

2.0 The Natural Landscape of London

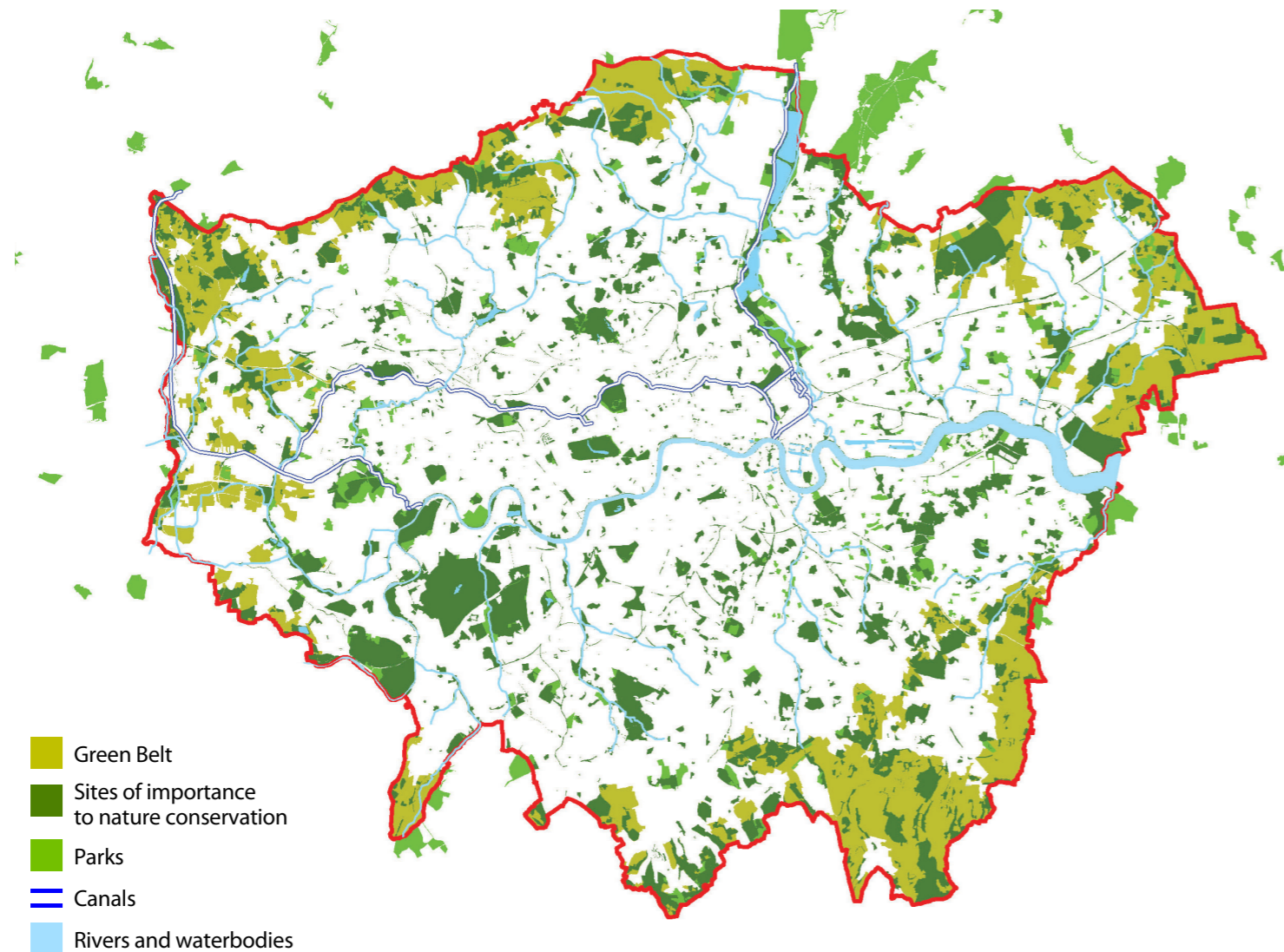
London: A Green City?

Contrary to perceptions, London is an unusually green city as compared to other major world centres such as New York and Tokyo. Nevertheless, for many, the impression of London is that of a highly built up urban area, surrounded by less dense residential suburbs, and whilst the Royal Parks are much-loved for their serenity and their amenity value, how far we integrate them into our wider perception of London is questionable. Likewise, whilst Londoners may regularly use local green spaces such as parks and commons, they are not necessarily perceived as integral parts of London's character; private gardens, too, may be used on a daily basis without the realisation

of how they contribute to the city as a whole. This disconnection between our daily experience of London and its relatively 'green' character is exacerbated by the prevalence of travel by Underground, whilst the topography of London, albeit gentle, has largely been disguised by London's built environment.

Underlying such perceptions is not only the disparity between daily living and travelling and a city-wide perspective but, perhaps deeper, a fundamental assumption that architecture and urban development are in some profound sense in opposition to the

'natural' environment. This may be the case for those architectures which reject the vernacular – notably modernism, which aimed at an international style – but vernacular architecture has by definition an intimate relationship with its locale, whether as a form, such as the pitched roof, a direct response to frequent rainfall, or in the use of local building materials. Yet it is difficult to think of London's architecture as vernacular, even though, to a large extent, London's built environment is derived from, rather than in opposition to, its underlying natural condition. Most obviously, the prevalence of London stock brick, which we perhaps only subliminally register on a daily basis, is directly related to the clay from which it is formed. In its use in both Georgian and Victorian architecture, London has metaphorically 'grown' from its own soil. Even the relative lack of skyscrapers in London as compared to other major cities stems directly from the fact that much of London lies on clay, making tall structures unsuitable, at least until the development of bored piles. In this sense the built environment has a more 'natural' aspect than might be supposed and, even where a building is non-contextual, the underlying geology cannot be overlooked. Indeed the development of London as a city is only truly comprehensible through its underlying geology and topography.



