Park
28 Moselle Brook to Clendish Marsh
29 Marsh Lane to Stonebridge Lock
30 Park Lane - Marigold Road to Wild Marsh East
31 Flood Relief Channel path 2
32 Banbury Reservoir
33 Folly Lane
34 River Ching Walk
35 Central Leeside open space
36 Central Leeside waterspace
37 Kimberley Road to River Ching
38 Central Leeside Flood Relief Channel
39 North Circular landscape enhancements
40 Old Railway Line to Chingford Mill
41 Salmons Brook
42 Infrastructure site Central Leeside
43 Salmons Brook path
44 Picketts Lock
45 Boundary Ditch - Picketts Lock
46 Lea Valley Road
47 Ponders End and Wharf Road
48 South Marsh
49 Columbia Wharf
50 Yardley Hill and Pole Hill
51 Flood Relief Channel path 3
52 King George V Reservoir
53 Durants Park - Lee Navigation
54 Mossops Creek
55 Swan and Pike Pool - Enfield Lock
56 Swan and Pike productive cluster
57 Turkey Brook - Sewardstone
58 Island Village
59 Gunpowder Park
60 Rammey Lock
61 Rammey Marsh
62 Small Lea footpath
63 Links to north

Gate
Viewpoint
Proposed path
Open path to public
Improve path
New bridge / crossing
Improve bridge / underpass
Leisure use on waterbody
New public open space
Habitat enhancement
Glasshouse
Allotment / community garden
Coppicing woodland
Leisure building

Path
Station
Leisure / infrastructure building
Retail
Watercourse
Open space

5

landscape design
principles



landscape design principles
purpose and application

The landscape design principles set out here are intended to support the ambition of a 'balanced mix' of uses within the Upper Lee Valley with practical recommendations on design approaches for different uses and characters. These look to draw together the fragmentary parts of the area together in terms of a more consistent palette of materials, treatments and species that bring the 'Natural Signature' of the Upper Lee Valley to the fore. They address the 'accidental mix' and 'defensive edges' analysed in chapter 2 through specific solutions.

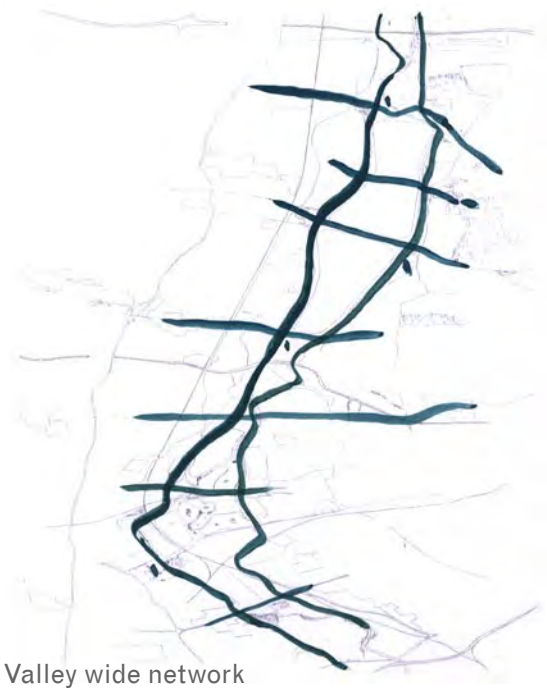
The broader aims follow on from elements of the vision:
- to sensitively socialise/civilise the landscape, make it welcoming and feel safe to visit, without destroying habitat or unique qualities
- conversely, to retain areas where one can still feel 'lost', and where wildlife can remain undisturbed
- to promote valley-wide views and the opportunity to experience the topography – and to extend the valley's natural characteristics and signature into the surrounding urban areas
- to reduce the preponderance of security fencing, inappropriate signage and furniture, which give mixed messages and add to confusion, and develop an appropriate and robust design language
- to address the challenges posed by land contamination
- to enhance the quality and range of wildlife habitats
- to make tangible the unique history of the Lea Valley
- to promote edible planting and cultivation

The examples used to illustrate these principles demonstrate the qualities that can be achieved with the implementation of the Upper Lee Valley Landscape Strategy.

The valley is a tapestry of differing land uses each of which presents a specific array of qualities and challenges. The Upper Lee Valley has therefore been subdivided here into a range of sub-areas with specific landscape characteristics associated with the history of their development and current use, for which subtle differences in design will be required.

The principles set out here inform the projects scoped in volume 2 of this study. The principles should be further developed and tested through early projects, and any feedback incorporated.

The boroughs are preparing streetscape guidance. The need for reflection of the distinctiveness of the Lee Valley in design of the public realm should be recognised in the streetscape guidance, referring if necessary to these principles.


Valley wide network


Valley edge development


M25
Rammey Marsh
Turkey Brook
Gunpowder Park
Durants Park
Epping Forest
Ponders End
Salmons Brook
Deephams
Chingford Reservoirs
North Circular
Banbury Reservoir
Flood Relief Channel
River Ching
Park Lane
Tottenham Marshes
Carbuncle Ditch
Walthamstow Reservoirs
Springfield Park
Dagenham Brook
Walthamstow Marshes
Millfields
Filterbeds +
Back River
Wild and man-made wild
Tributary parks and streams
Infrastructure landscape

valley-wide network

gateways, signage, paths

A focused palette of materials and species should be used in the valley-wide network of paths, unifying areas under different stewardship and connecting the valley floor with the surrounding valley slopes, tributary streams and parks.

Markers
Entrance Gateways: Tall formal tree clumps proposed to announce entrances – within a carpet of brick surfacing, formally defined and edged and associated with seating signage and information. Visible across the wider landscape.
Markers: Orchard Clumps: Set within the wilder landscape, groves of orchard trees, sitting within floristic meadows and associated with seating and picnic tables, providing recognisable places of rest and play.

Pathways
Clear pathways with good sightlines will connect the entrance gateways, with less formal tracks leading away into the wilderness. It is important that the language of these pathways should not be that associated with that of a 'park' – decorative dressed gravel finishes, for example, are less appropriate than plain tarmac, although suited to the more formal defined 'tributary parks'.
Suitable informal treatments would include short mown tracks within meadows, rough hoggin paths with timber edgings, and twin concrete wheeltread strips with grass between for vehicle access. Main pathways should be blacktop, or where there is an infrastructural / navigational connection (as with the canal towpath or former aqueduct through Walthamstow Marshes), brick.

Boundaries
The emphasis should be upon hedges and ditches as opposed to fences. However the security needs of landowners and infrastructure mean secure fencing is inevitable. This can be screened by hedgerows – flowering and fruiting.
Ditches and ha-has provide an alternative, seamless means of securing a site, as successfully employed at Walthamstow Marshes.
Where fencing closely adjacent to footpaths is unavoidable and the need to preserve sightlines preclude the use of hedging, quality steel mesh fencing should be employed instead of palisade fences.

Furniture, Signage
The diverse assortment of unco-ordinated and incongruous posts, barriers, seats and gateways is one of the main detractors from the appearance of the valley at present, and a major obstacle in the path of achieving a distinct valley 'feel'. The materials required should be simple and tough, the information on signs and noticeboards clear and straightforward. A palette based on oak and corten steel is proposed.

Gates
It is difficult for vehicle and bicycle barriers to be both effective obstructions and welcoming. The signage welcoming the visitor to the park or landscape should be separated from barriers, with the latter painted in subdued colours such as dark brown or green instead of bright blue. Simple 'farm-type' timber barriers and gates will be appropriate in many locations, with rocks, tree stumps or bollards also effective
It is difficult to impede motorcycles without also excluding motorised wheelchair users, or to stop speeding cyclists without making life difficult for parents with pushchairs. A pilot scheme in reducing the number of barriers, possibly with greater ranger presence initially, should be attempted. Inclusive treatment of problem users (e.g. motorcycle users), offering greater occasional usage in return for cessation of anti-social behaviour, may be considered.

Lighting
Lighting should be accommodated in the valley only where absolutely necessary for safety and security or to highlight key buildings or locations. There is great value in having dark spaces in the city, for wildlife (bats in particular) but also for the sense of wilderness.
Lighting in the wilder areas inevitably invites people in, bringing with it commensurate needs for patrolling and surveillance. Security lighting should be set to come on only when triggered and not left on full time.
Where lighting is deemed essential, timing can be limited. Is it really necessary all night? In quiet residential streets lights can be switched off after midnight.

Adequate lighting will remain necessary on the main network of paths and around housing, employment areas and community or leisure facilities. The impact of lighting for these should be considered carefully in the siting and layout of access. There is scope for the use of dim or low level lighting in sensitive areas, with grilles to avoid excessive light spillage.

Light columns may be located behind mature trees using several spots shining down through the foliage. Ground luminaires provide low key lighting along pathways.
The column style should be co-ordinated with the street furniture and should be straight, simple and functional.

Planting
Planting in general should reflect the natural signature of the Lea Valley floor (generally riparian and marshland species) changing subtly to a palette on the valley slopes related to the clay hills and gravel terraces. There should also be room for an edible component of planting, and an emphasis on flower, colour and scent at key locations such as path junctions and adjacent to public facilities.

Park entrances


Clear entrance, allowing for views and wheelchair acess.


Coherent signage throughout the valley.

Boundaries


Swale as boundary, Walthamstow Marshes


Fence and hedge


Fence and climbing plant

Furniture


Timber and steel bench


Bench made of railway sleepers


Corten lighting

Planting


Black Poplar


Downy Birch


Crack Willow

Trees reflecting the natural signature of the valley floor.


Pedunculate Oak


Hornbeam


Rowan

Trees reflecting the natural signature of the river terrace.

valley-wide network

park buildings, viewpoints, bridges

New park buildings should be conceived with a very direct relation to the landscape. This requires care in three particular aspects:

Volume and visual weight
Simple volumes will generally be most appropriate, in the manner of rural or infrastructure buildings. Lightweight metal or timber buildings will be appropriate in more open landscape, should sit slightly above the landscape (they are likely to have piled foundations). The connection with a limited area of hard landscape will be critical for masonry buildings.

Materials
The rivers and reservoirs reflecting the big sky are one of the defining experiences of the Lea Valley. For this reason, reflective and glossy materials (with the obvious exception of glass) should be avoided. A palette of dull black steel or cor-ten steel, green oak, charred timber boards and dark engineering brick wil be resistant to vandalism, while connecting to the identity of the area. Painted steel or timber may be appropriate in places, but colours should be conceived to complement the seasonal colour palette of the location.

Car parking and landscape around buildings
In a valley where walking and cycling are important visitor experiences, it is critical that car parking does not dominate one's experience of facilities. Car parks should be set slightly apart from the buildings they serve, improving the experience of those who arrive by other means, and allowing the buildings to sit in the landscape rather than a sea of tarmac. The integrated conception of buildings and public realm or external space (e.g. a cafe terrace) is crucial.

Viewpoints
Generally, viewpoints should be sited on existing points of elevation - hills, reservoir banks, existing buildings and bridge abutments or piers; a small number of additional viewpoints may be beneficial.
Viewpoints on hills would benefit from being marked (a column or terrace). Those on reservoir banks should be light structures (and will require careful co-ordination with reservoir engineering constraints). Viewing structures on bridges should adopt the language and materials of the span or the abutment - these works may in any case be associated with installation of ramps for improved access. New structures should be landscape buildings of high quality. In each case, etched or cast panorama panels should assist viewers in understanding the elements of the view.

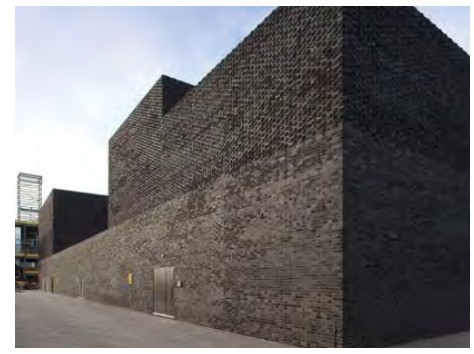
Bridges
Recent bridge design in a number of locations (Friends Bridge, Mossops Creek) fail to reconcile engineering the span with making the bridge a place: because the structure is deepest in the centre of the span, you cannot see out to the landscape. It is imperative that new bridges are also conceived as viewing points, with a perforate structure (e.g. trussed form), and with points of generosity for stopping and looking.
The clearance required (3.5 metres over the Lea Navigation and 6 metres over railway lines and roads) results in substantial lengths of ramp (60 to 120 metres) to meet accessibility standards. The siting of these ramps is of great sensitivity, and standard solutions cannot be adopted: they should respond to path alignments and views. Ramps may be appropriate as earth bunds, or rises in the ground level which do not require handrails, rather than as applied structures, dependent on location. In the case of railways, tunnels will require less clearance than bridges, and therefore are likely to be preferable, but should be built with generous clearance of 2.5 metres headroom minimum, and good clear width. The sensitivity to vandalism on railways has led many bridges to be caged: a secure enclosure can be achieved with perspex (see example from Edinburgh Princes Street Gardens).

In landscape settings, bridges should not be baroque expressions of engineering, but rather elegant, simple structures not calling out for attention. More urban settings may present different opportunities and constraints. The geometry of paths and meandering watercourses present an interesting challenge which will require non-standard solutions. It is recommended that an initial study is commissioned to set out the range of conditions and to propose a 'family' of solutions: this will contribute to reinforcing the character of the Lee Valley.

Buildings


Park kiosk


Rainham visitor centre


Electricity Substation, London Olympics

Viewpoints


Viewing tower, Sustrans path, Boston


Viewing tower, Zeeuws Vlaanderen, Netherlands


Viewpoint, Emscher Park, Germany

Bridges as viewpoints


Seats integrated in Hammersmith Bridge


Glazed opening to railway track: bridge, Princes Street Gardens, Edinburgh

Bridges


Timber bridge - small span


Timber and steel bridge - wider span


Steel bridge with vertical balusters, Rainham

wild and 'man-made wild'

In many ways the essence of the Lee Valley landscape character, these areas of wilderness within the city, juxtaposed with industry and infrastructure.

It is questionable whether any of the valley can be described as truly 'wild' yet Walthamstow Marshes and limited sections of Lea back-river retain their natural qualities, reflected in their significant wildlife value and status.

The 'Man-made wild' landscapes of filled marshland (notably Tottenham Rammey and Sewardstone Marshes and the Victorian era reservoirs at Walthamstow) and former farmland at Folly Lane have very similar qualities in terms of developing habitat value, with their scrub woodland, grassland and wetland fringe habitats.

They offer a special place in the city – a place of seclusion and wildlife. Yet they remain hard to access and the very isolation and concealment that attracts some deters others. The challenge is to allow a wider section of the community to enjoy these areas without destroying the very qualities that are valued. Therefore there must always be a place for scrubland, thicket, nesting, quietness, darkness and seclusion. The LVRPA's Biodiversity Action Plan identifies species for which habitat creation and enhancement should be delivered.

A basis for managing these areas is provided by the Lee Valley Regional Park Authority's management plans for Walthamstow and Rammey Marshes – a sensitive balance of habitat improvement, conservation (of grassland, scrub, wood and wetland) and public access. To this need be added the management of edible landscapes and an overhaul of site furniture and boundary treatments.

Public access to open areas of infrastructural land owned by Thames Water and other statutory authorities needs reviewing – if full public access is not viable then controlled access for wildlife trusts or community groups may be permissible allowing enhanced management (or cultivation) of spaces with community involvement. Fencelines surrounding infrastructural facilities may be realigned to minimise the inaccessible areas.

