

6. Lea River Valley

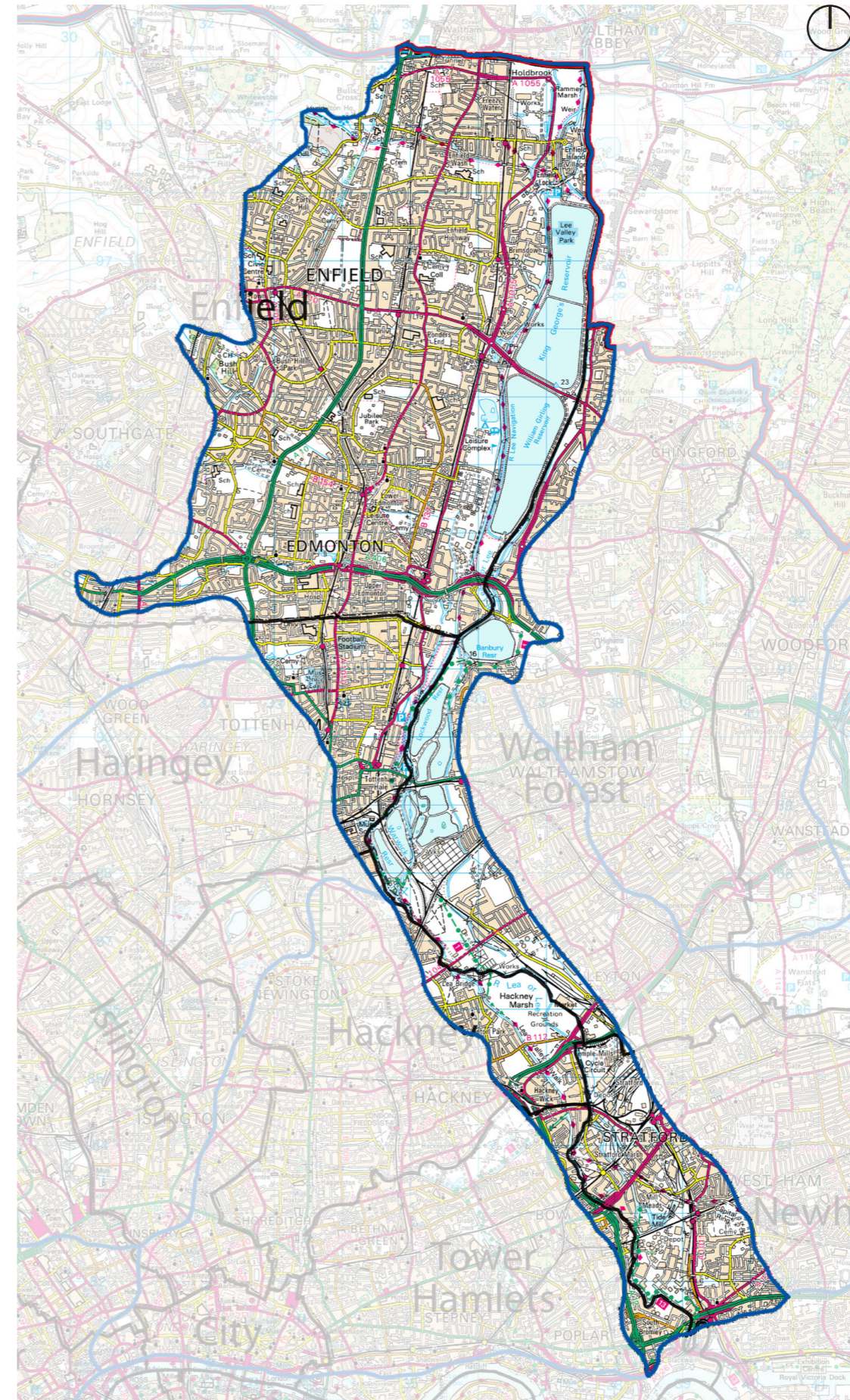


Key plan

Description

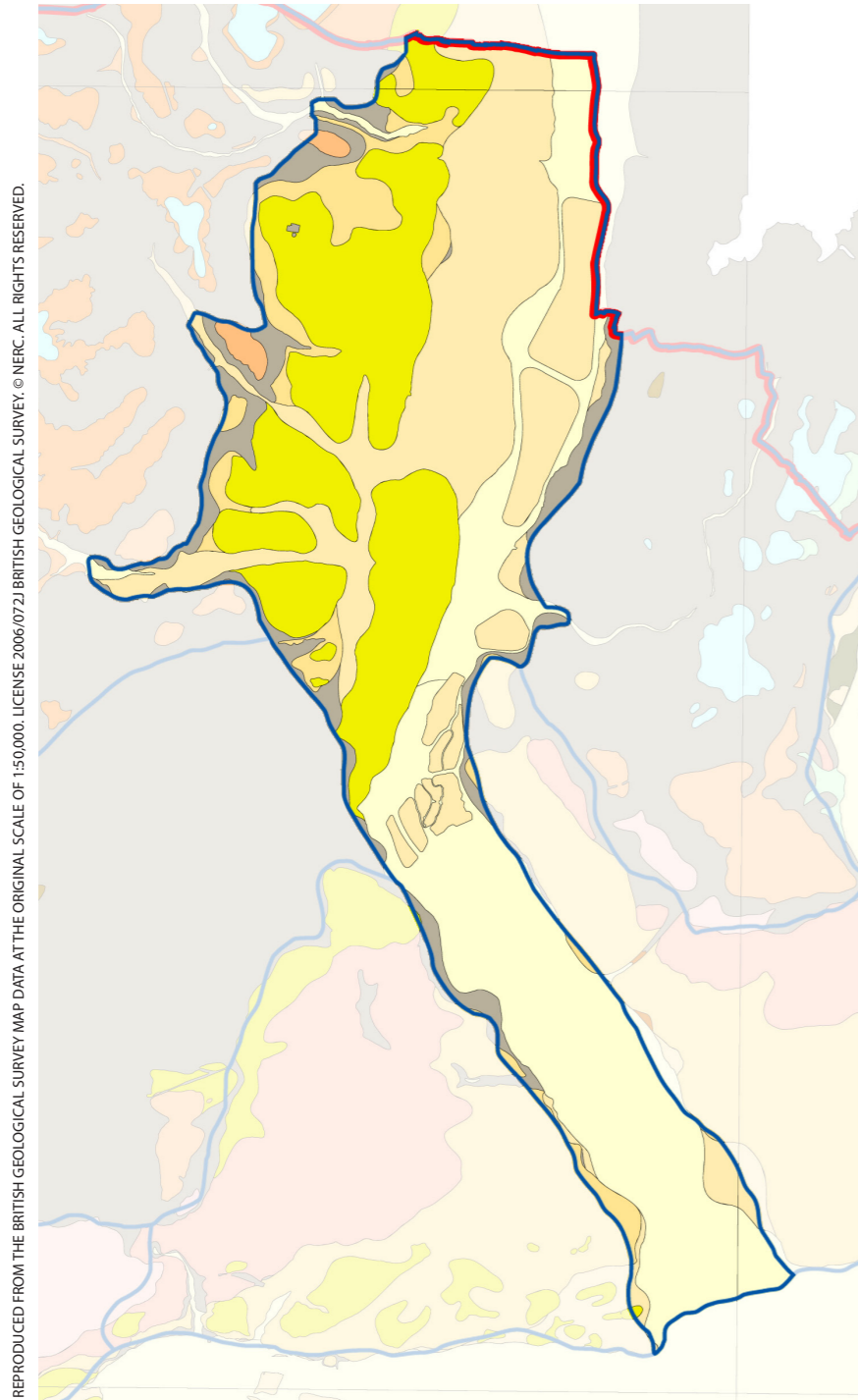
The Lea River Valley Natural Landscape Area consists of The River Lea or Lee, a major tributary river to the Thames, and its wide floodplain. From its source near Luton, it flows through the eastern side of Enfield, meeting the Thames to the east of the Isle of Dogs. This area has a London Clay bedrock geology layer, over which are patches of gravel terraces and silts. Significant areas of sand and gravel extraction have taken place. The former quarries have either been backfilled or flooded to create reservoirs, with the latter a significant man-made feature of this landscape. It is a highly altered landscape, having undergone significant human intervention.

