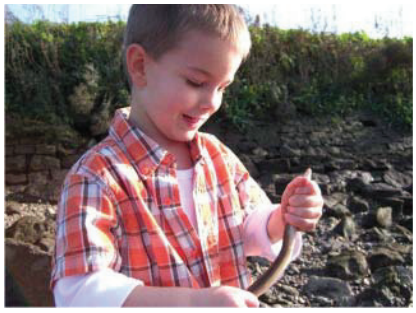
## THE NATURAL LANDSCAPE

2.72 The River Thames is London's best known natural feature. It twists and turns through London, changing from a large freshwater river at Hampton into a saline estuary in the east. The river forms a continuous green corridor stretching through London, between the countryside and the sea.

*Access to the river is particulary good along the Arcadian Thames*

2.73 The nature conservation importance of the linear features of the river channel, mudflats and banks cannot be separated from the land in the river corridor. The stretch between Hampton and Kew has the largest expanse of land designated with Site of Special Scientific Interest status in London.

2.74 For centuries, people have been fascinated by the River Thames, and it continues to attract and inspire local residents and visitors from central London and abroad. Part of the great attraction of the river is the accessible experience of tranquil nature among the concrete and asphalt of the city - the flash of a kingfisher, the bright colour of a wildflower or a sudden cloud of butterflies have a special resonance in the urban setting. One of the main aims of the Strategy is to ensure the continued balance between wildlife conservation and public access and enjoyment.

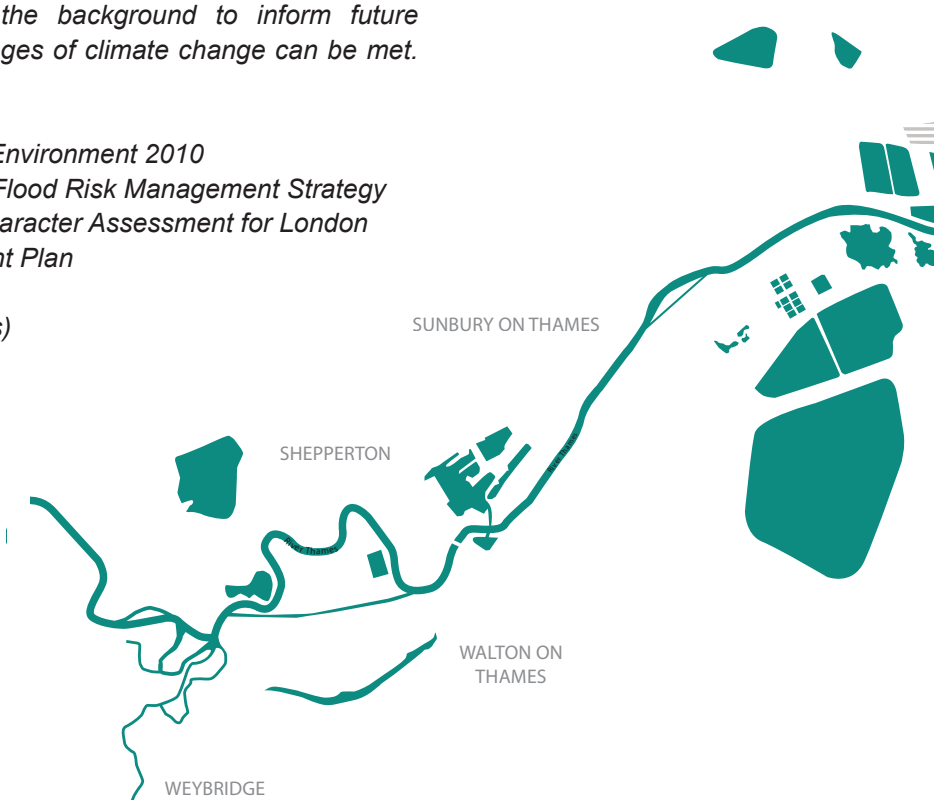


*The Thames is London's best outdoor classroom*

2.75 Over the centuries, the land and the river have been influenced by man's activities. No habitat in London is truly natural which means that we have a particular responsibility to continue to manage the area in ways that conserve a mosaic of attractive habitats and to take special care of rarities.