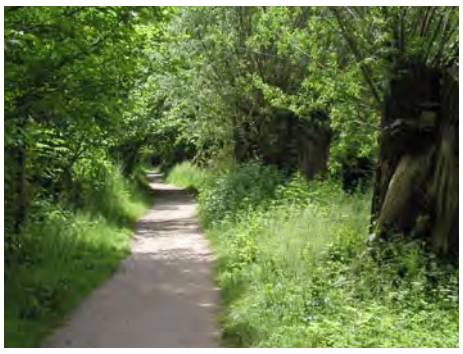
Informal moments of 'civilisation' within the wild landscape should include the provision of orchard clumps and areas for herb and berry picking including fruiting hedgerows of blackberries, blackcurrants, gooseberries, raspberries etc, offering an 'edible landscape' available to everyone. Land managers including Thames Water and Lee Valley Regional Park Authority should be encouraged to incorporate planting and management of these edible elements.

Several larger sites are suitable for coppice woodland management – including, for example, underused fields currently used only for horse grazing, Rammey Marsh West or parts of the Folly Lane area. Short rotation coppice of willow and poplar, harvested every 3-4 years for biomass, can provide aesthetic interest and ecological value. Surrounding belts of woodland can be managed as mid-rotation coppice on the traditional coppice-with-standard model, with oak standards surrounded by plantings of hazel, ash, alder or sweet chestnut, coppiced on cycles from 7-20 years according to species and end use of wood. Crossing the woodland, access rides would be sown with wildflower meadow.

The palette for these areas may be summarised as
- informal path network with enhanced sightlines
- marker clumps of tall trees at entrances
- planting strategy to promote key sightlines and views, and valley floor natural signature
- edible landscaping to include orchard clumps as picnic/play spots, and fruiting hedges
- location-specific tree planting: black poplars and white willows to emphasise the natural (rivers, marshes); white poplars to emphasise the artificial (canals, flood channels); London planes to link urban centres (along streets, Black Path).
- softening of boundaries with emphasis on hedgerows and ditches in place of railings
- extension/enhancement of wildlife habitat, particularly of wetland
- simple furniture of timber and corten
- no lighting
- industrial/infrastructural features of interest are expressed, made visible, interpreted.
- biomass from woodland coppice or hedgerow/scrub management

Path network


Concrete strip where car acess is required


Gravel path, sourced from local gravel quarry (Colnbrook Gravel)


Mown path

Wetland


Boardwalk


Large timber platform giving visual access to wetland area

Planting


Tree clump


Orchard


Edible landscape


Black Poplar


Downy Birch


Crack Willow

Trees reflecting the natural signature of the valley floor.

infrastructure landscape

The impact of infrastructure upon the valley has created some of the most dramatic – and problematic – landscapes to be encountered. Reservoirs, railways, highways, water works and power plants and networks are omnipresent. Landscape treatments should seek both to mitigate their negative impact while accentuating and accessing their drama, elevation, habitat potential, historical significance and contemporary relevance. Additionally the sites concerned are typically associated with plentiful areas of fringe under-utilised land for which new uses are possible.

The late 19th -20th century reservoirs north from Ferry Lane, with their short mown banks grazed by sheep, are powerful elements in the Lea Valley landscape. Generally however it is not possible to see views over or across the banks from the valley floor. The provision of viewpoints (which maintain security of the reservoirs) would be of enormous value either open, to admire the all-round view, or screened as hides for birdwatching. The development of ridge trails along the valley slopes, well signposted from the valley floor, taking in the areas from where long topographical views can be attained, as at Mansfield Park or Pole Hill.

Banbury reservoir, lacking SSSI status, clearly has potential for watersports. Access improvements would benefit the success of such an operation plus an opening up of Folly Lane to ease vehicular access and natural surveillance.
Thames Water's operational requirements require the bunded reservoirs to be short mown so that leaks can be easily detected. Surrounding areas of low level paddock should be managed for hay (for the grazing sheep) and are the nearest potential sites for tree planting.

Railway embankments are important green corridors and sensitive scrub clearance and sycamore control can enable colourful and ecologically diverse mixtures of self-sown annuals and perennials to thrive. Bridge points offer great views, including the simple pleasure of watching trains, and viewing windows should be provided at child level in the parapets.

The wildlife potential of infrastructure sites is clearly exemplified by the Middlesex and Essex filter beds, yet their nature reserve status has resulted in these being segregated visually and provided with limited access. Provision of discrete public viewpoints across such sites, and a more porous boundary, would be desirable.
Throughout the valley the interpretation of industry and infrastructure can be a great draw: information about what goes on in the sites, examples of kit such an an old pump or valve station. The 'water story', from source to reservoir to sewage farm, has enormous potential.
Many sites not currently open to the public include disused areas of land that could either be made fully inaccessible or leased out to community groups interested in food production or wildlife habitat.

The provision of community allotment gardens would address the high levels of demand for food growing spaces, while being accessible, more landowner-friendly and more compatible with public open space than the traditional allotment model, combining food production with community action and facilities for children: wide, green paths as in the German 'kleingartens' would give an appropriate public accessibility. These areas would be protected by fruiting hedges if necessary reinforced internally by simple chain-link fencing.

In contaminated areas, an emphasis can be put on species that do not root deeply, or raised planters, and nuts/berries. Strategies for natural decontamination can be employed subject to the findings of ground surveys. Small areas of spoil removal/regrading or capping may be expensive but highly beneficial, for example to enable an orchard to be planted.

Further opportunities in the valley include egg and poultry production in mobile cages, bee rafts in reservoirs, and hydroponic glasshouses using waste heat from power stations or waste treatment (methane).
Planting on infrastructure sites should reflect the natural signature of the Lea Valley floor but need not be entirely native: trees beside man-made structures might include White Poplars along canals and London Planes along roads, for example. Generally within the valley a gradual programme of replacing invasive trees such as sycamore with more appropriate species is recommended.

The palette for these areas may be summarised as
- Provision of viewpoints at key locations
- Maximise watersports potential where compatible with wildlife
- interpretation and celebration of industrial heritage.
- planting strategy to extend valley floor character and wildlife habitat
- valley bottom hay meadows to support the sheep grazing on short-grassed reservoir banks
- lighting strategy for monumental structures eg factory chimneys, the North Circular viaduct
- softening of boundaries with emphasis on hedgerows and ditches in place of railings; quality mesh to be used where security fencing essential
- community garden areas
- strategies for land decontamination
- celebration of local food production in an annual open-air agricultural show or food/horse fair
- revitalised glasshouses associated with waste heat production, extending community cultivation indoors
- honey, egg and poultry production
- improved sheep pasture by supplementing short grassed reservoir banks with hay meadows below
- celebration of the valley's cucumber heritage

Boundaries


Decorative planting


Swale and gabion wall


Allotments and community gardens: 'kleingarten', Emscher park

Visitor access and awareness


Recycling facility with visitor access


Marked viewpoint in the Ruhrgebiet, Germany.

Interpretation on industrial estate

Taming the infrastructure


Lighting infrastructure, Halde Rhein-preussen


Level pedestrian crossing connecting pathways


Birch planting underneath powerlines

Planting strategy


Linear tree planting along the Leopold-kanaal, Belgium


Linear structure planting in Emscher Park

tributary parks and streams

The Lea's tributaries and the open spaces contiguous with them have the potential to extend the landscape character of the valley floor into the surrounding urban communities as well as providing flood storage, and enhanced recreation and access. Areas of green space and parkland have an important role in contributing to surface water quality.

Tributary Streams

The enormous potential of the tributaries and backwaters of the Lea can only be realised if problems and attitudes relating to accessibility, pollution and flood control are overcome. Their condition ranges from buried, to accessible but straightjacketed in sterile concrete walls, through to stretches of semi-natural stream bed.

The 'daylighting' of buried streams, exemplified by the recent uncovering of the Quaggy in Kidbrook, restores a lost ecological legacy with huge aesthetic and recreational potential, and is feasible for stretches of the Ching, Salmons and, in time, the Stonebridge brook.

Streams in confined spaces may be improved with bed or bank naturalisation, and through open spaces should be allowed to spread out into recreated flood meadows, as proposed by the EA at Montagu Recreation Ground.

Many of the Lea tributaries suffer pollution, but although one may not want to swim in the water, is it too polluted to see? Aside from repairing sewage connections, there is potential for in-stream filter beds and reedbeds, improving water quality while providing habitat.

Stream-side maintenance paths, often locked off from public access, are adaptable to fulfil a role as public connectors linking the Lea Valley to the surrounding urban centres. Where banks are too narrow there is potential to cantilever walkways above the streams.

A programme of removal of inappropriate species should be pursued – particularly of sycamore, to allow space for the planting of riparian trees and marginals to reflect the natural landscape character.

Tributary Parks

Several of the 'tributary parks' are important open spaces in their own right, including Springfield Park and Millfields. However many others serve a purely recreational function without contributing to the landscape in an aesthetic or ecological sense, often bleak fields where the space tends to leak out in all directions. The intention here is to surround these spaces with belts or lines of tall trees, to create 'landscape rooms' to enhance their presence and character, locate them in the wider landscape, enhance their ecological value and amplify the power of the open space in the middle.

The function of the park may remain the same but would also accommodate areas for flood storage and productive landscapes. The signage and furniture would be the same as for the valley floor, so that to enter these parks is to enter the valley of the Lea itself. Other elements such as gates or railings (if required) could reflect the unique history and qualities of the parks concerned.

Park management regimes would be encouraged to enable greater diversity of wildlife habitat and opportunities for natural play. Sports pitches should be addressed – with many large open areas being used only on weekend afternoons there is scope to provide improved more intensive facilities freeing space for alternative recreational and productive land uses and wildlife areas.

Planting in general should reflect the natural signature of the Lea Valley floor (generally riparian and marshland species) changing subtly to a palette on the valley slopes related to the clay hills and gravel terraces – while allowing for site-specific individuality in the choice of park tree specimens. There should also be room for an edible component of planting, and an emphasis on flower, colour and scent.

The palette for the tributary streams and parks may be summarised as

- daylighting of buried streams and naturalisation of stream channels
- extension/enhancement of wildlife habitat including flood storage wetlands
- riparian tree planting extending the valley landscape into surrounding urban areas and tributary parks
- 'landscape room' treatment of open spaces
- riverside paths or boardwalks including the opening up of inaccessible maintenance paths
- path networks of self-binding or dressed gravel with informal mown tracks through meadow areas
- edible landscaping to include orchards, community allotment areas and fruiting hedges
- simple furniture of timber and corten
- low key lighting only where essential

Naturalisation and flood storage


Daylighted stream and wetland on the Quaggy Brook


Flood storage; the Quaggy at Sutcliffe Park


Floating reedbeds where naturalised banks are not achievable

Improving straight jacketed streams


Riverbed enhancement on the Quaggy


Streambed lighting; Matsumoto Japan


Planting terrace on the River Wandle

Tributary Parks


Landscape room


Community gardens


Flood storage and recreation

Riparian trees


Black Poplar


White Willow Pollard


Alder Carr

valley edge development

Residential Landscape

It is unfortunate that virtually all of the residential developments that have accreted in the valley floor over the last century bear scant relationship with the landscape in which they sit – a reflection of contemporary views of the valley at the time – many housing areas simply turn their back on the valley and feature internalised open spaces with fussy ornamental planting.

Where new housing is proposed the valley landscape should be embraced, with an emphasis on water and wetland - reedbeds, swales, attenuation ponds, restored rivers, valley floor planting, stilted buildings to avoid flood levels, floodable parking areas. Street tree planting and landscaped garden areas can contribute to relieving the urban heat island effect.

A clear definition of public & private space should be provided with public areas embracing orchards and community cultivation. Development should be permeable to the river edge, with the grain of streets leading towards the landscape and the river edge.

Materials

The rivers and reservoirs reflecting the big sky are one of the defining experiences of the Lea Valley. For this reason, reflective, glossy materials (with the obvious exception of glass) and primary colours should be avoided. A palette of brick, timber and patinated metal will be appropriate for residential buildings: use of colour should be conceived to complement the seasonal colour palette of the location.

Industrial Landscape

The occupation of much of the valley floor by industry, much of it in relatively drab low sheds and yards, during the 19th and 20th centuries is seen as a considerable eyesore to many, and serves to cut off large sections of the valley open space from local inhabitants. However much of this industrial landscape is relatively porous, with networks of access roads, vacant yards and underused fringe lands offering potential to create green corridors and access routes, and to extend valley floor planting – with the use of lines of tall trees, the aesthetic impact of these areas can be significantly enhanced. As experienced in the Thames Gateway, the challenge here is the complex negotiation with site owners to achieve relatively simple improvements.
Less tangible is the considerable industrial heritage of the valley, much of it known only to the connoisseurs of industrial archaeology, but of wide potential interest and relevance. Many of the key premises have either disappeared or are in uninspiring buildings – but there is considerable scope for imaginative interpretation.
Industrial areas offer important habitat value, and as with areas of 'wild' landscape, it is vital that landscape enhancements do not equate to 'tidying up' – the replacement of seasonally colourful willowherb banks with sterile groundcover shrubs, for example. Landscape treatments should respect and where possible interpret the industrial character of the area, and extend the 'man-made wild' described elsewhere.

Materials

The rivers and reservoirs reflecting the big sky are one of the defining experiences of the Lea Valley. For this reason, reflective materials (with the obvious exception of glass) and primary colours should be avoided. A palette of brick, precast concrete and painted steel will be appropriate for industrial buildings: colours should be conceived to complement the seasonal colour palette of the location.

Valley Edge Landscape

Equally important is the role of tree planting in blurring the boundaries of the valley landscape - riparian trees following urban waterways penetrating the urban landscape, river terrace trees following contours emphasising the natural topography - and urban street trees extending along key routes across the valley, connecting townships.
Analogue species will be used where natives cannot be used, for example in tight industrial sites or narrow streets. Generally within the valley gradual programme of replacing invasive trees such as sycamore with more appropriate species is recommended.

The palette for these areas may be summarised as

- access corridors with enhanced sightlines
- robust and appropriate detailing – tarmac paths, steel mesh
- sustainable urban drainage treatments including brown roofs, swales and attenuation basins
- planting strategy to extend valley floor character and wildlife habitat, and also to reflect valley edge topography, with lines of trees along contours
- softening of boundaries with emphasis on hedgerows and ditches in place of railings, or improved quality mesh fencing where space is limited
- simple furniture of timber and corten
- interpretation and celebration of industrial heritage.

Residential landscape


Wetland landscape beside residential block, Greenwich Millenium


Street leading down to river edge, Watermint Quay, Springfield Park

Industrial landscape


Meadow fringe to industrial estate

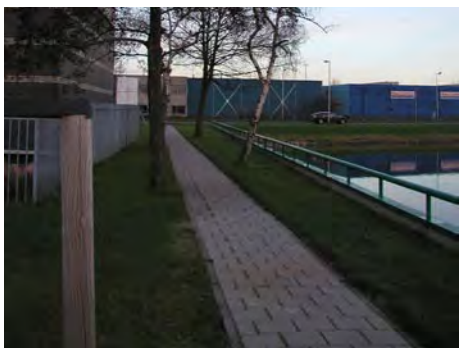

SUDS in industrial estate


Green roof on mixed use development

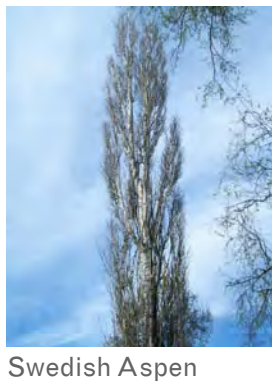
Paths through industrial estates


The Black Path


Path along double carriage way with green strip and open view.