The extent of London's green spaces is often underestimated

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London's parks are appreciated for their amenity value but how do they sit in our broader perception of London?

The Geology and Topography of London: An Overview

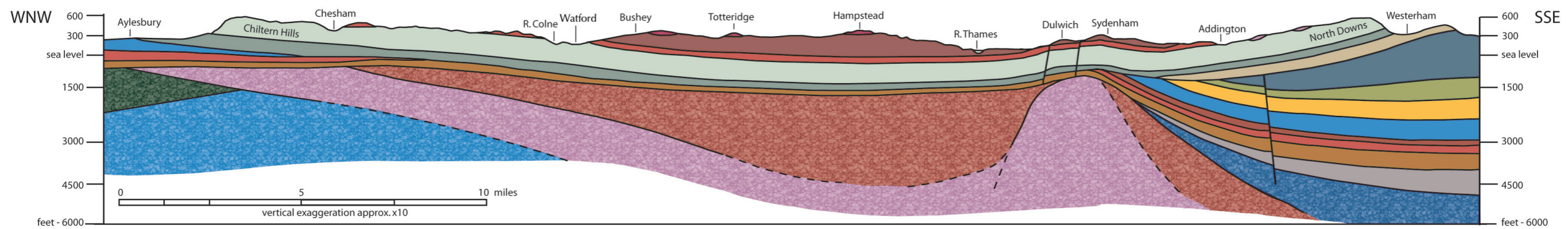
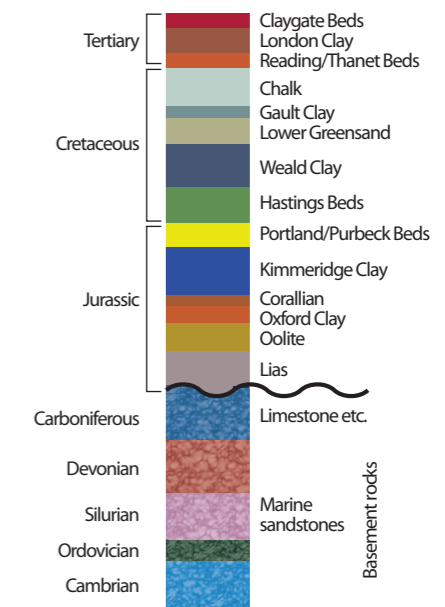
The London area is underlain by a concealed platform of ancient rocks, which were laid down around 500 million years ago. Overlying this base is a range of different geological layers that have formed and undergone erosion through marine, fluvial and glacial processes between 60 million years ago and the present.

The stratigraphic record suggests that for millions of years, during the Mesozoic Era, the London area was a stable plateau, sometimes submerged beneath a shallow sea, but sometimes emergent as land. The later Jurassic–early Cretaceous period was a time of intense tectonic activity in Europe when the north Atlantic began to open up. These forces led to the uplift of the London area, retreat of the shallow sea and the erosion of the Jurassic rocks to reveal the strata below. The area was subsequently flooded by the sea again and deposits of marine sediments began to accumulate, beginning with the Lower Greensand Group and culminating with the deposition of the Gault and Chalk during a period of high sea level. Further tectonic activity led to the folding and erosion of the Chalk and the formation of the London Basin.

For the next 40 million years, the area was land and the existing deposits were weathered and dissected. The sea may have covered the area temporarily in Pliocene times as remnants of coastal deposits now cap the highest land. A new drainage pattern was established during the Quaternary, when rivers flowed across the district from the south and south west towards a major river (the precursor of the River Thames) that flowed from Wales, across the Midlands and East Anglia to the North Sea.

When ice sheets advanced to cover much of Britain as far south as the outskirts of present day London, the river system was changed and the Thames diverted to its present valley. Subsequent periods of gravel deposition and intervening periods of downcutting took place during cold episodes, when rivers were swollen with glacial meltwaters and erosion was more intense. The gravelly river terrace deposits which remain on the valley sides are preserved as a legacy of this process. Finally the most recent deposits of river alluvium and tidal river sediments have been deposited over the past 8000 years.

The basin is dominated by the London Clay Formation, which produces heavy acidic soils, often prone to waterlogging in winter months and to shrinking and cracking in summer. The higher ridges and hills are capped by the Bagshot Formation (which contains more resistant sand particles) and Quaternary gravels. To the south the land rises gently across the London Clay to the chalk that forms the dip slope of the North Downs escarpment. The dip slope is covered in part by clay with flints and is interrupted by outlying hills of Thanet Sand. In terms of topography, the River Thames and its tributaries form the principal drainage network within a broad shallow valley – the London Basin – which is enclosed by the chalk uplands of the North Downs to the south and by a dissected plateau of higher land (underlain by the more resistant Bagshot Sands) to the north. The plateau is drained by the Colne, Lea and Roding rivers, which flow into the Thames within broad, shallow valleys.