2.76 *2012 Update: This section gives an overview of the variety of riverside habitats, providing the background to inform future management and how the challenges of climate change can be met. Strategic guidance is set out in:*

- *HM White Paper on the Natural Environment 2010*
- *TE2100 and the Lower Thames Flood Risk Management Strategy*
- *Natural England's Landscape Character Assessment for London*
- *River Thames Basin Management Plan*
- *The London Plan*
- *Biodiversity Action Plans (various)*
- *All London Green Grid*



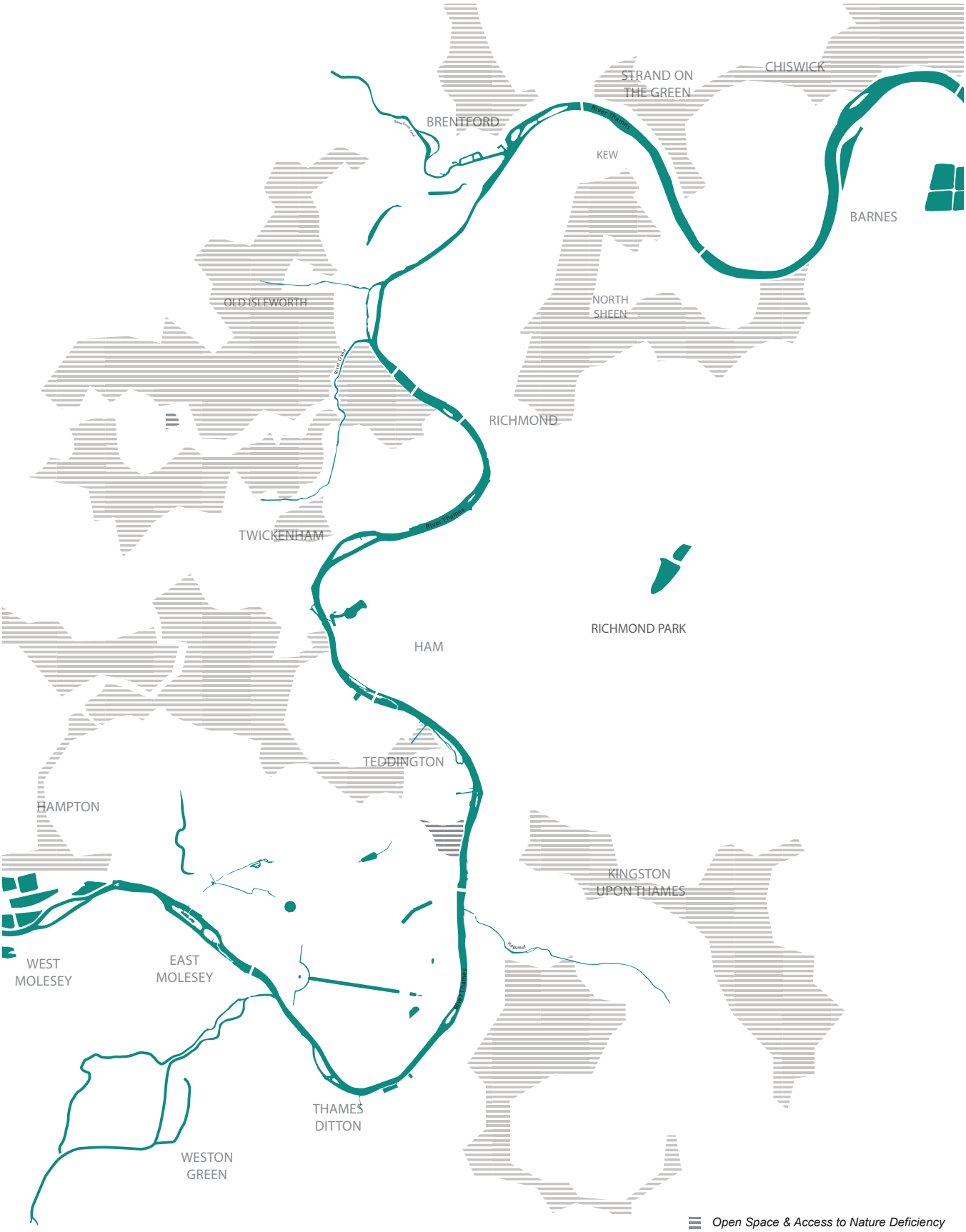



Figure 13 - Open Space Deficiency

- Woodland Park
- Parkland
- Parkland and un or semi-improved acid grassland
- Broadleaved woodland - non native
- Parkland and woodland park
- Un-or semi-improved neutral grassland
- Broadleaved woodland - native and scrub
- Un-or semi- improved neutral grassland and other perrenial rhizomatous species
- Woodland park and other perrenial, rhizomatous species
- Parkland and species-rich herbacious fen
- Un-or semi-improved acid grass land
- Bracken
- Broadleaved woodland - native
- Bare artificial habitat
- Acid grass and other perrenial species
- Woodland park and Bracken
- Arable, Intensive livestock paddocks
- Scrub
- Broadleaved woodland, native and non-native
- Broadleaved woodland - native+ species-rich herbaceous fen
- Un- or semi-improved basic grassland
- Un- or semi- improved neutral grassland and woodland park
- Improved / reseeded grassland
- Un- or semi-improved neutral grassland + Arable, intensive livestock paddocks etc.
- Improved / reseeded grassland + Un- or semi-improved neutral grass-land
- Ruderal / ephemeral communities + Bare artifical habitat
- Other perennial, rhizomatous species
- Wet marginal vegetation
- Scrub + Other perennial, rhizomatous species
- Bare artifical habitat
- Other
- River Thames
- Standing water


Figure 12 - Natural Habitats

## THE RIVER

### The River Channel

2.77 *2012 Update:* ***The river channel*** *is fed by drainage from a large catchment stretching into Gloucestershire and with a daily rise and fall of the tide as far as Teddington Lock (in normal conditions). This hydrologic pattern produces a variety of special habitats within the river including mudflats, gravel foreshore, areas of fast and slow flow and backwaters. The success in curbing pollution of the Thames in recent years has made the river able to support a great diversity of species, including fish and invertebrates and along its banks a healthier population of plants, visiting and breeding bird species, native plants and bats. The Arcadian Thames is now considered one of the most important habitats for bat species in Southern England. Dolphins and porpoises have been reported as far upstream as Kew and seals as far upstream as Teddington Lock. Mink are a known problem in Kew and Kingston. The TLS has created and improved habitat to enable otters to return to London.*