Path through industrial estate, Spaanse Polder, Rotterdam

Tree species for built up areas

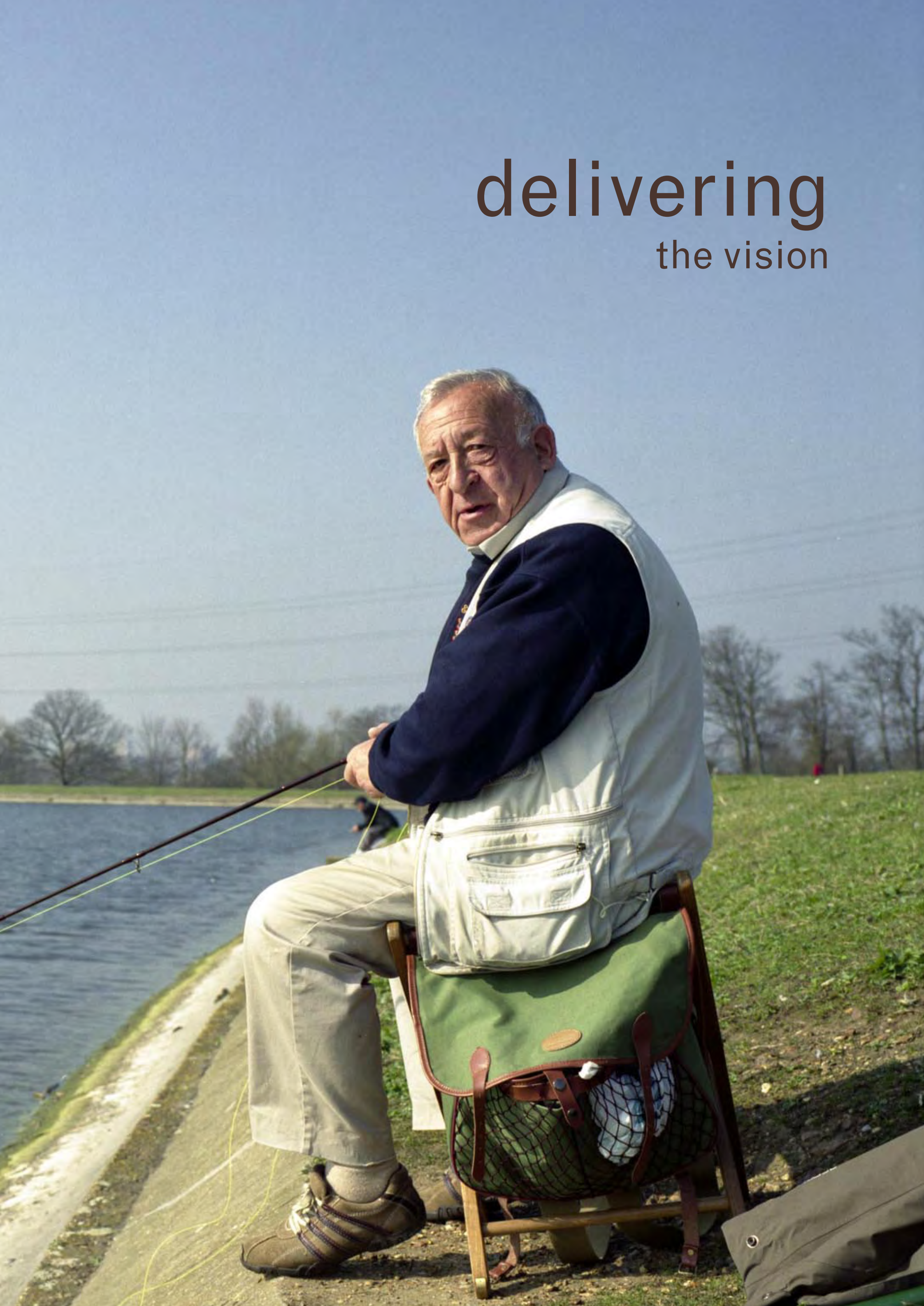

Swedish Aspen


Common Alder


Goat Willow


Silver Birch

6



delivering
the vision

across scales and ownerships

The transformation of the public realm and open space of the valley will require delivery across several different scales and ownerships:

1 - Existing public spaces.
a) localised interventions in existing public spaces following scoped up projects
Sites already in public ownership can be progressively improved according to the strategic benefit, local need and availability of funds. Potential public space projects of strategic benefit are identified and given an indicative scope in volume 2 of this study. A range of funding sources are available for project development and works. The project scoping in this document is intended to serve as a basis for funding bids and further technical feasibility studies.

Compared to the large scale marsh and reservoir landscapes and the substantial development sites, these projects may appear perhaps too small to even make a difference. Nothing could be further from the truth: these are significant stretches both in length and width of urban public space, requiring the coordination of foot- and cycle- movement, buildings and their active spaces, and planting; or they are key points (for example elevated viewing points) where access helps reveal the wider landscape; or they are landscape works which reinforce the identity of the part within the whole.

Achieving integrated and site-specific design for these works should be a priority. The initial public realm projects should be seen as 'pilots' for the transformation of the valley: they should set quality standards for detailed resolution, and develop and test material palettes appropriate to the valley. A purposeful start to delivering these public realm projects is seen as critical in building the confidence of users and investors in the area.

b) localised interventions in existing public spaces following Spatial Strategy and Landscape Design Principles
The project scoping is strategic rather than exhaustive, and should in any case be open to localised interpretation. The Landscape Design Principles set out in chapter 5, and the principles behind the spatial strategy, offer local authorities and public agencies the basis for the development of further projects which extend the strategy to a wider area.

The proposals for activities or venues are based on a preliminary assessment of spatial feasibility and existing offer for a number of widely different existing 'nodes'. These aspirational proposals have not been subject to feasibility assessment, market research on public demand or competition, or business planning, either individually or collectively. When Local Authorities or the Lee Valley Regional Park Authority take forward proposals for individual sites, in terms of feasibility assessment, design and operator agreements, it is important that the vision of interdependent, complementary activities is fulfilled, resisting fragmentation in the delivery process.

2 - Infrastructure Sites
a) partnership working for delivery of major projects within infrastructure sites
A key to access within the valley, and to the quality of visitors' experience, lies in opening up public access through at least two of the reservoir sites, and along the Flood Relief Channel. This requires overcoming operational, health and safety and security constraints and risks, and agreeing leases or permissive use, covering beneficial use and public liability. There are precedents for access both in the leasehold for use of the King George V reservoir for sailing, on other reservoir sites outside the valley, and in the agreements that permit public access to the Flood Relief Channel Path north of Waltham Abbey. There is also considerable willingness on the part of Thames Water and Natural England to review access to Walthamstow Reservoirs as a part of a wider Access and Recreation Strategy. Resolving these issues requires concerted effort from a core of stakeholders, with the site owners/ operators Thames Water and the Environment Agency joined by the Lea Valley Regional Park Authority and the boroughs. The strategic benefit to London, and to the Growth Area, suggest that involvement of the Mayor, London Development Agency and Homes and Communities Agency may be appropriate to help unlock these issues. Site specific risk assessments and feasibility studies will form an important part of any solutions.

b) Infrastructure maintenance and management
The setting back of perimeter fences on utility sites behind the property boundary, tree planting and other landscape works, and leases to permit productive landscape uses on currently unused land beside the reservoirs or watercourses will also require some of the above process of scrutiny and discussion. A template community garden/ allotment lease has been prepared by Transport for London, addressing issues of tenure and liability.

co-ordination

3 - Large Regeneration Sites:
Regeneration of a number of large scale sites can help deliver a significant number of the public spaces, routes and activities set out in this document. These include:

Thames Water sites and Essex Wharf
at Lea Bridge Road
Tottenham Hale
Blackhorse Lane
Central Leeside
the infrastructure cluster at Central Leeside
Edmonton Green
Ponders End

Strategic planning requirements for each of these sites, as they affect the valley public space and landscape are set out in this document, and will acquire material planning status through incorporation in the Opportunity Area Planning Framework: these public spaces, routes and activities are set out in chapter 4; further guidance on the public realm within these sites is included in the Landscape Design Principles in chapter 5.

The area of open space required in each case will reflect the quantum and type of development, although there will often be a recommended requirement for public access via a new bridge or path to existing open space, or improvements to existing open space to fulfilling part or all of the open space requirement.

4 - Existing valley edge sites
The industrial areas that line the valley have a significant impact on accessibility and the quality of routes into the valley.

Collaborative working with site owners and business groups - for example, Business Improvement Districts - can be used to bring forward access and environmental improvements, raising the quality and connectivity of the working environment and the public realm at the same time.

Delivery of the Landscape Strategy will require co-ordination between project partners of:
- project development
- funding bids
- procurement
- public engagement and communications

Project development

Co-ordination of the highly diverse scales and elements of the delivery streams will require dedicated resourcing. We would recommend the strategic oversight of the Strategy to be carried out by a Strategy Partnership, based on the Strategy Steering Group which has been formed, and which brings together stakeholders and delivery bodies in the area. This Partnership should be supported by a co-ordinator, who can provide a focus for the Partnership, maintain momentum, enable strategic projects, make funding bids and undertake advocacy. This structure could be supported by informal reviews of development proposals and public projects as part of pre-planning discussions by a 'design oversight and coordination group' with an ongoing involvement in the area. This could be an established version of the design surgeries organised by NLSA and Urban Design London. The focus of this work would be to ensure delivery is consistent in terms of adding to the overall Strategy goals. The co-ordinator and design panel would require the allocation of a relatively small staffing budget. A reasonably light touch should be maintained by the Partnership, stimulating the initiative of project champions and participants.

Achieving a consistent set of solutions to the multiple constraints of the area will be challenging, but ensuring that projects incrementally deliver strategic networks, and that the character remains consistent will be essential. Use and refinement of the Landscape Design Principles, and scrutiny by a 'design oversight and co-ordination group' will be important tools to achieve this necessary coherence.

The example of Emscher Park in the Ruhrgebiet is instructive in this respect, delivered by a small team working mainly through advocacy, through a series of delivery vehicles. Staff there refer to the model as 'strategy and projects', with flexibility in between, in contrast to a more rigid 'plan': projects are expected to deliver strategic goals within their specific site constraints.

co-ordination (contd.)

Funding

The following sources of funding for projects and further studies should be considered and investigated. All will require bidding, and it is expected that bidding will be informed by the information on projects and their wider aims and benefits contained within this strategy:

- Home and Communities Growth Areas Fund and other cross borough programmes.
- East London Green Grid
- The Mayor's Great Spaces Initiative, design support
- London Development Agency, capital funding for public realm and open space projects.
- Capital Growth – support for food growing
- Playbuilder funding from CLG from play areas
- Transport for London (including specifically for cycle 'greenways' project?)
- London Development Agency
- Environment Agency's Regional Habitat Creation Strategy
- Environment Agency's River Restoration budget
- Environment Agency Flood Risk Management Projects
- Heritage Lottery Fund's cultural buildings funds
- Heritage Lottery Landscape Partnership Fund
- Lee Valley Regional Park budgets for access infrastructure and landscape works
- European Regional Development Fund
- European Social Fund - for productive landscape proposals
- English Rural Development Programme - for productive landscape proposals
- LOCOG "100 Sites" project
- Section 106/ Community Infrastructure Levy in relation to development proposals for individual sites
- In kind Olympics 'overlay' structures for re-use (e.g. temporary kiosks)
- In kind support from stakeholders and volunteers

The strategy should inform the alignment of investment strategies of partners for the delivery of projects. For example LVRPA, Thames Water, Environment Agency, The Boroughs and British Waterways. In addition ongoing commitment to support the implementation of the strategy should be sought from national partner agencies such as Natural England, English Heritage, DEFRA.

A coordinated approach to bidding should be adopted, to avoid neighbouring projects and organisations or departments wasting time making multiple bids. Consideration should be given to joint bids where project synergies can be developed.

Additional revenue funding for ongoing management is harder to secure. This should be considered in the design stage of projects to ensure they are simple to maintain. Resources for management beyond conventional budgets could include:
Voluntary work, friends and conservation groups
Using skills training and apprenticeship schemes with local horticultural colleges and conservation courses.
Establishing a management trust, with contributions from the incinerator.

Procurement

The importance of design in preserving and enhancing the unique qualities of the Lea Valley cannot be overstated. This is not design as daring or flair, but the fine judgement of multiple issues as they intersect in the conception of places. The best way of achieving high quality design is in preparing thorough, well-researched briefs, and making the quality of design understanding a primary criterion for selection. Equally, palettes and design guidelines require careful interpretation, particularly in a place of this complexity, if inappropriate standards are not to be applied. It is possible that a framework panel of designers, with a range of skills from urban design to furniture, could be tendered, to have a ready supply of design professionals who have informed themselves about the area and the strategy. This should reinforce and build on the Upper Lee Valley's unique identity and give it a strong sense of place, distinctive from other parts of London.

It is possible that procurement of a number of items in the same package should be considered: for example, commissioning one team to design a 'family' of bridges to cover the varying conditions of crossing the Lea's watercourses, or, in terms of construction, tendering a number of elements at the same time (at Rainham Marshes, six bridges were procured under the same contract).

building momentum

Public engagement

Public engagement in the aims and projects of the Upper Lea Valley Landscape Strategy is critical to its successful evolution into a common ground that can be sustained and renewed over time.

Political support for the scale of expenditure required will in part reflect public demand, or lack of it, for wide-ranging strategic interventions with positive localised impacts. Equally, capital expenditure and revenue support will only be justifiable if there is substantial increase in public usage of the valley landscape, the constituent parks, and the activities and facilities contained within.

A programme of advocacy events, communicating the strategy should be developed. A number of ideas are set out below.

Communications

Events, programmes and publications building a sense of purpose and momentum will be important in establishing public and political confidence and support. This should profile and market the Upper Lea Valley to both local communities and regionally. The purpose is to promote and enlist champions for the many sites of value.. We list below a few possibilities:

Temporary access: an annual or more frequent event giving the public access to areas of land (or water) not currently accessible. Stewarding and temporary signage should establish the areas made accessible for the day. This could be co-ordinated with events or tours of the Olympic site. If successful, pre-booked walks on a regular basis through these areas could be attempted.

Productive landscapes: establishing a forum of experts and public to develop the detailed productive landscape strategy should be made a newsworthy and festive event which captures the spirit of transformation.

Educational programmes: the Architecture Foundation's Urban Pioneers programme could be engaged to enable investigations by a limited number of schoolchildren into the complexities and wonders of the Lea Valley. They would become ambassadors for the strategy, in the process developing their skills of observation, imagination and advocacy.

Olympic related events: the presence of the Olympics to both north (the Whitewater Rafting Centre) and to south (the main Stratford site) should be taken as an opportunity to explore the sporting potential of the 10 kilometres in between. An invitation to the British sailing team (who will of course be competing in Cowes) to sail on the King George V Reservoir could raise the profile of sailing in the valley. 10 kilometre runs in preparation for the London Marathon could be held in the Lea Valley, similar to the runs preparatory to the New York Marathon.

Enfield cycle day: the event organised by Enfield could cross outside borough boundaries to explore the green belt at Sewardstone and Epping Forest.