Due to the influences of geology and topography the Area is drawn wider to the west of the River than to the east. The river corridor has two distinct landscape characters along its length. The northern area through Enfield is a wide, flat plateau on Kempton Park and Taplow Gravel remnants and Enfield silts. A number of minor tributary streams cut across from the west of the catchment and into the reservoir/river system beyond Tottenham. The river channel is heavily modified into culverted flood relief channels and the River Lee Navigation canal system which enabled the waterway to be used as a transport artery through the 19th and 20th Century. These watercourses feed the expansive reservoir system (from north to south – King George's, William Girling, Banbury, Lockwood, High Maynard, Low Maynard and Warwick East and West). The River Lee, as well as various springs and wells, also feeds into the New River, a man-made waterway which was opened in 1613 to supply fresh drinking water to London.



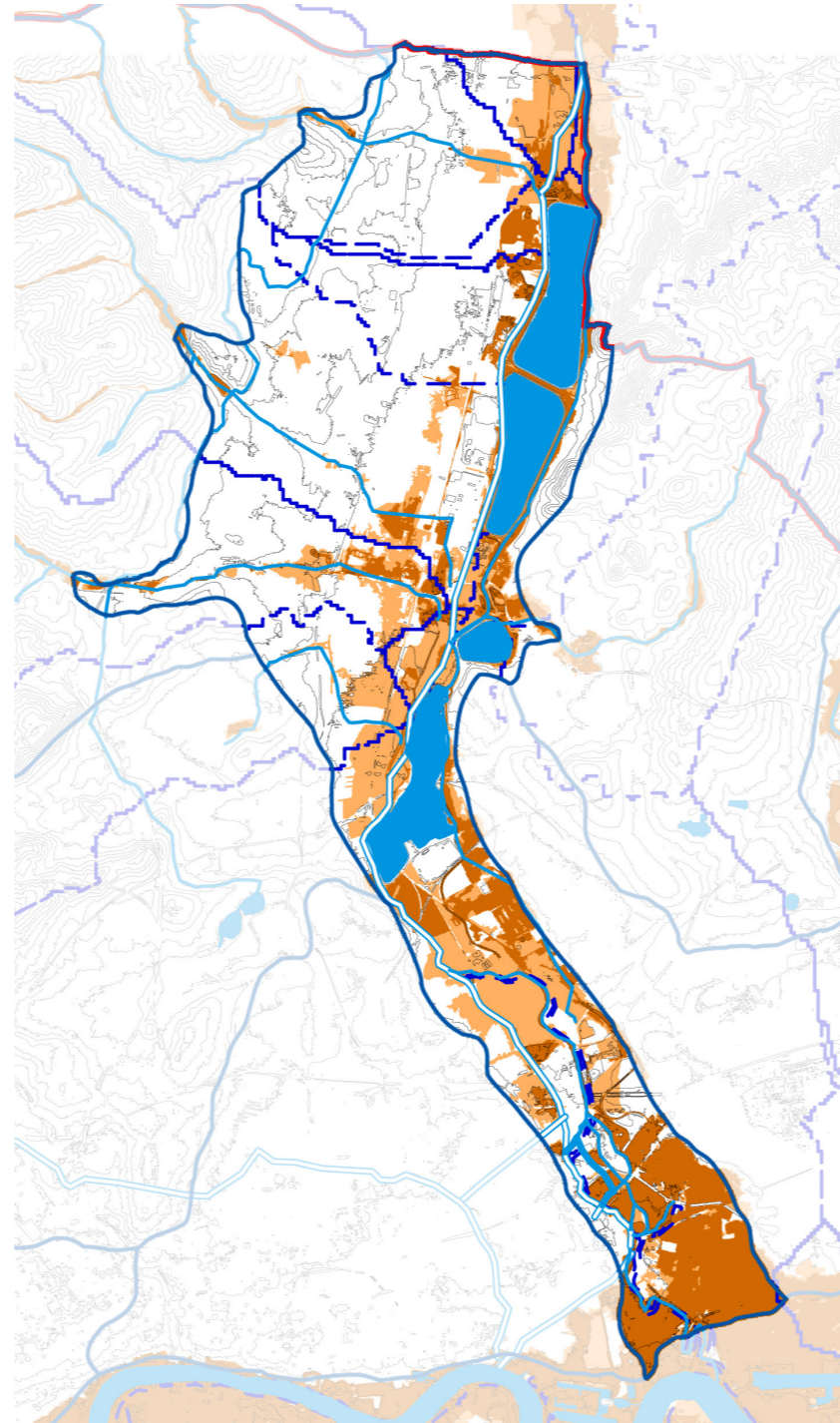
6. Lea Valley

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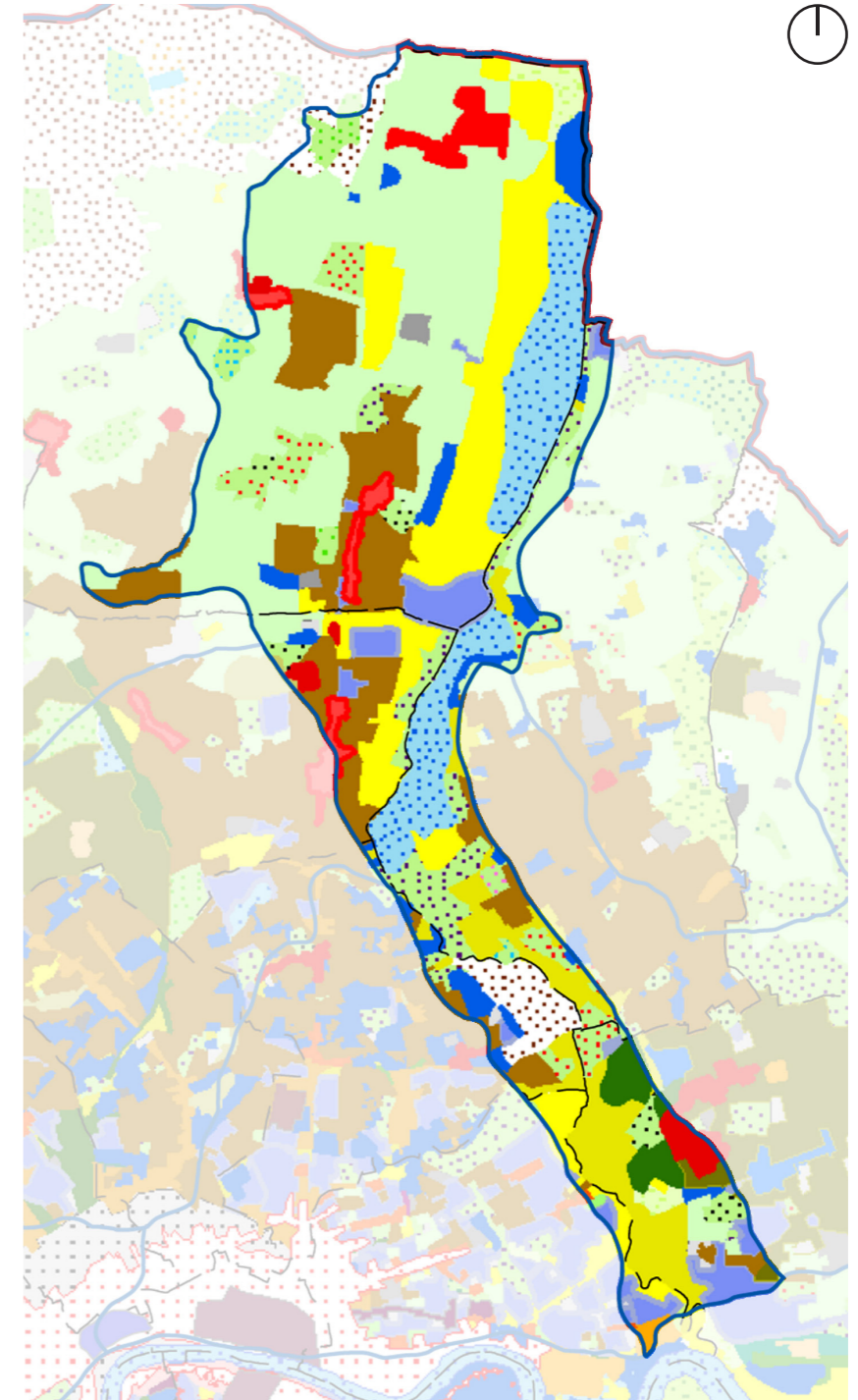
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Geology