*2.78 2012 Update: The main source of pollution into the river is the occasional discharge of untreated storm water that results in fish kills when dissolved oxygen falls below critical levels. Information on measures to reduce storm water discharge is set out in Chapter 3. In addition, the Environment Agency is working with a diverse range of partners to achieve good ecological status of the UK's rivers through the Water Framework Directive and manages the London Rivers Action Plan that brings together a series of projects to restore or re-create natural river habitat across the capital. In 2009, the TLS published 'The Restoration of the Natural Floodplain' project that set out a series of ways that the floodplain could be better managed for wildlife, for people and for water. A Tidal Thames Habitat Action Plan has been agreed for the London Boroughs of Hounslow and Richmond upon Thames.*

***Guidance NL 1: Maintain fish passes through weirs and construct further fish passes to assist fish migration. Seek to minimise the discharge of untreated storm water into the river.***

### The Islands

2.79 **The islands (eyots and aits)** in the river are important refuges for both plants and animals. Although some of the aits have been developed for housing, many are partly or wholly covered by native vegetation and provide some of the best semi-natural habitat for animals along the river. The habitats found on each island and their value for wildlife depend on such factors as size, management, age and frequency of inundation by the tide. In the past, many of the islands would have been covered in osier beds, used for supplying London's basket-making trade. Today, most have been colonised by woodland.

*2012 Update: The London Wildlife Trust has restored an area of traditional osier bed on Isleworth Ait that is managed by local volunteers. The islands in this stretch of the river provide good breeding grounds*

### *Fish in the River Thames*

*The Thames above Teddington Lock is normally non-tidal. The lack of a tidal scour creates many sheltered parts of the river where freshwater fish can breed. Dace, roach, chub and gudgeon are among the commoner species and these are preyed upon by pike, which require relatively slow-flowing and clear waters. Over-hanging vegetation plays a crucial role in maintaining a healthy stock of fish.*

*The TLS monitors the riverbed in partnership with ZSL London Zoo and the Marine Conservation Society*

*Since the cleaning of the lower Thames, migratory fish have once more been able to colonise. The river now supports over 170 different species of fish including carp, perch and sea lamprey. Fish passes, now built at Teddington Lock, are especially important for allowing fish to swim upstream to breed. Between Teddington Lock and Richmond Lock the water is only partly tidal, with the water level generally maintained above that of the natural low tide. Generally no saline water penetrates this far upriver but the gravel beds of the upper tideway support an important nursery ground for several species of North Sea fish including flounder. The wide range of fish has made the river very important for fish-eating birds. The Thames is fully tidal below Richmond Lock and expanses of mud and gravel are exposed at low tide between Richmond Lock and Kew Bridge.*