BASED ON DRAWING FROM THE TIMES LONDON HISTORY ATLAS

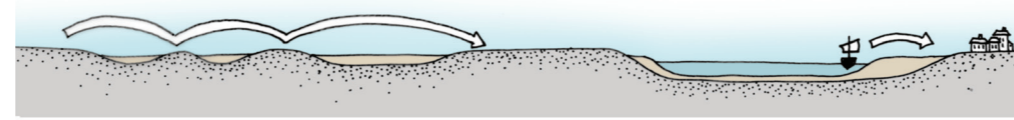
Section through the geology of London

The Development of London

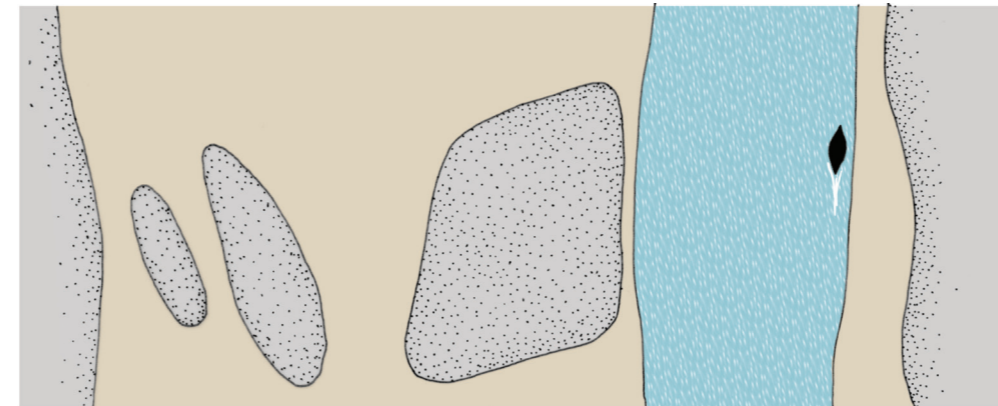
This geological and topographical data truly comes to life, however, when we consider it through the context of London's development. The Natural Landscape Areas delineated in this study reveal in depth the relationship between the geology and topography of London and the way in which humans have been able to develop the land, illuminating the symbiotic relationship between the natural and the built environments, which extends to the very bedrock upon which London itself was founded. Popular authors such as Peter Ackroyd have already brought into public awareness the origins of Roman London in the two hills of Ludgate Hill and Cornhill at the point where the Thames could first be crossed. Yet a closer look at the geology takes this narrative deeper. Why was the Thames fordable here? Not only is the river itself relatively narrow here but the alluvial floodplain also begins to narrow, whilst on the south side a number of gravel islands produce a ford, allowing for overland travel to and from the south-eastern region, so important for its links to the continent. Furthermore the city of London owes its position on the north, rather than south bank of the Thames because it is here that the river comes closest to the edge of the gravel terrace. This geological narrative also explains, in part, the location of industry at the eastern end of the Thames. Whilst the prevailing wind, from east to west, certainly



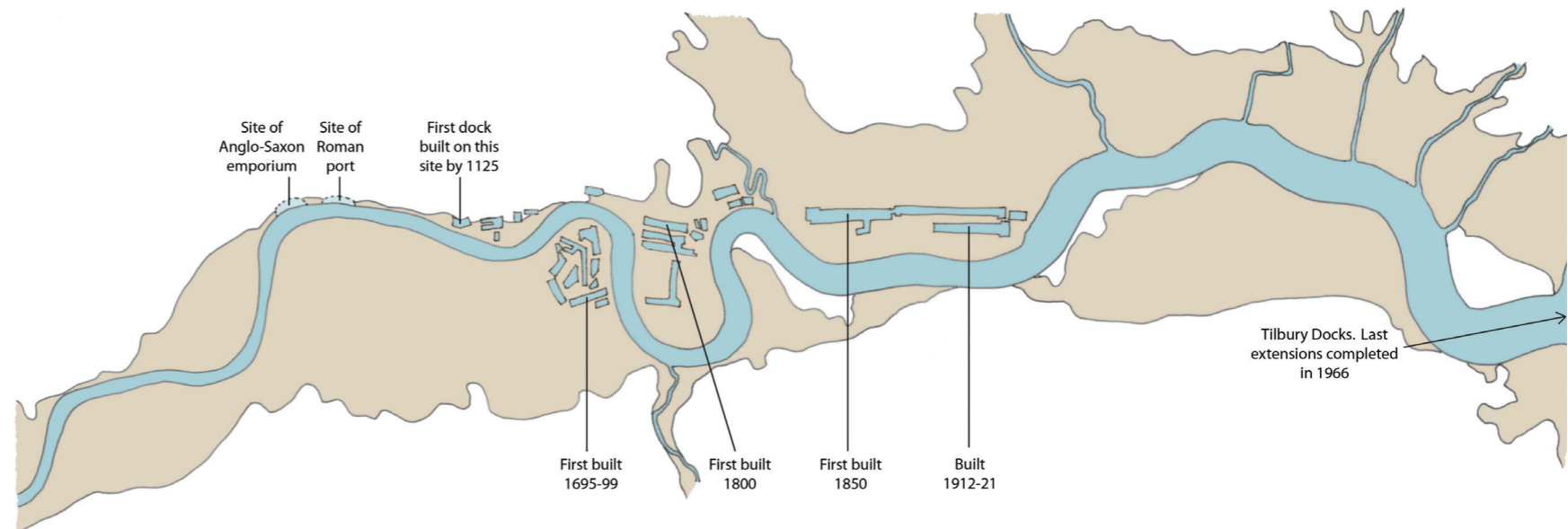
Road Map, c. 1600. London developed as the 'gateway' to England's travel network