Book of walks: a guidebook to the future Lea Valley, dropping all the whys and wherefores of this strategy: "these are the walks you will be able to do, and this is what is there now".

Quick wins

Possible 'quick wins' include the following:
- the 'public space gateways' formed by the valley crossings require clearance, path and landscape improvements, establishing the 'civil and inclusive framework'. These are considered feasible as high profile quick wins of considerable strategic benefit at some or all of:

  Lea Bridge Road
  Coppermill Lane
  Ferry Lane/ Forest Road
  Lea Valley Road

- Swan and Pike productive cluster
  (highly visible, at the intersection of strategic paths)
- Small scale, temporary provision
  (e.g. mobile cafe Spring - Autumn) at Swan and Pike pool, or Rammey Lock
- Signage and access points improvements

- An industrial heritage trail could be established along the Lee Navigation towpath, with 'milestones' marking the history of technological innovation and industrial history in the Lee Valley.

- An engineering and design study for a 'family of bridges', along the Lee Valley, establishing basic types and constructional approaches. This will permit detailed designs to be developed relatively quickly, and ensure a high quality, consistent design is achieved.

prioritisation

We have considered the projects in relation to three main criteria: Need - Impact - Deliverability

a) Need

The deprivation of some of the catchment population should be a major consideration in the prioritisation of projects. We see this in four types of project, relating to both the population profile and local area conditions:
- easing access into the valley
- bringing the natural landscape to communities
- productive landscapes and clusters of park activities where currently little exist

b) Impact

What is needed are significant steps forward, transforming the offer and public profile of this section of the valley. We have argued in the strategy that this is impact is partly a matter of scale (opening up and joining up the big landscapes of reservoir and marsh) and partly of distinctiveness (the wild and water landscape areas, the specific leisure offer).

As well as requiring physical change, impact also requires communication to help attract a wider public. Greater visitor numbers, if achieved, can in turn support an enhanced perception of personal safety in the valley.

c) Deliverability

The scale of physical interventions is generally modest, reflecting the relatively good condition of the existing main assets. The projects proposed are therefore geared to deliverability, and to achieving maximum impact from modest intervention. Legal and planning constraints will also be critical to deliverability.

Assessment of deliverability in detail would consider the match to possible funding sources and timetables as well as the complexity of technical studies required to release projects. 2012 is an opportunity both in relation to the projects adjacent to Olympic areas which can be delivered in time, as well as to the possible re-use post-2012 of 'overlay' temporary buildings as a dispersal of the Olympic Legacy.

Physical dependence on regeneration schemes is a fundamental constraint on deliverability. We have therefore separated these out - under "projects dependent on development, 2010 - 2026", the third of the plans - since these are dependent on market conditions and private sector partners, or on long-term infrastructure planning. These sites are in particular focused in the Central Leeside area. The timescale suggested is generous, but so is the scale of the change: early delivery would obviously be a positive.

This leaves us with sites in public ownership or that of statutory infrastructure bodies. The challenge here is for primarily public sector investment to effect significant change in the area, building up the profile and capacity of the area so it becomes an area of choice for residents, and building investor confidence.

A favourable combination of high impact and relative deliverability can be seen both in the more major projects which require more significant funding, and smaller scale and lower cost projects which can help change perception (so-called 'quick wins').

Recommended priorities for five year investment plan 2010 - 2016

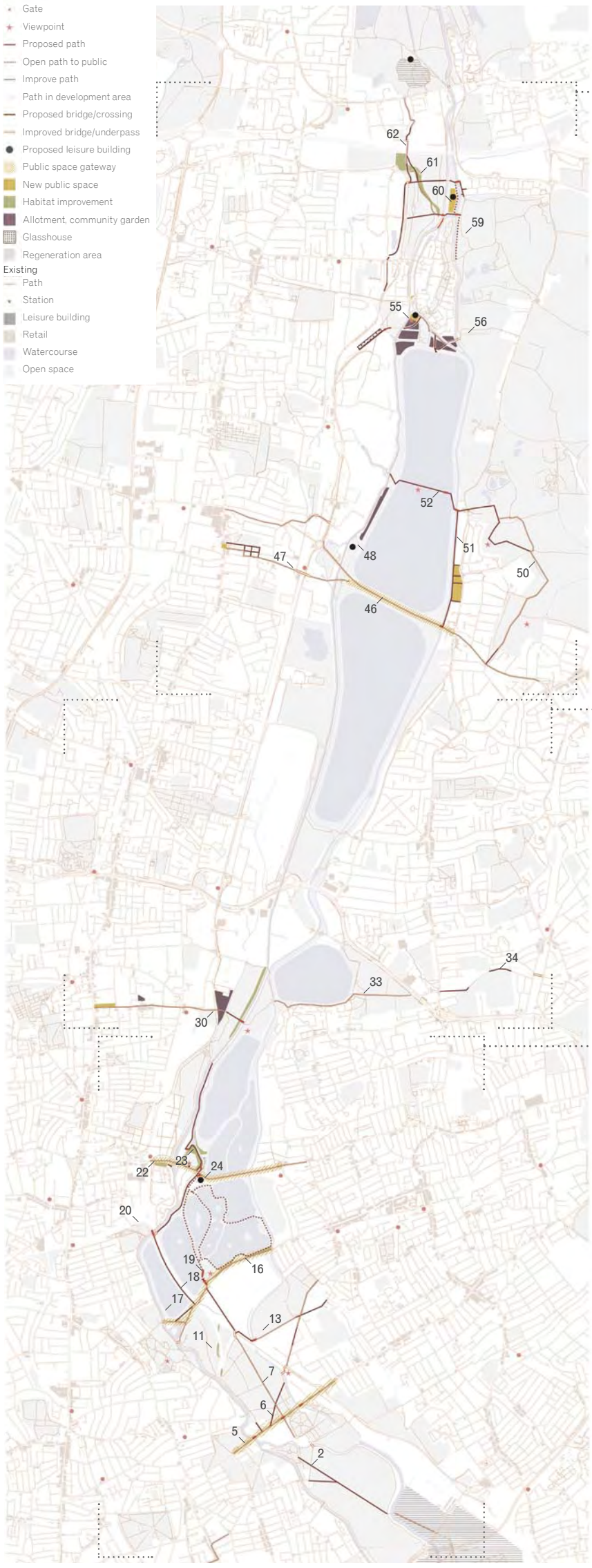
Need: prioritised east and west links
Assessed on the basis of existing deprivation and lack of access to open space and nature, the following projects can be recommended:
- Walthamstow links: - Black Path, - Low Hall playing fields
- Park Lane - River Ching
- Ponders End

Impact & Deliverability - North and south focus
Projects that can transform the visitors' experience of the Lea Valley as a wide valley (a 'single valley space'), which reinforce the identity and capitalise on existing assets, should be prioritised:
- public route through Walthamstow Reservoirs
- Wild Marsh West and East bridge
- public route across King George V Reservoir
- bridge between Rammey Marsh and Gunpowder Park

The clusters of wild landscape are strong existing assets, and are part of the regionally significant distinctiveness of the area
- Walthamstow Reservoirs visitor access
- the back river path

Connections to the 2012 Olympic areas - at the north and south ends would capitalise on the moment of great focus on the Lea Valley:
- Small Lea Path
- Aqueduct and Hackney Marshes Path

prioritisation 2010 - 2016



C Forest and Green Belt

46 Lea Valley Road
47 Ponders End and Wharf Road
48 South Marsh
50 Yardley Hill and Pole Hill
51 Flood Relief Channel path 3
52 King George V. Reservoir
55 Swan and Pike Pool - Enfield Lock
56 Swan and Pike productive cluster
59 Gunpowder Park
60 Rammey Lock
61 Rammey Marsh
62 Small Lea footpath

B Central Leeside

33 Folly Lane
34 River Ching Walk

A Walthamstow Wetlands phase 1

2 Hackney Marshes
5 Lea Bridge Road
6 Black Path
7 Aqueduct Path
11 Walthamstow Marshes
13 Low Hall playing fields
16 Spring Hill - Coppermill Lane
17 West Warwick Reservoir
18 Alternative N1 foot and cycle path
19 Coppermill entrance to reserovirs
20 Markfield Recreation Ground
22 Ferry Lane - Forest Road
23 The Paddock
24 Walthamstow Reservoirs
25 Backriver Path
30 Park Lane - Marigold Road to Wild Marsh East

prioritisation 2016 - 2021

C Forest and Green Belt

45 Boundary Ditch - Picketts Lock
48 South Marsh
49 Columbia Wharf
51 Flood Relief Channel path 3
53 Durants Park - Lee Navigation
54 Mossops Creek
56 Swan and Pike productive cluster
57 Turkey Brook - Sewardstone
58 Island Village
59 Gunpowder Park
60 Rammey Lock
61 Rammey Marsh
63 Links to north

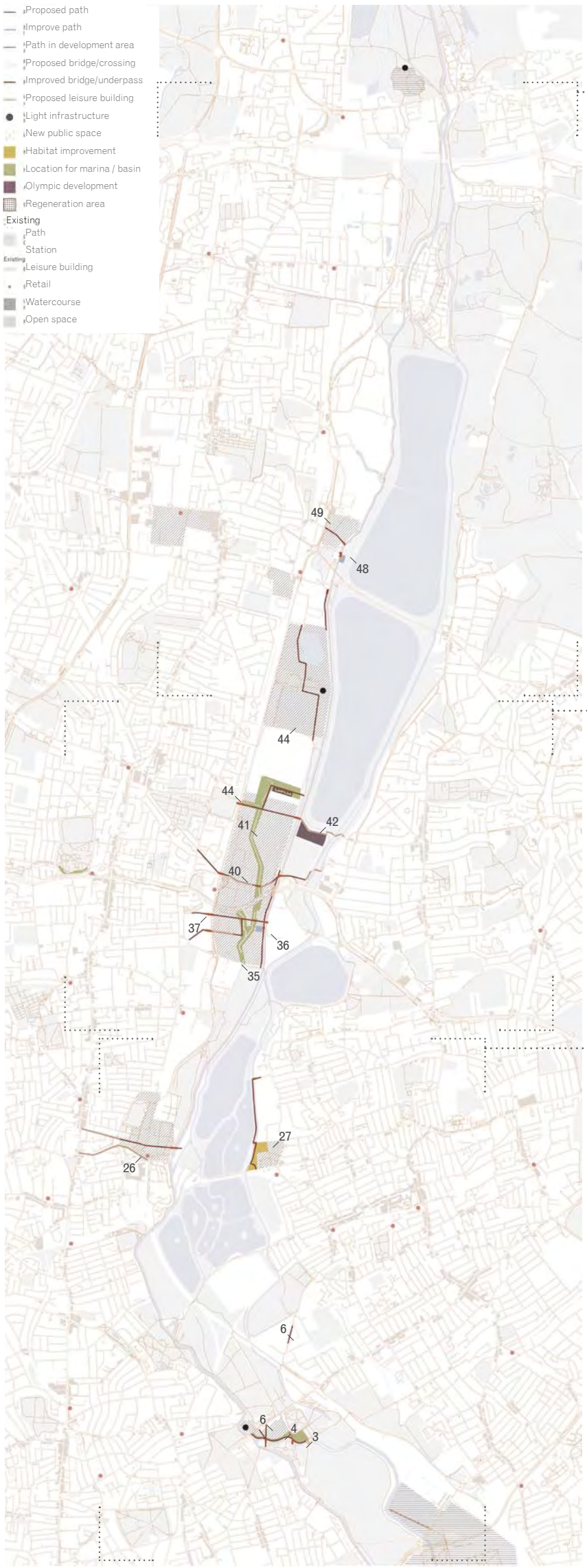
B Central Leeside

31 Flood Relief Channel path 2
32 Banbury Reservoir
33 Folly Lane
36 Central Leeside Waterspace
38 Central Leeside Flood Relief Channel
39 North Circular landscape enhancements
43 Salmons Brook path

A Walthamstow Wetlands phase 2

1 Lammas Land to Back River
2 Hackney Marshes
7 Aqueduct Path
8 Leyton Marsh
9 Dagenham Brook
10 Clapton Towpath
11 Walthamstow Marshes
12 Flood Relief Channel path, southern section
13 Low Hall playing fields
14 Clapton Common
15 Thames Water Coppermill Works
17 West Warwick Reservoir
20 Markfield Recreation Ground
21 Douglas Eyre Playing Fields
22 Ferry Lane - Forest Road
24 Walthamstow Reservoirs
28 Moselle Brook to Clendish Marsh
29 Marsh Lane to Stonebridge Lock
30 Park Lane - Marigold Road to Wild Marsh East

dependent on development



C Forest and Green Belt

48 South Marsh
49 Columbia Wharf

B Central Leeside

35 Central Leeside open space
36 Central Leeside Waterspace
37 Kimberley Road to River Ching
40 Old Railway Line to Chingford Mill
41 Salmons Brook
42 Infrastructure site Central Leeside
44 Picketts Lock
44 Salmons Brook path

A Walthamstow Wetlands phase 3

3 Aqueduct path to Hackney Marshes
4 Thames Water site
6 Black Path
26 Chesnut Road to the Paddock
27 Blackhorse Lane Waterfront Park


7

management plan

management
overview and governance structure

Overview

The renaissance of the ULV will require a coherent management approach straddling a diverse range of environments with differing opportunities and constraints, owned or husbanded by a range of landowners or tenants each with traditionally divergent approaches to land management.

The Project Partnership team of key stakeholders, landowners, authorities and agencies will need to agree to a holistic vision for the valley and to a governance structure and business plan aimed at maximising private and public investment and ongoing stewardship of the valley's assets and the short and long-term projects envisaged in this strategy.

Two different governance models were considered – an integrated vehicle for the entire valley, and a co-operative model that allows each partner/landowner to retain management control of their own "patch" while adhering to the core set of management aims. Broad support for the co-operative structure was received from the project partners in the steering group.

A management plan will be produced related to a core set of aims and objectives addressing environmental, economic and social issues. Suggested aims and objectives for the management plan are set out below, together with analysis of the likely constraints.

Governance structure

The supported co-operative governance model would see the key stakeholders oversee, fund and staff a permanent joint management committee overseeing operations. The committee's remit would be to ensure that the valley stakeholders and landowners support and promote the core principles and design guidelines, adapting their own management plans and regimes accordingly.

A jointly funded ranger service would act across the site: potentially the current LVRP ranger service could be expanded to take on a wider role, for example on Thames Water or local authority open spaces.

management
core principles

Core principles

Whichever governance structure is agreed and adopted, a core set of management principles will apply – we suggest the following:

- to provide a unified, coherent and sustainable management plan for the valley, in response to a coherent set of design guidelines
- to promote community cohesion and ensure community involvement in the valley
- to raise the profile of the valley, easing access constraints and increasing usage of public space and facilities
- to enhance the biodiversity of the valley
- to restore the waterways and wetlands of the valley
- to provide edible landscapes and support and promote productive uses of open space
- to encourage healthy living and provide public spaces that are healthy, safe and secure
- to recognise and celebrate the heritage of the valley
- to provide opportunities for skills training and employment within the valley

management
aims

Management Plan Aims and Objectives

Arising from the core principles, the aims and objectives set out a framework for the management and development of the valley, and form the basis for the development of specific management operations. Below we list 10 primary aims and related objectives. Many of them are cross-cutting, and there will be potential conflicts between others that will need careful management.