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Rivers and Topography



ACKNOWLEDGEMENT: ENGLISH HERITAGE DATA

Historic Development

The historic settlements of Tottenham, Enfield, and Waltham Cross are located in this area, along the A10, a Roman Road originally, that follows an approximately parallel course to the Lea. A small amount of Victorian expansion occurred in this area, but the building stock is predominantly inter and postwar. The area is also synonymous with industry, historically because of the low quality land, which is subject to flooding, and for the transport convenience in its proximity to the river. The river was made navigable as early as the 12th century, when

the Abbot of Waltham made improvements. More improvements were made in 1424 and 1430 and extensive canals dug in the 18th century. However, the land is still relatively undeveloped and provides an open expanse between dense urban communities to the east and west.

The central part of this Landscape Area (downstream of the reservoirs) has a different hydrology as the two strands of the river meander

across the shallow sloping alluvial floodplain. The large marshes – Walthamstow and Hackney (famous for its football pitches) are bisected by heavy road and rail infrastructure. The 2012 Olympic Site, the area is one of Europe's largest regeneration projects. The changing face of the Lea Valley, from a functional, working landscape to a landscape of recreation and wildlife will transform the character of this area. Overall, the improved access to nature in this area will have a positive impact, especially on people's perceptions of the landscape.



Natural Signature and natural landscape features

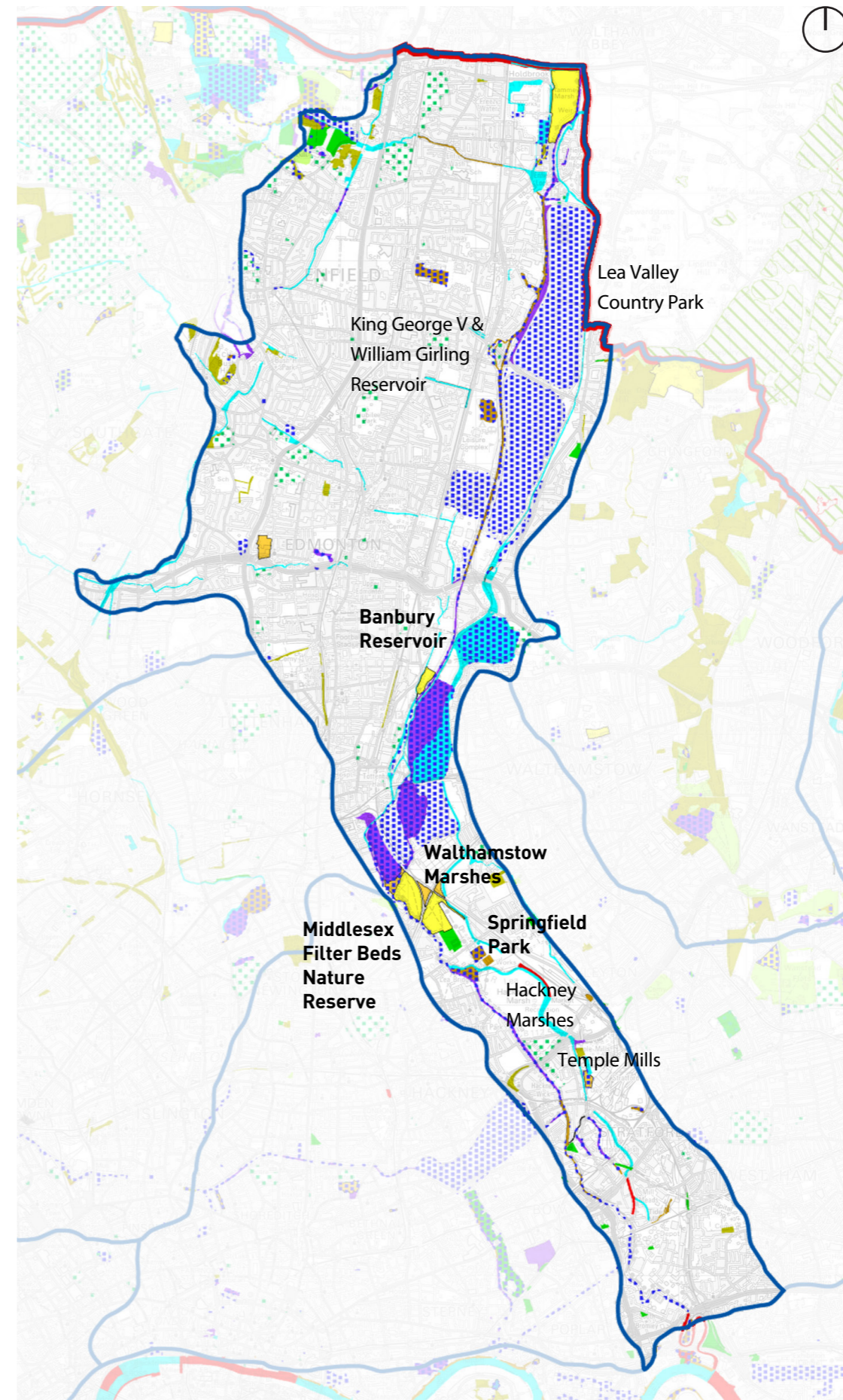
Natural Signature:

Lea River Valley – Tributary streams flowing across wide open marshes to join the River Lea and its sequence of reservoirs.

The key natural signature of the Lea Valley landscape type is the river itself, although highly modified, and the marshes that typify its floodplain. The weaving water courses, opening out into bodies of open water at the reservoirs, allow for extensive wetland habitats at the fringes. Of very high value and ecological importance are the marshes with rich meadow grasses with rare plant species. These represent the natural habitat of the area which would have been present across the whole area prior to the development of London and, despite the modifications to the river profiles, the marshes remain true to their landscape location.

Examples of natural landscape features within the Lea River Valley Natural Landscape Area are:

- **Walthamstow Marshes** – Walthamstow marshes and reservoirs typify the key Natural Signatures of the Lea Valley landscape area, and are a key remnant of the once widespread wet grasslands. The water courses and reservoirs, running through marshes and areas of sallow scrub and woodland, are made more unique by the remains of the Middlesex Filter Beds which are now transformed into part of the ecosystem. The area escaped use for gravel extraction and other development because of its seasonal inundation before the further taming of the Lea. The marshes had lammas rights on them – a type of common land which could be grazed or cultivated in strips, which also saved it from development. The sites are designated as SSSIs. The watercourses here contain a diverse range of aquatic flora including many regionally uncommon species, and the network of habitats makes it important regionally for birds which are attracted in large numbers.
- **Springfield Park** - Notable for its topographic location on a ridge overlooking the valley, affording views across the area and an excellent appreciation of this otherwise flat landscape. The site is a landscaped park containing a diverse range of habitats including acid grassland, wetland grasses and a lake with well established marginal vegetation. Also of note are the particular geological conditions of the site, where clay underlying gravels creates damp areas that support some locally rare species, as well as giving way to the springlines which give the park its name. As well as secondary woodland and scattered trees, there are examples of fine native black poplar that are very rare in London.



Natural Habitats & Landscape Key Features

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- **Banbury Reservoir** - This reservoir and the adjacent areas are of interest for the wetland scrub habitats, with hawthorn, willow and elder, as well as an expanse of neutral grassland. Although the banks to the reservoir are artificial, the fringing scrub does show natural characteristics. Adjacent community woodland and an area of wasteland provide conditions for an abundance of wildflowers, insects and butterflies.

Lea River Valley – Key environmental assets

Environmental asset	Relevant borough	Notes
Lea Valley Country Park		Large country park of over 1000 hectares including lakes, watercourses and marshes.
King George V & William Girling Reservoir	Waltham Forest	Narrow strip of land surrounding reservoirs with concrete beds. Lea Valley navigation and the Lea pass on either side in canals.
Middlesex Filter Beds Nature Reserve	Hackney	Redundant sewerage plant transformed to nature reserve.
Tottenham Marshes	Haringey/Waltham Forest	Fragmented marshes following construction of adjacent reservoirs. Tipping also brought the levels up by over 2m from its original profile. Lea Valley Navigation cuts through it.
Walthamstow Marshes	Waltham Forest	Large expanse of wetland grasses and scrub.
Hackney Marshes	Hackney	Home to amateur football. Large expanse of wetland grasses and scrub around fringes.
Springfield Park	Hackney	In the grounds of an old manor house, topography offers views over surrounding floodplain. Wetlands and woodlands present.
Temple Mills	Hackney	In medieval times used for processing arable grains grown around Hackney, now surrounded by railways, a post-industrial wasteland to be transformed soon by the Olympics.
Banbury Reservoir	Waltham Forest	Wetland scrub and community woodland.

Underlining the natural signature of the Lea River Valley

Key influences

- Extensive floodplain meadows – wet grasslands, with remnant water channels, grading to marsh and open water.
- Wet woodland and scrub as a backdrop to the open wetlands.
- Meandering watercourses, with curving bands of woodland and individual lines of trees.
- Quarrying and the creation of reservoirs.
- Curvilinear hedgerows and woodland marking the upper limit of the floodplain.
- Reedbeds.

Design clues

Ideas for place making and shaping future design decisions - how the Natural Signatures for each natural landscape area might be expressed within the wider public realm, through new development and landscape management projects.

- River restoration projects to create a more natural profile and floodplain will encourage reedbeds, typha, and wet woodland scrub.

- Boardwalks and jetties to encourage safe access across the wetlands and to the water's edge.
- Woodland planting along the margins of the river and reservoirs designed to frame the sequence of views to the water.
- The post-industrial relics in the area can be re-used as features within the public realm – as a focus for art projects, interpretation, and distinctive benches, signs and jetties.
- Create green connections between fragmented sites to improve both ecological networks and walking routes.
- Shallow flood attenuation basins, fringed by extensive damp grasslands, reedbeds and marsh.
- Design water courses through public spaces so that there are sections with braided channels flowing between reedbeds/marsh.
- Create lakes and ponds, with areas of marsh and reedbeds, as a focus for new developments.
- Road and railway corridors can be the focus for large scale SUDS, with creation of wetlands to accommodate runoff from transport infrastructure and provide a strong impression of the Lea Valley marsh and wetland landscapes in views from road and rail.