The Geological origins of the City of London - gravel islands allow for crossing whilst ships are easily docked on the north side of the Thames



The eastward expansion of London as a port: note below how the wide floodplain of the Thames facilitated the construction of the large docks needed to sustain trading routes



influenced the location of industry to the east of the city, the land was in any case also unsuitable for building on or even for agriculture. Its only possible use was therefore as a base for industry. Equally, the character of London's Docklands owes much to the wide floodplain of the Thames which allowed for the 'excavation' of large docks and their progressive extension east along the river in line with the expansion in trade and shipping. Despite the immense change from its former guise as a functioning dock to the glittering towers of the financial district at Canary Wharf, this is an interesting example of the way in which, beneath a drastic shift of emphasis and aesthetic, development has nevertheless retained a link to the area's Natural Signature.

The large-scale development of London, and in particular its development as a 'brick city', continued to literally draw from London's substructure. North of the Thames, a first, relatively small phase of Georgian residential expansion was followed by significant expansion both north and south in the Victorian era, with early-mid

Victorian villas and then Victorian and Edwardian semis and terraces spreading outwards in both directions. Despite the grander stucco-covered Regency terraces by which London is often characterised in the popular imagination, brick is in fact the true keynote in London's visual fabric. A final swathe of expansion in the interwar period – the largest by far, before or since – into Essex, Hertfordshire, Kent, Middlesex and Surrey begins to lose its relationship with the ground on which it stands. Early development patterns clearly follow the gravel terraces upon which foundations are easy to build and which have excellent natural drainage, whilst interwar development spreads into predominately clay areas. Even so, in their emphasis on large gardens, street trees and low density, the suburbs retain in their turn a more 'natural' sense of space and topography. The designation of the Green Belt prevented London's further outwards expansion and the Green Belt itself has retained much of its traditional character and uses, including as agricultural land.



London stock brick in Bedford Square



Natural landscape in Richmond



London's topography emerges clearly at certain key points – here, a view towards the Docklands from Dulwich

Just as the built environment of London has been affected by the natural, the existing remnants of landscape have also been inherently shaped by the built environment. In effect these are patches of land which, poking through the blanket of built London, have remained undeveloped, though rarely unaltered or unmanaged. The historical landscaped parks, particularly the Victorian parks and the Royal Parks, were of course purposefully designed and as such are a continuation of, rather than an opposition to, the built environment. Regent's Park, for example, was initially masterplanned by Nash as a number of villas and grand terraces. In the end only the edge terraces were actually built and these clearly define the shape of the Park. St James's Park, originally a water meadow, underwent a succession of changes, from a deer park for Henry VIII and James I's later drainage interventions through to Charles II's major redesigns, and thence to Nash's final reworking in the romantic style. Little is natural about St James's Park – even the organic-looking lake is constructed – except, of course, for its raw material.

London's garden squares are also highly formalised and owe their existence to the surrounding residential areas that they were designed to serve, as do the acres of private garden and allotments which also contribute to the 'green-ness' of London, and even its biodiversity. In other cases landscapes have gone through many changes from natural to formal and then back to semi-natural, as at Wanstead Park whose palace and attendant royal deer park were lost to severe debt. The palace has, extraordinarily, been entirely dismantled and the gardens now retain an unusual mix of remnants of the formal layout with more semi-natural elements which have seeped back into the landscaped grounds. In addition, London supports a lot of woodland; indeed the broad range and diversity of habitats and green spaces in London should not be underestimated.



View of Canary Wharf from Primrose Hill

Some remnants have arisen more organically, whilst many others owe their existence to either formal legislation or ancient rights. The commons, associated with the 'villages' of London and now used as amenity grassland, owe their names to the fact that they are common land, that is, land over which people other than the owners also have rights, and were originally used by the 'commoners' for various functions including sheep grazing. Whilst they are not landscaped as such, to call them natural would be misleading. Nevertheless their amenity value is well recognised and perceptions of naturalness must also be taken into account, as wildlife and simple fresh air are natural aspects too.

The impact of legislation on the formation of London's remnant natural landscapes cannot be underestimated. Perhaps most clearly, the designation of the Green Belt has literally defined the boundary-edge of London, and its continued existence is therefore a man-made decision, a fact that may not register when passing through or within this 'natural' open land. The designation of the Green Belt in 1947 has its roots in a number of major green space plans as well as ongoing pressure from the environmentalist movement and the garden city movement. First formally proposed in 1935 by the Greater London Regional Planning Committee, it was also advised in Patrick Abercrombie's influential Greater London Plan of 1944. This separation of open land and built environment had much earlier been proposed by the Scottish botanist and early landscape designer John Claudius Loudon in his own plan for London, the tentatively titled *Hints on Breathing Places for the Metropolis, and for Country Towns and Villages, on fixed Principles* produced in 1829. Whilst Loudon's notion of dividing London into concentric rings which alternated open London and built environment (this could be extended until London hit the sea, he claimed!) was rather bolder than his title, and already impossible in 1829, nevertheless it ambitiously drew attention to the importance of human access to green space – his 'breathing places' – and was highly influential on later thinking.