Aim 1

To attain a coherence of management across the valley

Objective 1a – to agree a common set of design guidelines
Objective 1b – to set up a governance structure and management framework that ensures a common cross-valley approach
Objective 1c – that marketing and fundraising are aimed across the valley, not only at the core 'park' areas

Design/Character Guidelines for the valley are set out in Chapter 7, and the suggested Governance Structure described above.

The management framework will need to ensure adherence to the character guidelines as well as encompassing the statutory responsibilities and liability issues affecting the valley stakeholders. For example, management of high-bunded reservoir banks will need to align with the Environment Agency and Thames Water's responsibilities under the Reservoirs Act 1975: notwithstanding the desirability of planting the banks, inspection regimes currently demand short grass. A realistic approach to Health and Safety is required: To achieve public access to a northern section of the EA flood relief channel, public liability was taken on by the Lea Valley Park.

Essentially Objective 1c ensures that the management structure and plan looks beyond the core LVRP area and extends to encompass land belonging to other stakeholders.

Aim 2
To manage the valley sustainably

Objective 2a – to ensure adequate long term funding for long-term management, with effective marketing of the valley offer and potential
Objective 2b – to create income-generating activities where possible in support of long term management
Objective 2c – to manage site operations as sustainably as possible

The current LVRP management provides a base / model for the operations but the extra areas / facilities to be managed will require enhanced funding input. It is envisaged that existing resources from ULV stakeholders will be pooled and supplemented by (London-wide) funding but to be sustainable the management plan will need to enable income generation and funding from new sources.

A marketing strategy will be required both to increase awareness and use of the valley but also facilitate income generation, support and fundraising potential, via the following suggested means:
- Promotional/educational leaflets
- valley website
- guided walks eg water trail, hidden rivers, porters path, invisible history
- annual high profile event eg combined London Food / Horse Fair
- market stalls selling valley produce
- outreach – rangers visit schools, community groups
- infrastructure events: eg leaflet promoting visit to Walthamstow wetlands visitor centre enclosed with water bill
- target local businesses for support, groundwork style

Potential income generation includes:
- Local business sponsor events such as river clean-up days, facilities including seats and signage, public lavatories etc
- Sales of organic produce from valley – self financing as growers help maintain landscape
- Guided walks, lectures, visits to pumping stations etc
- Fairs, cultural events
- Visitor centre food offering, bookshop, locally produced crafts, preserves etc, plant shops

Aim 3
To increase community use and involvement

Objective 3a – to develop an increased range of activities and events
Objective 3b – to provide visitor facilities and attractions at nodes of activity
Objective 3c – to involve the community in practical land management operations and encourage community stewardship of the land
Objective 3d – to provide an educational and recreational resource , including for primary and secondary schools
Objective 3e – to effectively consult with the valley users and communities via user group forums and with outreach to promote awareness among current non-users and hard-to-reach groups

The ULV Landscape Strategy envisages that community involvement in the management of facilities and open spaces in the valley will increase substantially, requiring a high degree of co-operation and liaison between the appointed management vehicle and the groups concerned, who will include local and regional organisations and groups of individuals in the following areas:
- nature conservation and wildlife
- permaculture and food-producing
- leisure, sport and exercise
- heritage
- children's (scout & guides, schools etc)
- ramblers, cyclists, horseriders

Several such groups have a well established presence in the valley and their role and activities are recognised within LVRP management plans, and the established Area Community Forums. Relationships with new groups, especially where their activities will influence and affect landscape management operations, will need to be formalised – for example to allow community food producers to manage orchards and berrying shrubs within the wider landscape, and to enable primary and secondary schools to use the valley spaces as an educational and recreational resource.
More challenging still is to encourage a wider section of the community to visit and make use of the facilities and landscape in the valley, particularly hard-to-reach groups. Well designed leaflets aimed at individual sectors of the community, appropriate clear signage and interpretative material, innovative promotional material, events and cultural festivals, should all be aimed at getting people involved and feeling that they too are "stakeholders" in the valley

Visitors numbers and opinions will require careful monitoring to inform future updates of the management plan, which should be subject to further consultation with the wider community.

Aim 4

To improve access to a welcoming valley

Objective 4a – to improve physical connections, local and regional
Objective 4b – to ensure that the needs of conservation and security are balanced by a user-friendly environment
Objective 4c – to enhance valley entrance gateways
Objective 4d – to provide maps, leaflets, and appropriate signage and interpretative material
Objective 4e – where possible to provide secure community access to previously inaccessible open spaces, and a general feeling of welcome instead of 'keep out'

The strategy envisages many physical access improvements to the valley but the welcome one feels on entering needs addressing too as there is a currently dominant "keep out" aspect to many of the open spaces. While access issues naturally raise questions of health and safety and the concerns over compromising the viability of industrial activities, there is much potential for improvement. Public access to open areas of infrastructural land owned by Thames Water and other statutory authorities needs reviewing – if full public access is not viable then controlled access for wildlife trusts or community groups may be permissible allowing enhanced management (or cultivation) of spaces with community involvement. Fencelines surrounding infrastructural facilities may be realigned to minimise the inaccessible areas and/or softened by employing hedging.

While the conservation value, and sense of privacy and escape, of the valley's wilder landscapes is undeniably valuable for biodiversity and for many people, to others they can be formidable and intimidating places. A balanced approach is required with a main network of accessible paths with good sightlines and points of familiarity such as clear maps and signs, rest places and viewpoints – and a secondary network of wild paths that it is the user's choice whether to enter.

Aim 5

To promote productive land usage and encourage healthy living

Objective 5a – to promote and provide space/facilities for community-based food production
Objective 5b – to provide orchards and edible 'free food' planting in the wider landscape
Objective 5c – to support agricultural land uses within the valley
Objective 5d – to implement a resource-based approach to land management – coppice for biomass, cuttings for mulch, hay cut for sheep etc
Objective 5e – to promote and provide local walking, running and cycling trails, trim trails, opportunities for land and water-based exercise and sport

The direct involvement of community organisations such as FoTM, Organic Lea or Under One Sun would be essential to the setting up and future success food producing operations in the valley. Such a community based approach will ensure long term management and address the concerns of many that the extension of traditional allotments would equate to a perceived 'privatisation' of public open space. Social participation and cohesion - reaching out to deprived and hard-to-reach communities would be an important element.

Within the wider landscape the provision of orchard clumps and fruiting hedgerows of blackberries, blackcurrants, gooseberries etc offer an 'edible landscape' available to everyone, with all stakeholders encouraged to incorporate planting and management of these edible elements.

In contaminated areas, the productive landscapes could start small, possibly with the decontamination by excavation/removal or capping of a small area to start with, or by putting the emphasis on crops that do not root deeply, or raised planters. Strategies for bioremediation can be employed subject to the findings of ground surveys.

The larger open spaces to the north of the valley offer greater potential for arable and pastoral farming and coppice woodlands as proposed in the strategy – possibly managed by community groups working on surplus land belonging to local farmers. The potential for grazing regimes in grassland management is well illustrated by the successful reintroduction of cattle grazing at Walthamstow Marshes.

Aim 6
To enhance valley biodiversity

Objective 6a – to extend and enhance wildlife habitat
Objective 6b – to balance increased access with the retention of quieter less accessible areas of landscape for wildlife refugia
Objective 6c – to manage landscape sensitively, respecting nesting seasons and wildlife corridors, and allow for 'untidiness'
Objective 6d – the control and removal of invasive plants
Objective 6e – to limit the amount of artificial lighting and minimise light pollution, maximising dark spaces at night
Objective 6f - to increase the extent of natural riverbank habitats and undertake river restoration

The Upper Lea Valley is not envisaged as a manicured garden with intensive levels of maintenance. This would be at odds with its very nature. The aims and objectives can be met through management with a relatively light touch. There is a place for moss on lesser used paths, and bramble and buddleia in industrial yards and utilitarian corner sites – scrappy brambles quickly become blackberry heaven. This is not just about their great wildlife value, but they are part of what makes the Lea Valley a special landscape.

The areas currently managed by LVRP already have a strong focus on biodiversity, which needs extending to the surrounding open spaces, where management regimes would be encouraged to enable greater diversity of wildlife habitat and opportunities for natural play.

The control of invasive species to maintain a diverse habitat is as much about scrub management as the removal of japanese knotweed. Throughout the Lea Valley thickets of bramble-elder-buddleia-sycamore have their place as habitat, but unmanaged they quickly take over.

Lighting strategies must be carefully considered both from the angle of bird and bat disturbance and the simple spiritual need for dark spaces in the city. Where public safety is imperative, the use of dim lights that provide sufficient sight lines but do not affect species, and sustainable/solar powered lighting, should be considered.

Aim 7
To restore damaged landscapes

Objective 7a – to adopt long-term bioremediation measures for contaminated ground
Objective 7b – to restore polluted waterways, uncover hidden rivers and naturalise stream beds and banks
Objective 7c – to restore wetland areas within the valley floor

Much of the valley floor has been landfilled to some extent, with fill material that is unknown.
Careful surveying will enable the short term location of productive landscapes or wetland excavations in less contaminated areas. In the longer term, the emphasis for seriously contaminated areas should be bioremediation, rather than the destructive methods of excavation/landfill/capping/topsoiling.

River pollution, largely due to missed sewer connections, is gradually being addressed by Thames Water. Strategies for river restoration also assist in water cleansing. The short term emphasis should be on restoring channels where the river has been cleaned up to some extent (daylighting Stonebridge Brook for example), and the longer term emphasis on resolving pollution and implementing sustainable drainage systems before tackling more problematic streams. In key development areas however, such as Central Leaside, investment in major river restoration works would result in a major enhancement of the site value physically, economically and socially.

It should be emphasised that not every area of contaminated land or polluted river needs urgent tackling: the success of the Emscher Park in the Ruhrgebiet demonstrates how contaminated landscapes can still be of tremendous recreational value and biodiversity.

Aim 8

To celebrate and recognise the valley's heritage

Objective 8a – to retain, restore and interpret industrial archaeological traces
Objective 8b – to explain and promote the water story
Objective 8c – to promote the valley's horticultural history

The valley's rich and unique industrial, technological, horticultural, landscape and military heritage presents a major opportunity and challenge in creating local and regional attractions that are potentially income generating and contribute to social participation and cohesion (especially community special interest groups and schools, and volunteer groups).

The 'water story' has great potential, with the valley-wide spine of historic and contemporary infrastructural facilities illustrating the passage of London's water from source to tap to sewage works (and back). No less rich is the 'invisible history' of technological development in now vanished premises, and the social heritage of people's memories growing up, living and working in the valley.

Realising this potential will require co-operation between owners/stakeholders, co-ordination with local authority and regional/national heritage strategies, and a recognition that heritage ("All inherited resources which people value for reasons beyond mere utility" -Enfield heritage Strategy) must be considered as not just the concern of a vocal minority, but as a major cultural and environmental asset.

Aim 9

To provide a safe and secure landscape

Objective 9a – to provide appropriate and visually acceptable security of inaccessible sites, using hedging and ditches where possible
Objective 9b – to ensure waterways are not fenced off but provided with parapet railings with life belts and escape ladders
Objective 9c – to achieve a sensitive balance between the needs of conservation and a requirement for good sightlines and a perceived level of safety

The design guidelines address a balance between security and amenity, encouraging the use of thorny hedges and ditches in lieu of fencing wherever possible.

A sensible assessment of safety issues is required – if possible, people should not be separated from the river by fences. The emphasis should be on visibility and access rather than barriers. Where riverbank fencing is required its height should not exceed that required under parapet regulations. Rivers are safer when accessible – life belts and escape ladders can be provided where necessary.

Lighting requirements should be realistic – lit paths through wild landscape, while being detrimental to landscape, can be unsafe in themselves by encouraging people along unsafe routes. Along the Olympic Greenway the Police were against lighting the path unless it was accompanied by CCTV coverage.

Aim 10

To contribute to local skills and employment

Objective 10a – to maximise opportunities for volunteering and community input to physical management activities
Objective 10b – to develop opportunities for on-site training
Objective 10c – to promote opportunities for local contractors and social enterprise to work in the valley
Objective 10d – to facilitate opportunities for locally based small businesses in the valley

Volunteering opportunities exist within landscape and heritage management eg scrub clearance, species counting, coppicing, harvesting.

Training opportunities should be developed and promoted, for example within conservation (eg BTCV courses) and horticulture (eg Capel Manor).

The LVRP Youth & Schools Service should be extended encompass to whole valley. This service supports events and environmental and heritage education, with the aim of promoting interest, understanding and ownership of environmental and heritage sites, to provide a positive experience for young people.

management
landscape management operations

The management should support local distinctiveness within a coherent framework. Detailed management plans will be required for each part of the valley, related to ownership, use and function. A broad-brush summary of operations for the main landscape elements is set out here.

G1 General items (apply to all categories)

- control of invasive noxious weeds
- litter clearance, weekly
- irrigation of newly planted areas
- re-use, recycling and treatment of green waste

T1 Existing Woodland and Scrub

- thinning, pruning and coppicing operations, cuttings/green waste re-used
- selective clearance or clear-stemming beside paths to improve sightlines
- selective clearance of dominant scrub species (buddleia, elder, bramble) and replacement/ supplementation with a diverse range of flowering/fruiting trees and shrubs
- selective removal of sycamore, particularly along riverbanks, and replacement with more appropriate riparian species
- retention of dead wood for habitat value, either in situ or in hibernacula piles
- removal of diseased wood

T2 Newly planted Woodland Trees and Scrub

- mulching, composting
- replacement of failed plants
- formative pruning, crown lifting as appropriate
- adjustment of supports
- fruit tree pruning subject to species
- hedgerow pruning where required

T3 Coppice Woodland Areas

- short rotation coppice of willow/poplar on 3-4 year rotation for biomass
- mid-rotation coppice of broadleaved woodland areas (cyclical, species dependent: 7 years for hazel understorey, 14-20 years alder, ash, sweet chestnut etc)
- rows and rides between coppice sown as wildflower meadow
- retention of standards for long term timber
- fertilisation of SRC areas

G1 Species rich meadows

- Grass cutting regime: timing and frequency to maximise conservation benefits of respective habitats and species throughout the site. Management of these areas will include a cut once or twice a year, to a height of 150-300mm, at a time appropriate for the conservation of species or habitats, with arisings removed from site. Weed control will be limited to spot application of translocated herbicide to control noxious invasive species – although transient ruderal species are an important component of this brownfield habitat necessitating an intelligent and selective approach to weeding

G2 Close mown grassland

- Close mown grass areas through meadows to provide informal access and play space, kept at a height of 100-150mm
- Thames Water's operational requirements require their bunded reservoirs to be short mown so that leaks can be easily detected. Surrounding areas of low level paddock should be managed for hay (for the grazing sheep) and are the nearest potential sites for tree planting.

W1 Wetland planting

- Cutting down of dead stems and removal of arisings. Treatment of unwanted colonists including woody regeneration such as willow or alder and Typha and Phragmites in ponds
- management on banks of ditches and waterbodies should be sensitive to riparian habitats and should therefore be neither over-intensely managed, nor left unmanaged which will also reduce riparian habitat value. In order to minimise disturbance it is recommended that ditchbanks are strimmed in sections leaving alternate patches of uncut vegetation as refuge for amphibians and small mammals. Where aesthetically feasible (i.e. in informal, naturalistic areas) only a single bank should be cut in any one year. All grass cuts to banks of ditches and waterbodies should ensure that a dense fringe (i.e. minimum of 300mm) of uncut marginal vegetation is retained along the foot of the bank.