*A Thames eel*

*Eels are an important fish long associated with London and the Thames. Although they were once found in considerable numbers their population has declined considerably in recent years and are now listed by the IUCN as critically endangered. It is important to maintain refuges on the riverbed (these could be large stones or an upturned shopping trolley), and install eel passes on weirs and associated structures for this important species, particularly at the mouths of tributaries as they enter the Thames.*

*Native mussels*

### *Benthic Fauna*

*There is a considerable seasonal suspended silt load in the river system. This is perhaps enhanced from time to time by dredging activities and flocculation downstream. However, due to the relatively fast flowing nature of the stretch, silt is only deposited in any quantity in minor low-flow areas, especially on the Twickenham and Brentford side of the river, where islands interrupt the flow. These conditions provide important transition zone habitats for benthic fauna, including unionid mussel beds; specifically the Painters mussel, the Duck mussel, and the less common Swollen river mussel; whilst also providing for the UK BAP priority species the Depressed River Mussel (a flagship species for the Tidal Thames). Evidence suggests however, that these native mussel populations are in decline whilst populations of non-native zebra mussels and Asiatic clam are increasing.*

*The TLS in partnership with the Zoological Society of London and the Marine Conservation Society monitor the spread of non- native mussels during the annual draw-off period that takes place between Richmond and Teddington Locks.*

*for the grey heron that nest high up in the trees on Corporation Island, Isleworth Ait and Brentford Ait.*

2.80 The most significant islands for nature conservation are Eel Pie Island, Isleworth Ait and Lots and Brentford Aits. All of these have substantial areas of natural vegetation. For example, Isleworth Ait is dominated by mature sycamore woodland with a shrub layer of hawthorn, holly and elder, and a rich ground flora. Brentford Ait, which appears as two islands at high tide when the muddy link is covered over, is flooded during some high tides and consequently consists largely of trees which prefer the very wet conditions, and has little ground flora.

***Guidance NL 2: Prevent the loss of any further island habitat to development. Maintain islands as quiet refuges, particularly for nesting birds. Where appropriate, encourage natural woodland regeneration and enhance river edges for habitat diversity. Manage trees and woodland on the aits and promote native tree-planting in island gardens and on the up- and downstream ends of developed aits.***

*The two-lipped doorsnail*

**The Intertidal Zone**

2.81 **The intertidal zone** or foreshore, the area exposed at low tide below Richmond Lock, provides a rich feeding ground for water birds. The intertidal mudflats, formed by the accumulation of silt, have a high density of small invertebrates. For example, around Lots Ait, the mud contains flatworms, freshwater shrimps, the German hairy snail and the two-lipped door snail and six species of leech. At high tide the birds roost on adjacent high ground while fish take their turn at feeding on these rich areas. Intertidal vegetation is also vitally important for supporting large numbers of invertebrates and birds. Areas of semi-natural river edge are very scarce in London, and the most important one upstream of central London is the Syon Park meadows and muds. Designated as an SSSI, it is a unique area of flood meadow and wet woodland dissected by tidal creeks that open onto the Thames. There is a large reedbed with a variety of characteristic plant species and rare species of snail. The site is well used by a variety of birds, including herons and cormorants. In recent years this special habitat has started to colonise the opposite bank along the Old Deer Park. The littoral gravel areas provide an important habitat, being used as refugia, feeding, spawning and nursery grounds by many fish species, notably bass, sand-smelt and flounder.

*A TLS foreshore discovery day*

***Guidance NL 3: Prevent built development from encroaching into the river channel. Continue to monitor the ecology of the intertidal areas to determine management procedures and potential for public access.***

*Willow spiling*

**The River Banks**

2.82 Although **the river banks** are now largely artificial embankments, they can still provide a valuable habitat. Vertical cliffs of sterile wall, notably the solid concrete constructions at Kew Gardens, provide little value to wildlife. But on more gently sloping walls, and

*A naturalised riverbank near Marble Hill*

*TLS volunteers planting reeds*

*A Chinese Mitten Crab*

on those which are loosely constructed, plants are able to colonise and consequently provide areas for invertebrates to feed. Mute swans, mallard, coot, and moorhens feed on the invertebrates and also the green algae on the walls.