Street trees in the suburbs

Few doubt that the designation of the Green Belt has on the whole been a positive influence, although certainly it has its critics. One negative effect has been the inadvertent reinforcement of the perceived opposition between built and natural environments, with the edge of the Green Belt as a sort of invisible 'face-off' between the two, whilst its very designation is based on amenity value rather than inherent character. It is difficult to reintegrate perceptions of such a clearly defined boundary, although our division of London into

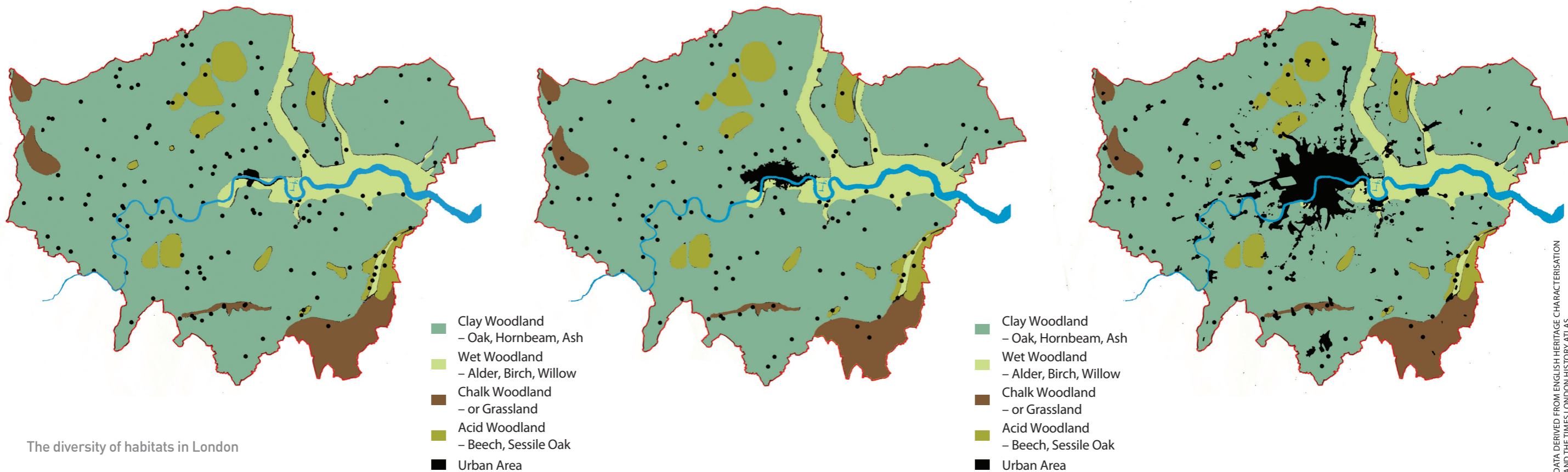
Landscape Character Types, many of which contain both Green Belt and other remnant landscapes, may serve to dissolve the boundaries somewhat by perceiving these areas of Green Belt as, at the same time, belonging to a wider whole.

The major movements and plans – those of Loudon, Ebenezer Howard, Abercrombie – are rightly well-known. Yet we must also not forget the quieter, more low-key movements and local initiatives

which have significantly shaped – and continue to shape – London's natural landscapes – as at for example Petts Wood in the Borough of Bromley. Local amenity groups have fought long and hard and with many successes to save and protect London's natural spaces, and even if many have not explicitly known of the underlying natural character of London, they have often, it seems, intuitively understood it.