H1 Hard Surfacing

- Informal surfaces: annual check to identify and repair potholes
- Main paths and cycle track: regular inspection for path damage, repair programme

H2 Signage and furniture

- Minor repair to landscape elements and features
- Replacement as and when required; guidance table required for expected design life of seats, signs, lights, interpretation panels, fences, paths etc

Appendix

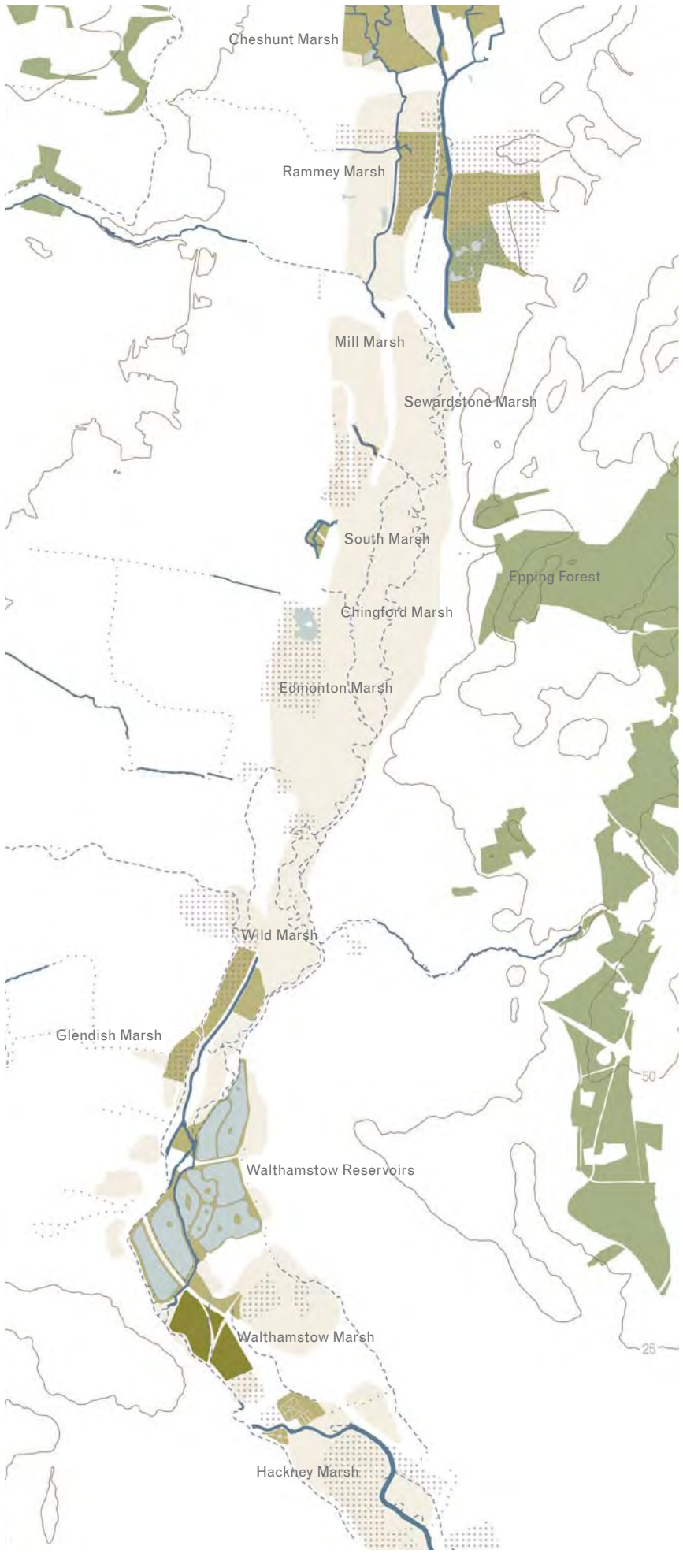
detailed mapping

of the upper lee valley


Rammey Marsh


Tottenham Marsh


Walthamstow Marsh




Sewardstone Marsh


Epping Forest

wild and man-made wild landscape

The ancient landscape of marshland crossed by rivers and ditches and bordered by wooded ridges is still present in its elements:
- the marshes at Walthamstow and Sewardstone
- the braided watercourses at Ponders End and Tottenham Hale
- the wooded ridges at Chingford (Yardley and Pole Hills)

However, as a result of urbanisation, engineering works, and extraction followed by dumping, these areas are not extensive, and due also to current access restrictions the relation between them is hard to discern.

While many of the engineering works are hard to reverse, some areas have already reverted to wild landscape within an engineered frame - the Middlesex and Essex Filter Beds at Lea Bridge Road - and others have matured through sympathetic management into varied habitats - the Walthamstow low reservoirs and the Lea Diversion - and others still - Tottenham Marshes and Rammey Marsh - despite their use for landfill maintain some of the openness of the valley floor.

The Lea and its tributaries, despite having been buried, culverted, and/or straightened for much of their courses, connect to a previous natural era. Semi-natural stretches of old river channel survive in the form of the Small River Lea, the millrace at Ponders End, the Lea Diversion at Tottenham Hale, the Coppermill Stream.

In sum, areas of wild and 'manmade wild' landscape are relatively extensive in the south and north of the study area. The tributary brooks have a particular local importance in the centre of the study area due to the highly engineered character of the valley landscape in this section.

Possible measures to reinforce these elements of the valley's 'natural signature' include:
- connecting and consolidating areas of habitat
- deculverting of hidden rivers and naturalisation of engineered river banks
- greater access to the main watercourses


King George V. Reservoir / Brimsdown


Central Leeside


Flood Relief Channe by Chingford Mill


Aqueduct

utilitarian landscape

Although infrastructure and industry have been a more or less continuous presence, with widespread traces, there is a marked difference in their structure and impacts from the early industrial to the modern period: unlike the earlier works, the twentieth century civil engineering works have only a passing relation to the topography, and a greatly expanded scale.

This historical distinction broadly corresponds to the change in character from the southern to the northern end of the valley: from the north of Tottenham Marshes to northern end of King George V reservoir, the valley landscape has a utilitarian character. The main elements of this infrastructure landscape are the high bunded reservoirs, the North Circular viaduct, the Flood Relief Channel, the three power stations and double row of electricity pylons, the waste recycling at Edmonton Ecopark and Deephams sewage works. The vast scale and engineered form of these installations reflects the scale of the metropolis they are serving, and consequently has a certain epic quality; however, they form major barriers to movement across and along the valley, and to seeing the extent of open land. The public realm in their environs is often cramped and low grade, dominated by high fences.

Replacement of waste, power and sewage infrastructure presents a significant opportunity for the replanning of the public realm in the Central Leeside area.


Allotments Great Cambridge Road


Sewardstone Glasshouses


Allotments Tottenham Hale

productive land

Traces of formerly extensive productive uses remain in localised grazing and market gardening. Generally, despite good soils, much of the land within the Upper Lea Valley is used a long way below its productive capacity.

The Lee Valley was the birthplace of the UK glasshouse industry and, in particular, hot house cucumber production. The main concentration of Lee Valley glass is to the north of the M25, though there are a number of smaller glasshouses in Sewardstone. Because of the high cost of energy, glasshouse growers are keen to use low cost, waste heat from industrial processes to heat their structures.

Around Sewardstone, there is a block of land in arable production. Combinable crops, such as cereals and oil seed rape, are grown to a high standard. Elsewhere in the northern end of the project area, there is potential arable land, but much of this is in low intensity pasture. This is because many of the farms are being used for residential, rather than commercial purposes. Despite the predominantly good quality soils, much of the grassland is in poor condition, due to a lack of maintenance. Grazing at Lea Bridge Road supports the horses of the Riding Centre, and at King George V reservoir a small flock of sheep keep the grass short.

Currently, there is a renewed interest among amateur gardeners in growing fruit and vegetables for home consumption. The trend has, however, led to a shortage of allotments at a regional if not a local level. There are several examples of successful allotment sites and community gardens, including Haringey's 'Under One Sun' initiative.

Sport fishing is strongly established at the Walthamstow Reservoirs, and on the River Lea Navigation. Greater production of trout and, possibly other species, may be possible in the reservoirs.

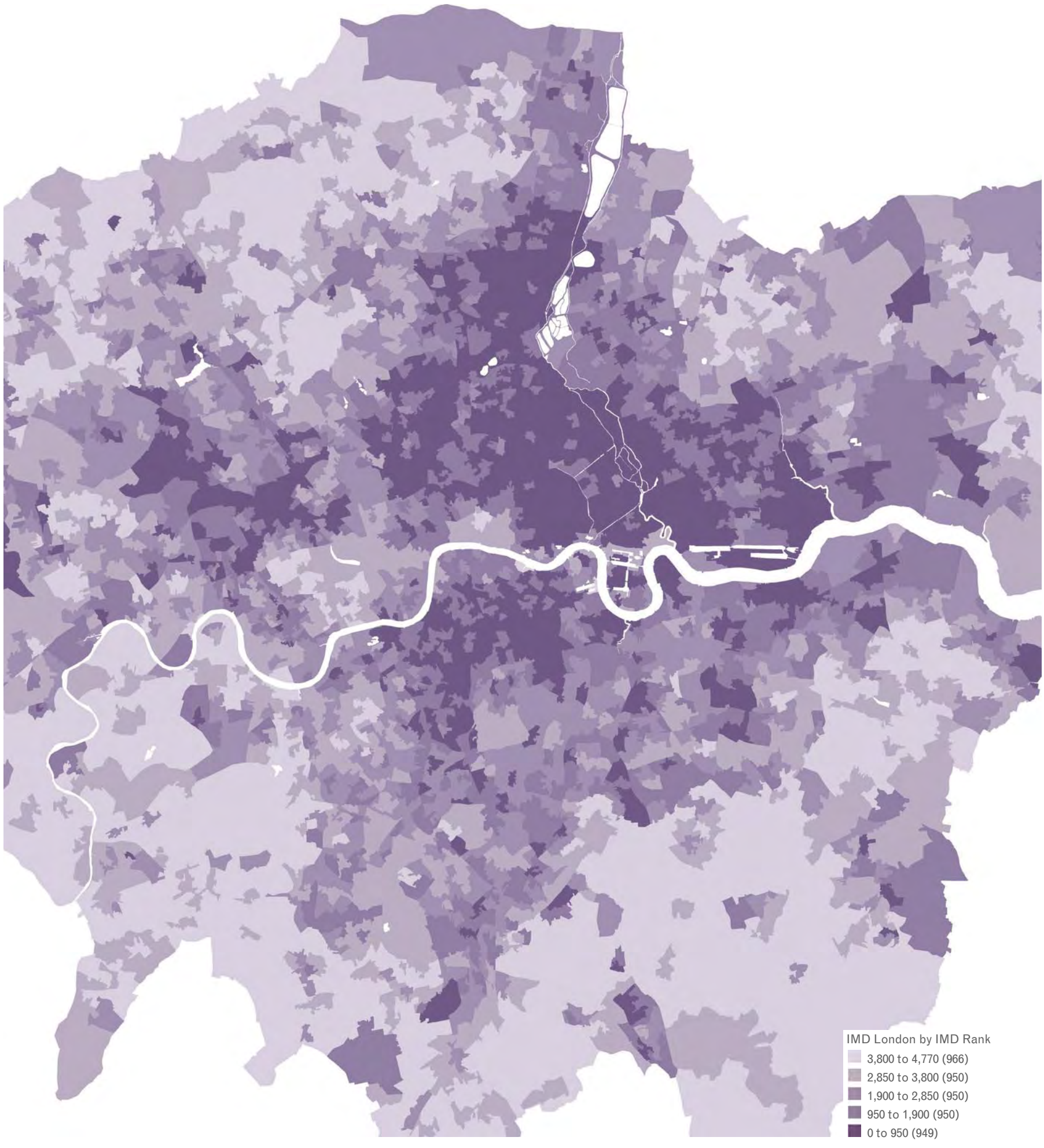
Honey bees in Britain are under considerable pressure at present. Any increase in bee numbers would help UK bees recover.

urban structure

The urban settlements of the area have grown up around the city's highway and railway arteries. Settlements initially took the form of a series of villages strung along the old Roman Road, the London to Cambridge highway, at Tottenham, Edmonton, Edmonton Green, Ponders End, Enfield Highway, Enfield Wash and Waltham Cross. On the then Essex side, the hillier topography resulted in more scattered villages, with Walthamstow on the dry ground between marsh and wooded ridge: the village greens or high streets are still largely legible and form the core of retail and public services.

Dense victorian urbanisation - ladders of streets lined with small terrace houses - forms the structure of most areas up to the North Circular. Parks are few, but those that exist are generally well-defined, with frontage facing the park, and the planting is mature (Millfields, Springfield Park). Frontage to the valley is continued in the 1920s tenements of Clapton. The North Circular marks the transition to the lower densities and less permeable layouts of the garden suburb. In this structure, public open space is often on the interior of the urban block, and the valley is defined by the back gardens of adjacent blocks, or by industry.

New areas of housing or mixed-use development at Tottenham Hale, Blackhorse Lane and Central Leeside have the potential to extend the interface between the city and the valley landscape.



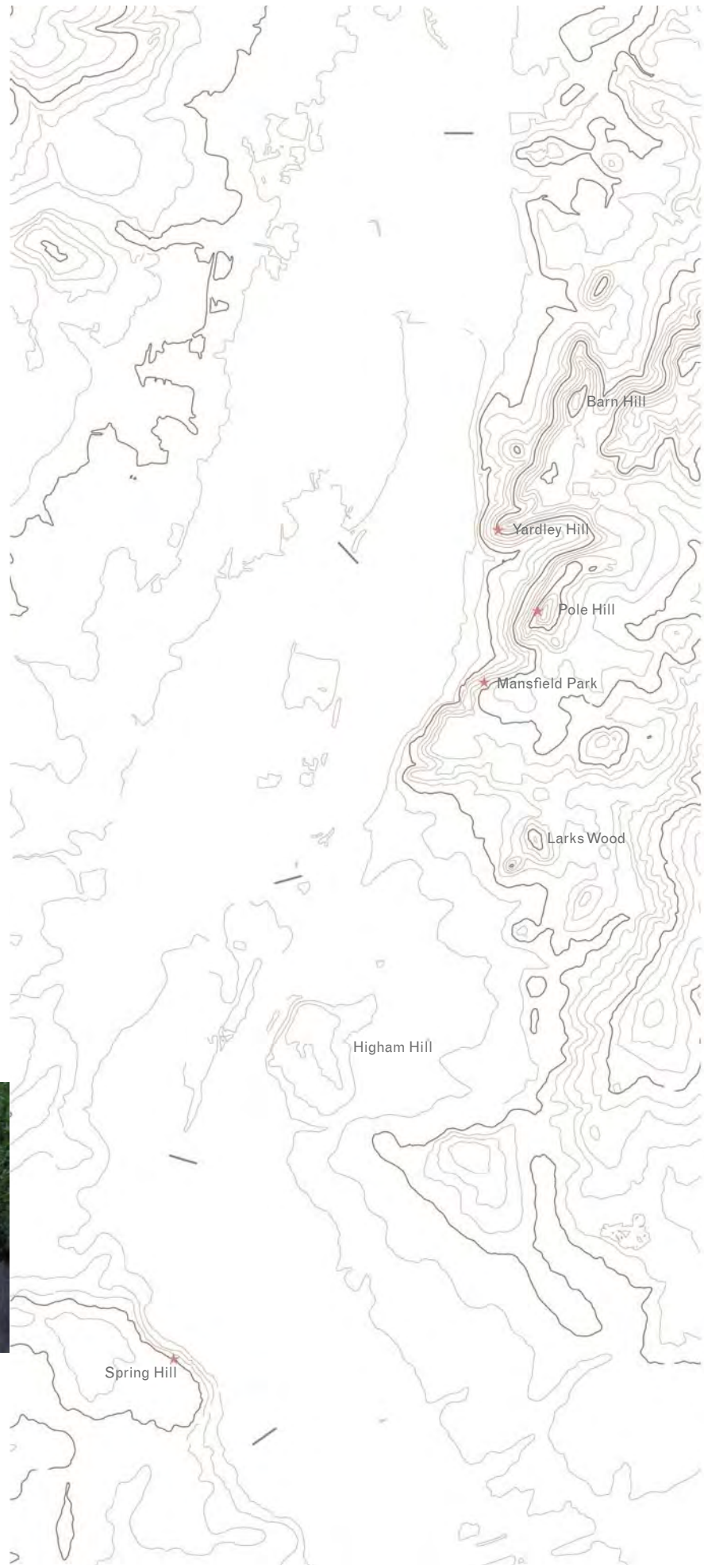
population: deprivation and diversity

The population in the immediate chatchment of the Upper Lea Valley registers highly in terms of the government's Index of Multiple Deprivation.