Historical origins of London's open spaces

	History, type and use	Examples of assets
Commons	Areas associated with the original villages of London, where inhabitants had the right to graze animals, etc. Protected from development in the later 19th century, they are now mainly public parks, managed as amenity grassland.	Ealing Common, Wimbledon Common
Royal hunting grounds	Usually located in areas of low agricultural value, these 'forests' were managed to create good hunting conditions: a combination of woodland and open grassland. The more centrally located of these have become typical London Parks (see below) but those on the edges have retained this very distinctive character. Some, but not all, are now Royal Parks.	Richmond Park, Epping Forest, Trent Country Park – a remnant of Enfield Chase
London Squares	A characteristic of the 18th and 19th century developments of the great estates (Grosvenor, Bedford, etc.), they remain key open spaces in the heart of the capital's residential areas, though their enjoyment is often restricted to residents. On account of this, they are often introverted, surrounded by railings and hedges, landscaped and planted like large private gardens.	N/A
18th- to 20th-century parks (and cemeteries)	An integral part of the massive expansion of London, beginning in the 18th, but most typical of the 19th and early 20th centuries, was the provision of green space for light, air and recreation of the surrounding inhabitants. Unlike many London Squares, they are freely accessible to all and tend to be managed as amenity grassland, though many also contain picturesque features, such as ponds and woods. Cemeteries became necessary following the banning of burial in churchyards in the 1850's.	Regent's Park (18th century), Hyde Park (18th century), Battersea Park (19th century), Victoria Park (19th century), Burgess Park (post WWII)
Green Belt	Formally defined and legally protected from development in 1947, the Green Belt, whose edge is nevertheless negotiable, includes predominantly agricultural land and woodland. Special measures are needed to ensure the continuing viability of these 'traditional uses'.	Green Belt at Finchley Ridge and Upper North Downs Dip Slope Landscape Character Types
Rivers and creeks	As the primary artery for trade, as well as a major British river, the Thames has remained a strongly tidal river, though constrained by wharfs, embankments and river walls along its entire length. Of its tributaries, only the Lea and part and the lower reaches of the Brent, Ravensbourne (Deptford Creek), Roding (Barking Creek) and Ingrebourne (Rainham Creek) are suitable for navigation. So, in an increasingly developed London, this network of smaller rivers became primarily sewers and conduits for floodwater, hence the fact that many have been culverted and straightened.	Thames, Colne, Brent, Lea, Roding, Ingrebourne, Wandel, Ravensbourne, Cray
Gardens and allotments	Gardens are as much a feature of the 18th and 19th century expansion of London as the terraces behind which they lie. Legislation to provide allotments dates from the 19th century, so many were created (like parks) when the land surrounding them was built on.	N/A
Land unsuitable for building This falls into three categories:		
• Floodplain	The wide floodplain of the Thames (and of the Lea) has inhibited development (other than docks), leaving significant areas of marshland, which was in itself an important resource (for grazing, etc.) for the riverside villages. The other London rivers have narrower floodplains, so the ribbon of undeveloped land is more restricted, but usually still visible. Several valleys (including the Roding and Ravensbourne) have subsequently been used for transport infrastructure (railways and major roads), taking advantage of the corridors of open land passing through heavily built up areas.	Rainham marshes, the Ingrebourne valley, Brent valley, Crayford Marshes
• Hills and ridges	There are a few places where the topography of London is too steep or broken to be viably built on, and so have remained open, often as woodland. It is from these hills that the many of the best views of the topography of the city can be obtained.	Lesnes Abbey Wood, Crystal Palace ridge, Primrose Hill
• Verges, embankments and cuttings	Left over spaces adjacent to railway lines and roads, where health and safety requirements prevent development.	Railway junction near Wormwood Scrubs, disused track-bed near Hammersmith Station



Pre-Roman and Roman

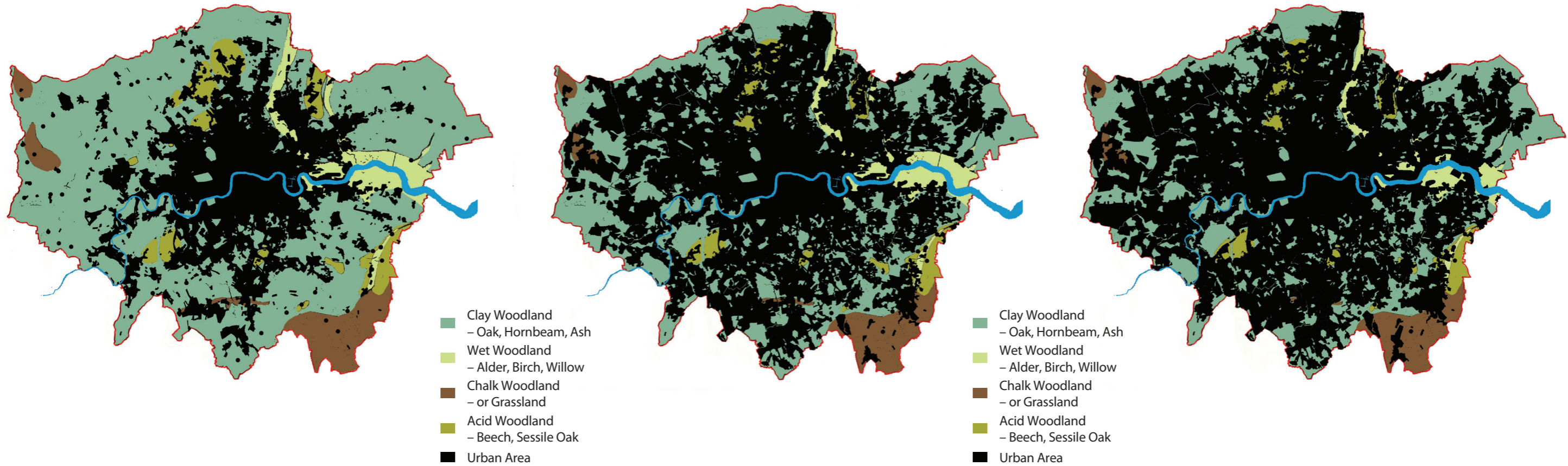
- The Roman settlement of Londinium was founded c. AD 50, at the first crossing point of the Thames. It rapidly developed into the principal town of Roman Britain.
- The tidal Thames followed approximately the same course as today, though unconstrained by walls or banks. Much of present day Southwark and Westminster, as well as the areas east of the city, would have been submerged at high tide. The natural habitats of salt marsh and wet meadows would have been extensive.
- South of the Thames, gravel islands at Southwark were settled and provided the springboard for a crossing the river.
- The area surrounding the city supported scattered farms and villas, and much of the land was cultivated for agriculture. Timber for building led to extensive woodland clearance.