The areas of highest deprivation correlate strongly with lack of access to open space and nature, reflecting in particular the infrastructure severance created by the surface level railway lines and highways (Leyton Way, Meridian Way/ Mollison Avenue) on the southeastern edge of the study area (to Leyton and Walthamstow) and to the northwest. Lack of access to open space is one of a number of environmental factors that combine to make these 'marginal' areas.

The local catchment of the valley is also highly diverse ethnically, with communities of the following origin: Bangladeshi, Greek Cypriot, Turkish, Kurdish, Ghanaian, Nigerian, Congolese, Carribean, West African, Vietnamese. There is a travellers site at Folly Lane, near Banbury reservoir.

- Overcoming infrastructure severance between the most deprived communities and open space should be a high priority
- Public open space should be seen as an inclusive space
-There may be different conventions of open space use and attitudes to wild landscapes in different communities.




Yardley Hill


Mansfield Park


Spring Hill

topography

The Lea is a glacial valley, a wide flat swathe cut into the Thames basin. It is distinctive for its scale and proximity to central London (the Colne is the other glacial valley, and runs at the western edge of the city).

Its wide floor is flanked by shallow gravel terraces to the west and the relatively steep Chingford ridge in the east. To the south, from Hackney Marshes, the valley opens out and merges with the gravel terraces and alluvial plain of the Thames. Northward from Stamford Hill / Clapton, and Higham Hill, the valley feel is more pronounced. To either side of the valley the Lea's tributaries have produced a local micro-topography – for example the gentle valley of the Pymmes Brook, followed by the North Circular Road.

From much of the valley floor and the adjacent urban streets this topography is barely visible. The high bunded reservoirs have tall grassed banks that are the equivalent of two storeys high; the Lockwood, William Girling and King George V reservoirs have acombined length of 6 kilometres: views are restricted in their vicinity, and the width of the valley is obscured. Key points of elevation exist where the valley sides steepen in the south-west of the area, at Springfield Park, and to the north-east, at Pole Hill, Yardley Hill and Mansfield Park in Chingford. Bridges over the river and railway line, where these have been designed to permit looking out, offer views to the middle distance.

- The relative invisibility of the valley could be addressed through the provision of viewpoints and the design of bridges to allow views out.


Small Lea


Salmons Brook at Clarendon Arch


Springfield Marina


Back River - Hackney Marsh


King George V. and William Girling Reservoir


King George V. Reservoir


Flood Relief Channel


Walthamstow Reservoir - Cormorane island

water

The watercourses and water bodies across the valley serve different functions within the overall water cycle of the city, and date from the seventeenth to the twentieth centuries. As a result have widely varying characteristics. Both rivers and reservoirs vary between natural or naturalised profiles to engineered concrete constructions.

Navigation

The current course of the Lea Navigation is largely that established in the eighteenth century. Its course is irregular in the southern section, but straightens significantly to the north of Tottenham Hale Lock. Vestiges of older river channels remain in the oxbow at Lea Bridge Road, Springfield Marina, and the millrace at Ponders End. These combine to form a watercourse of considerable visual character for leisure boating, but one which remains largely effective for freight use.

There are five locks [Tottenham, Stonebridge, Picketts, Ponders End, Enfield Lock and Rammey Lock] along the 12km length within the study area. These are the natural points of small scale animation and focus along the River Lea Navigation: there are moorings at each, amounting to a capacity of approximately 220 boats including Springfield Marina. British Waterways consider moorings to be at capacity in their current form, with demand still high. The locks constrain to an extent the use of the river for both water-buses and freight: a number of locks may require an upgrade to double lock compartments to increase freight capacity.

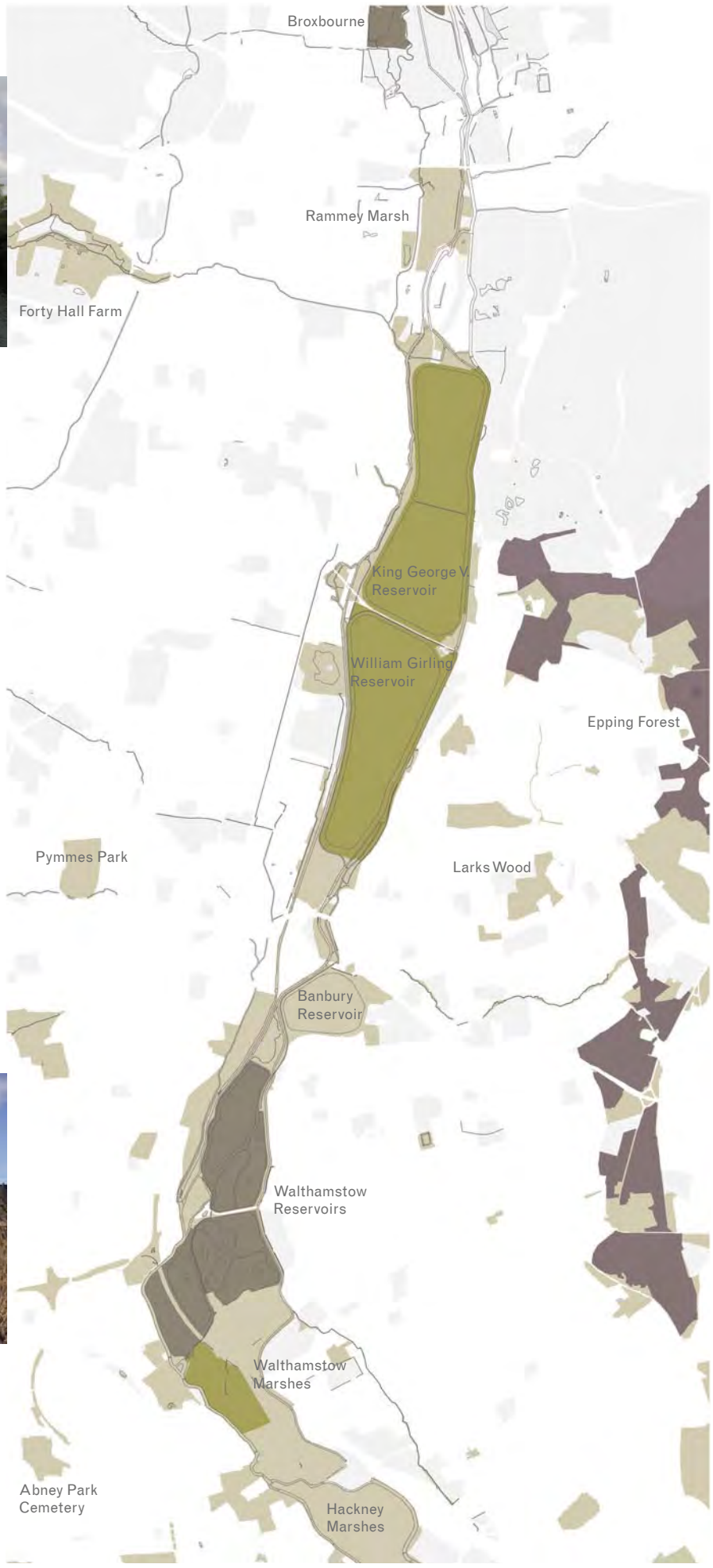
Studies are currently underway to review:
- the scope for increased freight use (transport of waste, construction materials)
- a pasenger boat service between Tottenham Hale and the Olympic Park at Old Ford Locks (with a further service to Limehouse Basin)
- mitigation of the conflict between freight use and foot- and cycle traffic along the towpath at Harbert Road

Water supply
London's growth from approximately 12 square miles in 1800 to 79 square miles in 1930s and since was paralleled by an increasingly extensive area of water storage.
- The New River to Stoke Newington reservoirs and New River Head runs to the west of the Lea along the 25 metre contour
- The Walthamstow Reservoir complex was commenced in the mid 19th century,in irregular form between the eastern edge of the valley and the Coppermill Stream, with low banks. The bunded Warwick Reservoirs run between the Coppermill and the Lea Navigation. With artificial islands which are wooded, and a sympathetic management regime supporting native scrub and tree fringes around the reservoirs, these are both habitat rich (with breeding populations of Grey Heron, Cormorant, Common Tern, and wintering wildfowl) and remarkable.
- The high bunded reservoirs stretching for 8 kilometres in a chain from Ferry Lane to Enfield Island Village - the Lockwood, Banbury, William Girling and King George V Reservoirs - are concrete basins, with close mown grass banks, which have little habitat value outside of their seasonal use by wintering wildfowl. While they significantly constrain views at valley floor level, conversely there are long views to the City and the green belt from their upper level.

Drainage and flood management
The multiple watercourses of the Lea drain surface water from the Lea's wide catchment, particularly the shallow sloping west side of the valley. The Stonebridge and Moselle Brooks, and Carbuncle Ditch, in the south of the study area are almost entirely underground, and are highly polluted; the Salmons and Turkey Brooks, and the River Ching are largely open, with naturalised river banks. Concentration of pollution is particularly acute in the Pymmes Brook, from misconnections, roads, and outflow from Deephams Sewage Works: as a consequence it runs in a fenced concrete channel. The Flood Relief Channel was constructed in the 1970s largely along the line of existing watercourses. Largely with naturalised banks, which are accessible, to the north of Newmans Sluice (at Enfield Island Village), to the south it is a deep concrete channel with minimal water flows.


Broxbourne


Walthamstow Marshes



SSSI
Sites of Special Scientific Interest
National designation for best examples of UK flora, fauna, geological/physiographical features

SPA
Special Protection Areas
European designation for rare and vulnerable birds and regularly occurring migratory species

SAC
Special Areas of Conservation
European designation for habitat types and species most in need of conservation at a European level (excluding birds)
-Epping Forest

SINC
Sites of Importance for Nature Conservation

Designated at metropolitan, borough and local level for local conservation interest. Also known as SNCIs and several are also Local Nature Reserves (LNRs).

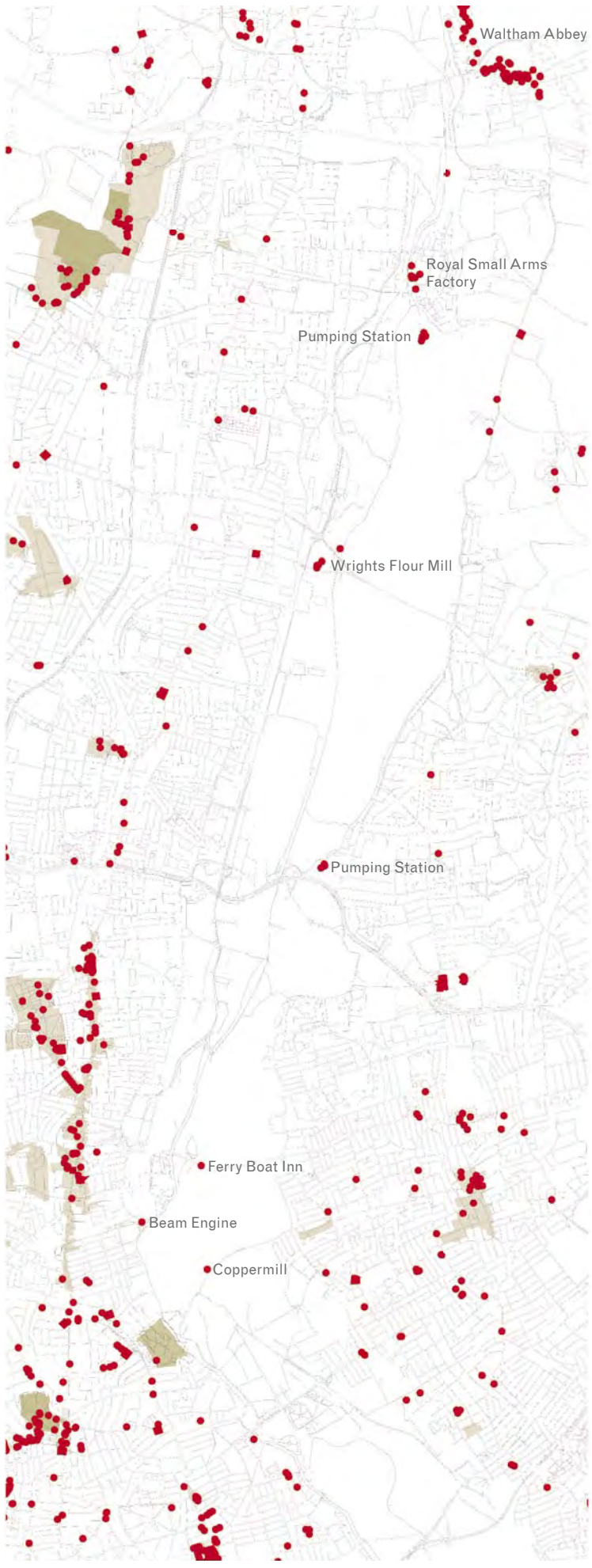
biodiversity

The waterways, reservoirs, wetlands, infrastructure sites and remnant and reclaimed woods and open spaces of the Upper Lea Valley combine to provide biodiversity of at least national importance. Many of the larger areas are well protected by (often overlapping) conservation designations.
At the European level the reservoirs at Walthamstow and Chingford form part of the Lea Valley SPA, while Epping Forest is designated as SAC.
National level SSSIs also cover these areas plus Walthamstow Marshes, perhaps the most valuable asset of all given its vestigial landscape and all-round conservation value.
At a more local level are areas designated for their wildlife or geological importance, forming a tapestry of land with some degree of protection.
Notwithstanding this level of protection it is essential to consider the biodiversity value of other sites with no, or limited, statutory protection. These include vital green corridor routes (railway lands, hidden rivers, roadsides, back gardens), industrial yards, wasteland sites, hedgerows, edges of playing fields, allotments and cemeteries, and the diverse open areas around Folly Lane.
Protection or enhancement of the biodiversity of these areas is vital if the valley natural character is to be extended beyond the LVRP boundary, and for extensive ecological networks to allow for plant and animal species movements in response to climate/environmental change.
Development of the projects put forward in this strategy will require detailed ecological assessments of habitats and species, outwith the scope of this study but informed by the existing and developing biodiversity action plans of the local boroughs and the LVRP.