Middle Ages to 17th century

- The Anglo-Saxons initially settled on the river edge at Aldwych, before Alfred the Great revived the Roman city in AD 886.
- The Roman city was reoccupied from the 9th century and the population expanded continuously (despite periodic plagues), though the area of the city remained small. In the 11th century, Westminster developed as a separate, royal and religious centre.
- Following the Great Fire in 1666, the core of the city was rebuilt. Bricks for the rebuilding were made from locally quarried brick earths.
- London developed as a major port, with wharfs constructed and docks excavated on the floodplain to the east of the city. Further down, river walls began to contain the Thames to allow exploitation of the marshes.
- The first open spaces within the city, such as Covent Garden and Lincoln's Inn Fields, were laid out. Hyde Park was opened to the public at the beginning of the 17th century.
- Outside, the surrounding areas remained rural, with a scattering of manors, villages and Commons, supplying food for the capital. The woods, particularly to the south, continued to be a source of building material.

18th and earlier 19th century (Georgian and early-mid Victorian)

- The population of London continued to expand, as did its area, with ribbon development along the principal routes into the city, and expansion of those villages within easy walking or riding distance of it.
- Some of the villages closest to the city, such as Chelsea and Islington, were engulfed by the expanding city.
- The role of the city's hinterland as the supplier of food and other materials for the capital became increasingly important. Market gardens tended to concentrate along the river or the main roads, for ease of transport of fresh food. The only remaining woodlands were in areas which were unsuitable for farming.
- The docks continued to expand to the east, and became larger, reflecting both increasing trade and the size of ships. Rivers, such as the Lea and Brent, were canalised.



Later 19th and early 20th century

- The coming of the railways in 1830 began a very rapid expansion of London, as people no longer needed to be able to walk to work. As a result, the resident population of the City fell – it became a specialist business area – but the overall population and area of London grew.
- The process of incorporating the former villages into London accelerated, though many managed to preserve a sense of their earlier character and a distinctive identity.
- As an integral part of the process of expansion, parks, cemeteries and other open spaces were laid out, to promote public health, although this also meant that existing habitats were removed or damaged through the landscaping fashions of the time. There were popular campaigns to protect open spaces against development. New sewage and freshwater supplies formed a network which reached out beyond the confines of the city, to east and west.
- The Embankment completed the process of controlling and hemming in the Thames at the heart of the capital. To the east, the expansion of the docks continued downstream and was increasingly associated with industry.
- The London County Council was established to take strategic control over the capital's development. This covered what are now the Inner London boroughs.

Early to mid 20th century

- The interwar period saw a further huge (but generally lower density) expansion of suburban London, covering virtually all the buildable area of the capital. Parks are rather simpler in these low density suburbs than previously, though we witness the growth of open space in and around social housing estates, beginning mostly in the late 1920s and reaching its peak in the 1960s.
- The Underground network increasingly complemented the railways, enlarging the possibilities for commuting to and from areas not previously covered.
- WWII bombing led to extensive destruction of London, particularly in the centre and east. Rebuilding took the opportunity to clear slums and to replace them with public housing estates and to relocate people and businesses to the New Towns.
- The Green Belt was introduced to limit the expansion of London, and populations were relocated to New Towns outside the Green Belt.

Late 20th century to present

- The growth of car ownership and usage has fundamentally altered the character of the city, in the need for new road infrastructure, the parking of cars in hitherto empty streets, and increasing levels of noise and air pollution.
- After a period of contraction, the population of London has grown significantly, to 8 million.
- The role of London as an industrial centre and port (though not an airport) has disappeared, though significant docks remain downstream, at Tilbury. Former docks and industrial areas, as at Canary Wharf, have been regenerated as major business and residential districts.
- The Thames is now seen as an amenity, rather than as a highway, and the Thames Gateway is seen as a key answer to London's housing shortage.
- There has been a renewed interest in the remaining open areas of the capital, with existing parks regenerated, new parks created and increased recognition of the importance of biodiversity and access to green space in the health and well-being of the population.



top, centre & bottom: The Lea Valley – ‘character’ is not always picturesque

The Erosion of London’s Natural Character

From one perspective, then, London’s natural landscapes have a positive relationship with the built environment. Indeed, they are in large part defined in relation to it. From another perspective, however, the built environment might be perceived as having gradually obliterated much of London’s natural character. This is difficult territory, of course, since if it were one hundred per cent natural, London would not exist. Nevertheless there are ways in which a city can grow whilst remaining sensitive to its underlying nature. London has to a large extent developed along these lines, although awareness of this sensitivity is not widespread, and there also remains a number of ways in which the process has eroded aspects of London’s natural condition. There are also issues of perception – as we have described, London’s nature is inherent in London’s built environment, nevertheless knowledge or even awareness of geology is not widespread, nor is geology visible except insofar as these remnant traces are embedded within the built environment – this is precisely why such traces are important to draw out.

Other factors are equally influential in having severed our links with the underlying nature of London. Travel by tube is possibly one of the most disorientating aspects, perhaps even exacerbated by the graphical system of the tube map, which distorts the actual relationship between places and, of course, like underground travel itself, flattens the topography of the city into two dimensions. Our awareness of London’s topography has also largely been disrupted by the built form itself, which, whilst retaining an actual relationship to the ‘lie of the land’ (many streets still do retain their natural slopes) nevertheless at the same time obscures it through the blocking of views. Only in key



The canalised River Rom – an erosion of the natural landscape

places does this topography visibly emerge – these places are crucial not just as amenities but in the way in which they reconnect us with this aspect of the city.