Coherence of the network of habitats is interrupted in particular around the North Circular and M25.


Pumping station at Enfield Lock


Wrights Flour Mill, Ponders End




Angel Road works


Coppermill

Existing path
Listed building
Conservation area
EH parks and gardens

history and heritage

The majority of buildings and areas of historic interest lie beside rather than within the valley, primarily along the former village high streets, and in isolated larger estates.

However, the watercourses of the Lea trace the history both of London's water supply and of significant industries:
- In addition to the still operational elements of the water supply, there remain the Middlesex and Essex Filter Beds, and the line of the aqueduct connecting them to Coppermill Stream at the Walthamstow Reservoirs
- Pumping engines at Lea Bridge Road, Markfield Park, [Low Hall Playing Fields], Chingford Mill
- part of the Lea Bridge Road power station
- part of the Angel Road works
- Wrights Flour Mill at Ponders End, and the Coppermill within Walthamstow Reservoirs are remnants of the many water-powered mills established on branches of the Lea
- The Royal Small Arms Factory at Enfield Island Village and the Waltham Abbey Gunpowder Mills

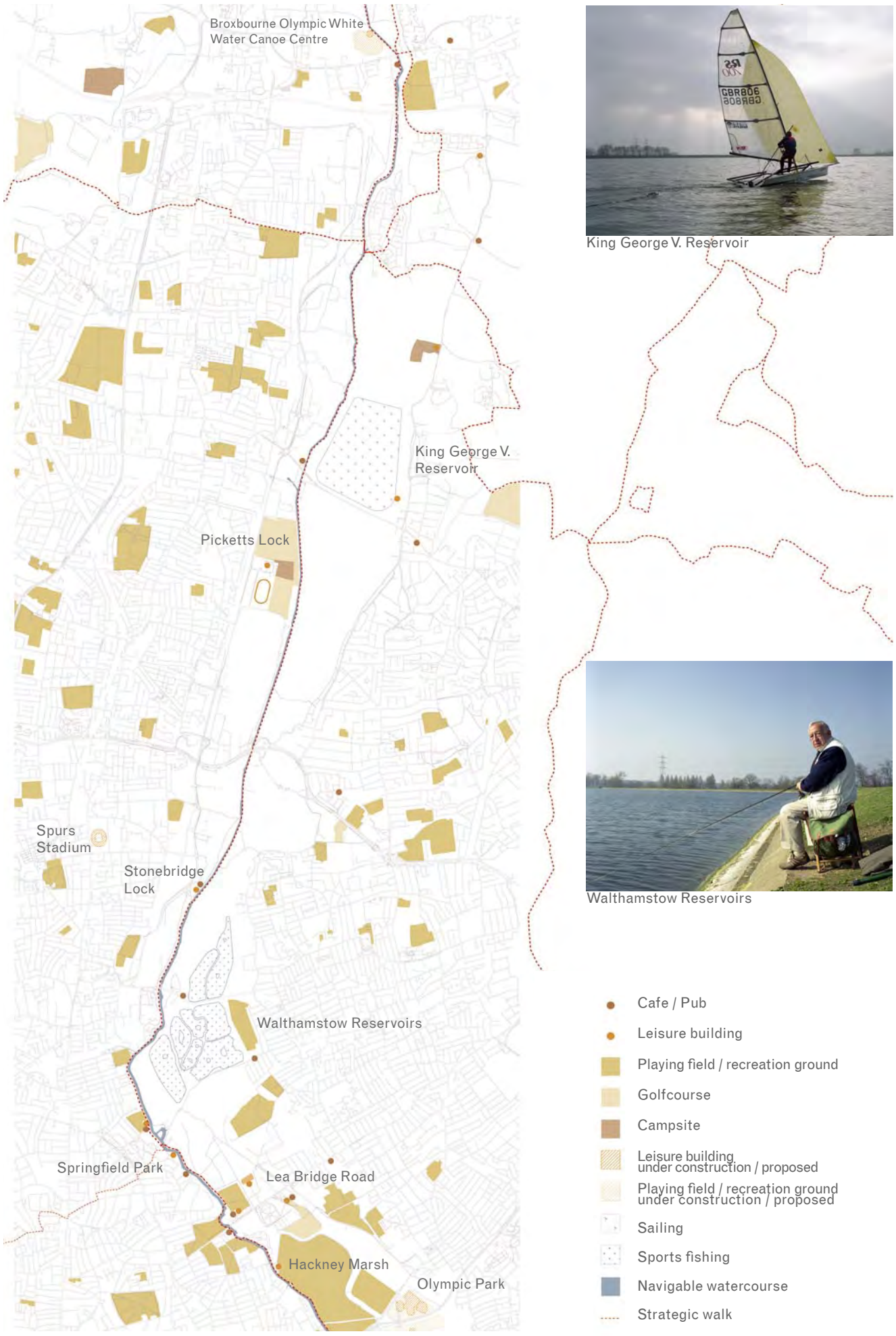
As is evident from the review of the landscape in the sections above, one of the most striking features of the valley is the way that landscapes and buildings of some antiquity are juxtaposed with the modern urban and city edge landscape. Although not extensive, the historic structures form a distinctive spine to the valley, and combine to striking effect with the wild landscape.


Picketts Lock golf course


Picketts Lock athletic centre


Springfield canoe centre


Moorings at Tottenham Marsh



King George V. Reservoir

Walthamstow Reservoirs

Visitor numbers give an interesting reflection of the balance of demand between general and specialised recreation.

Walthamstow	Marshes	400,000	pa
Ice Centre		140,000	pa
Picketts Lock		86,000	pa
Rammey Marsh		44,000	pa
Waterworks Centre		24,000	pa

leisure activities

Water sports are well represented on the River Lea Navigation for the relatively short stretch between Lea Bridge Road and Stonebridge Lock, with several rowing clubs and canoe hire venues. The watersports, the leisure boat marina, the gardens and sports courts at Springfield Park, and Clapton's permeability to the waterfront combine to support two pubs and two cafes. This combination shows the number of users and range of times that are required to sustain visitor facilities in the valley. Springfield Park and waterfront also offer easy opportunities for casual spectating: watching other people be active is an important function of parks, without which they become just a sports training ground.

Generally, other facilities follow a more dispersed and introverted pattern: at Lea Bridge Road, the Regional Ice Rink, the Waterworks ecology/ pitch and putt facility and the Regional Riding Centre face away from each other, and the first two have their own internal cafes. The athletics centre, golf course and campsite at Picketts Lock share few synergies between the different uses on the site. LVRPA have appointed consultants to identify potential development partners for the site. The sailing club at King George V Reservoir appears to have a good local base, but cannot be helped by its lack of visibility. Sailing on Banbury reservoir ceased several years ago, but remains feasible in terms of its environmental impact. There are several campsites to the north of the study area. Sports fishing is popular at Walthamstow reservoirs, though there is evidence of decline on the River Lea Navigation. Birdwatching and wildlife walks are popular activities.

High level sport, already represented by the Lee Valley Athletics Centre, will become a much stronger presence with construction of a new football stadium at White Hart Lane and in particular with the delivery of the Olympic cycling, swimming and athletics venues at Stratford and the White Water Canoe Centre at Waltham Cross. While the Olympic facilities (in particular, swimming and the multi-use sports venue) are being converted in legacy mode, including the creation of mountain bike and BMX tracks, it is still important that there is sufficient access level sports provision, places where children and families can exercise and have fun.


Lea Valley Road


North Circular


Coppermill Lane


Lea Bridge Road

A number of opportunities for additional links to form cross valley connections exist:


1. Between Rammey Marsh and Gunpowder Park


2. King George V. Reservoir


3. Footpath to south of William Girling Reservoir


4. Missing link Wild Marsh west to east

access - the pedestrian and cycle network

There are eight east-west valley crossings along the 10 km of the study area, with the quality of the foot- and cycle- environment varying between very poor and adequate:
- Regional ring highways: the pedestrian environment along the North Circular is very poor: improvements to the pedestrian environment at Argon Road and Advent Way, and to the North Circular itself, should be considered in any proposals for improved orbital public transport. The M25 is a motorway and therefore has no foot- or cycle-ways.
- Local highways: Lea Bridge Road, Ferry Lane/ Forest Road and Lea Valley Road are both dominated by traffic, with narrow foot- and cycle-ways and particular pinch points, but are bordered by relatively wide areas of tree planting and green space, which offer considerable scope for the improvement of the public realm.
- Foot- and cycle-paths:
- Spring Hill and Coppermill Lane link Clapton and Walthamstow passing through Springfield Park and Walthamstow Marshes. It is shared with vehicles from the east to the waterworks and Springfield Marina. The crossing under the railway line at Cattle Creep is only 5 ft high.
- Sandpiper Bridge, constructed in 2008 over the Lea Diversion, improves connectivity into the valley from Highams Hill to the east, but does not connect directly through to the west, with the closest crossing of the Lea Navigation at Chalk Bridge, 500 metres to the north.
- The foot- and cycle-path along Turkey Brook, which forms a part of the London Loop strategic path, connects by a series of bridges, all but one step free, to Sewardstone Marsh. The connection to Enfield Island Village and Swan and Pike pool, and the intersection with the Lee Valley Path is, however, somewhat disorienting.

The north-south Lee Valley Path is generally of good quality, clearly signposted, and well used. However there are areas - for example around Springfield Park - where the capacity to serve both strategic and local movement is stretched. In addition, its alignment on the western side of the valley reduces its utility for residents on the east. There is currently no foot- and cycle-path along the Flood Relief Channel to the south of Lee Valley Road. The reliance on a single north-south path with large catchment populations contrasts starkly with the four north-south paths within the River Lee Country Park.


Lea Valley Road


Bridge Tottenham Marsh


Coppermill Lane

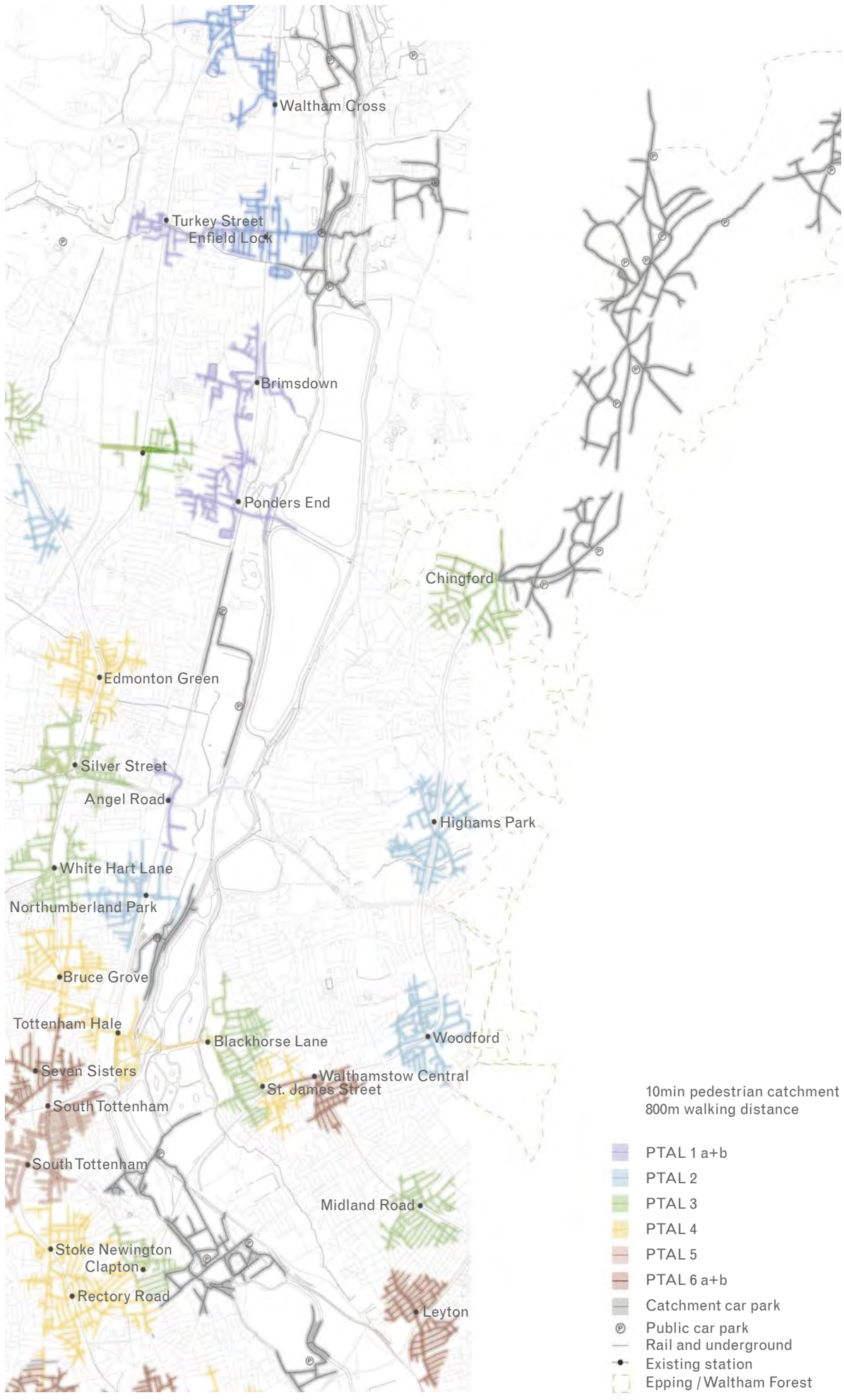

Black Path

Access point
Existing path
Catchment 10min walking distance

access: local catchments

The pattern of urban permeability is broadly one of fine grained network of streets to the south of the North Circular, and the garden city model of larger primary grain with secondary closes and streets to the north. There are few instances where a direct and high quality east-west connection is achieved. The surface level railway lines, particularly to the west of Lea Bridge and Walthamstow and to the east of Tottenham, Edmonton Green and Ponders End have relatively few crossings; the severance these cause is exacerbated by Leyton Way and Meridian Way/ Mollison Avenue. The industrial areas at Lea Bridge, Blackhorse Lane and Brimsdown are generally structured as a series of dead-end spurs, frustrating possible connections to the valley landscape.

This results in a relatively good local catchment for the valley landscape at the southern end of the study area, and to the north around Enfield Lock. Easy local access is particularly poor on the western side of the valley, from Tottenham up to Ponders End. The four-tracking of the West Anglia railway lines which is under consideration would require the closure of level crossings, satisfactory replacement bridges or underpasses integrated within the proposals will be essential if current poor access is not to be further eroded.



access: regional accessibility

Public transport serves the southern part of the valley up to Tottenham Hale and Blackhorse Road relatively well - these stations are rated as Public Transport Accessibility Level 5 by Transport for London. However, public transport accessibility falls off significantly to the north, with PTAL ratings dropping to level 1, for example at Enfield Lock: this reflects both the relative infrequency of services, but also the lack of connections to other lines or modes. The public realm around stations generally offers little sense of connection to the valley landscape and the activities within, although developments at Tottenham Hale, Blackhorse Road and Angel Road (for Central Leeside) offer positive opportunities.

A number of public transport improvements for the northern part of the valley have been considered, but are currently uncommitted.

Conversely, the northern part of the study area is well connected to North and East London by the North Circular and M25. It is likely to be appropriate for further improvements in footpath connectivity, new areas of public open space and new visitor attractions to be accompanied by additional car parking.

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