Quarrying, extensive in some areas, has also been undertaken for gravel from the river terrace deposits and for brick clay from the brickearths and London Clay. The gravel pits have generally been restored leaving no scar on the landscape, or converted into reservoirs, creating distinct features on the landscape. The brick clay pits tended to be very shallow and rather than being backfilled, were infilled with houses. London’s natural landscape has been eroded in other ways – the smoothing out of contours, the culverting of numerous rivers, including the River Effra in Lambeth and the River Fleet, the over-management of parks etc. To an extent these issues have begun to be recognised in local borough policies but largely as a means to increasing biodiversity, in itself a great leap forward in recognising the importance of natural habitats. Other significant policies see natural open green spaces in terms of amenity and access – again crucial. Yet these policies are not quite enough and London’s green spaces also need to be recognised in relation to the part they play in the broader character of London as well as those of its local, specific areas. In order to raise the profile of London’s natural landscapes, a clear, inspiring Vision is required, one which is capable of forming the basis of a policy in the London Plan.



The Effra, The Fleet, The Tyburn and The Westbourne - just some of Londons lost rivers

Forces for Change

This Vision is especially critical now and in the future in light of the forces and changes which are already affecting, and will continue to affect, London's natural landscapes. Many of these are national – even global – issues but they affect London in particular ways. Climate change is an urgent global concern and its negative impacts will be different across the world: in London, since the city is built up so closely to the edge of the river, flood risk is a key concern, whilst pollution continues to have a significant negative impact on natural habitats and threatens sensitive plant species. Development pressures also weigh heavily on London, with the suburbs particularly at risk due to their intentional low density; their plots, including their gardens, are technically classified as 'brownfield' sites and thus to be favoured for development. Whilst the Green Belt is well protected, suburban gardens are not, and the postwar designation of the Green Belt has, as intended, prevented further spread outwards, thus increasing pressure within its confines. This presents a number of challenges, not least from a biodiversity perspective since private gardens can be havens for wildlife, and although they fall outside of the remit of this study, their contribution should not be overlooked. Furthermore, population increase is also already driving a desire for taller building, which also affects London's natural landscapes albeit in different ways – by potentially obscuring key views which themselves are revelatory of the underlying nature of London. How we tackle the need for housing in such a constricted situation and without further obliterating London's natural landscape is a difficult question but one which must be addressed.

Even the Green Belt is not entirely protected from threat, ironically often from encroaching amenity requirements such as stables for horse-riding, as well as, potentially, major shifts in future agricultural requirements, although it must be remembered that some areas of the Green Belt are poor quality, neglected spaces with little or no environmental or social benefit. Another national issue, which affects managed parks, and particularly those local parks which are so crucial as amenities for communities, is the lack of investment in skilled labour and, especially, in local park wardens, which in turn erodes confidence in the safety of parks, if not in fact safety itself. This is a problem which the boroughs themselves acknowledge is now almost impossible to properly address without a radical shift in the funding situation, and in fact the more 'natural' (or apparently natural) an area the more perceptions are likely to veer on the side of danger – we must remember that wilderness has a number of

connotations and that for many (perhaps especially for women and for those with children) wild spaces can be as troubling as they are uplifting, a perception which has undoubtedly been exacerbated by an anxious social climate. This is no reason to neglect London's natural landscapes, however; on the contrary it is this more natural – in some cases 'wild' – London whose profile we want to raise: the fewer the visitors, the worse the spiral of fear and neglect.

There are, too, continuing positive forces for change at work such as the initiatives promoting the All London Green Grid and the Wandle Regional Park. Organisations such as Groundwork, the London Wildlife Trust or the River Wandle Trust, help by engaging volunteers in clean-up and conservation activities for natural habitats ranging from the Greenway in Newham or the Walthamstow Reservoirs, to small parks or green spaces in housing estates. Further, regeneration can also be a positive force for change but here we must be careful to balance future development with any potential side effects. The 2012 Olympic Site, which will profoundly transform the Lea Valley Natural Landscape Area, will certainly be a boon to the contaminated and derelict river areas at this site (although the Area has a pronouncedly 'wild' aspect that may, equally, be lost if changes are too sweepingly undertaken). The boundaries of the Natural Landscape Areas developed here do not always coincide geographically with local initiatives; nevertheless we expect that these are able to work in tandem.

Ultimately, our vision is not only to raise awareness of London's natural landscapes in their own right and, more broadly, of what they have to say to us about the underlying natural character of London, but also to look to the future. In the tradition of urban characterisation work which aims to guide development through a more holistic, deeper and complex contextual approach than had previously been the case, we want to guide future development in such a way that it respects, enhances, highlights, moves forward and also reflects the natural character of London's Landscape Character Types. The Lea Valley regeneration, for example, might work with, and not against, its existing character. In some cases this has already inadvertently been achieved: as noted, despite appearances to the contrary, the development of the docklands around the Isle of Dogs retains its Natural Signature. However, this owes more to the resistance of nature than it does to human intervention – the docks are, quite simply, too vast to be anything other than respected. The situation is more problematic the smaller and more subtle the remnant of nature, or where that remnant has a wild aspect which on the one hand we recognise clearly but which, on the other, we are apt to want to tame. This is where the Natural Signature and Design Clues will be invaluable in sensitively driving change.



The London Wetland Centre - the lake at dawn



One Tree Hill



Enjoying the view at Richmond



Mudchute: a view towards Canary Wharf