*2.83 2012 Update: Some stretches of the riverbank are showing evidence of erosion and in some places are starting to slump towards the bed of the river or are being washed away by the action of the spring tides and boat wash. Whilst this can be good in creating new habitats, it could have costly future implications. Where possible the planned re-creation of natural riverbanks should be encouraged. There is considerable scope for this on the Arcadian Thames linked to the wider green chain.*

2.84 On the freshwater river, kingfisher holes can be spotted on the riverbanks, whilst on the tideway, riverbank holes tend to indicate the presence of the Chinese mitten crab – a common invasive species that entered the Thames via ballast water. These crabs are now common as far upstream as the Wey Navigation and a considerable distance up the Hogsmill and Crane tributaries.

*2.85 2012 Update: Long stretches of the Thames are lined by a thriving population of trees – some still managed in a traditional way although some self-sown species are beginning to dominate in places. A diverse and healthy range of native herbaceous plants thrive along the wet and nutrient-rich riverbanks.*

***Guidance NL 4: Construct the banks with materials that accommodate plants. Actively manage the plant and tree growth on a rotational basis to provide a mosaic of sun and shade for plants, roosting and breeding places for birds and attractive river banks for people enjoying the river.***

2.86 Jetties, docks and barges provide roosts for a variety of birds above the water, while below the surface, wooden structures are valuable for crustaceans, the shipworm and other bivalves.

**The Towpath**

2.87 **The towpath** runs along one or both sides of the river all the way from Hampton to Kew. The width of the towpath varies considerably. The vegetation on the edges of the path creates an important linear green corridor. During the summer the riverbank comes alive with a wide range of flowering plants that thrive in the wet conditions. Invasive species such as Himalayan balsam and hypericum are a problem.

***Guidance NL 5: Manage the towpath edges in line with the annual TLS Towpath Management Plan to ensure a variety of valuable habitats. Where appropriate, manage encroaching scrub on a rotational basis to maintain open areas, cutting grass and other low vegetation annually and removing all the cut material.***

### *Wildlife Above the River*

*Common Tern and the Great Crested Grebe (both flagship species for the Tidal Thames), mallards, coots, mute swans, moorhens, wagtails and Grey Heron are found in increasing numbers. At night, owls can be seen along the river. The installation of artificial river bank habitat has facilitated the return of the sand martin and kingfisher along the Thames.*

*Above the water insects flourish, including: dragonflies, mayflies, caddis flies, mosquitoes and midges – the latter providing an ideal food source for seven species of bats including noctule, Daubenton Bat Myotis daubentonii (a flagship species for the Tidal Thames) and pipistrelle. These nocturnal mammals roost in the veteran trees found in the historic parks and gardens making their way to the water to feed along the network of sight lines and avenues – often referred to as 'the bat super highways'. The Arcadian Thames is now recognised as one of the most important habitats for bats in southern England although their numbers are constantly at threat from development, bad lighting and habitat loss.*

*The Thames supports one of the UK's most important bat populations*

*The TLS has installed many bird, bat and owl boxes along the river*

*A proud new resident*

*An artificial sand martin bank on Eel Pie Island*

### *Island Management*

*Although logistically difficult, management of the island habitat would increase wildlife diversity. Some open areas should be retained or created for nesting waterfowl. Native trees should generally be favoured over those exotic species of little value to nature conservation when thinning or coppicing the woodland; but woodland management on the islands should be minimal, allowing the trees to grow old and die in place. Where possible, natural regeneration should be encouraged rather than new planting. Where osier beds remain, the re-cutting and subsequent re-growth of the willow will provide thicket conditions favoured by many birds. The habitat could be further enhanced by creating reed beds on the river edge.*

*In 2002, the TLS published an Island Management Plan.*

### *Trees on the Riverbanks*

*Although the riverside is now more densely covered by trees than for centuries and would ideally be more open, there is a valuable range of plants on the banks, some preferring the lower, wet situation, and others the drier bank top. At the top of the riverbank trees are found including ash, alder and willow. Whilst some have been deliberately planted to help stabilise the riverbank from erosion, the majority are self sown.*

*Where views are not blocked and wider biodiversity interests are not compromised, a good stock of mature trees should be encouraged. These add much to the landscape character and provide a good habitat in themselves. Along the Arcadian Thames the native white, crack, pussy (also known as sallow) and goat willow are found. The first weeping willow to be planted in the UK was at Twickenham – reputably by Alexander Pope at his Thames-side villa.*

*Riverside willow trees should be pollarded to aviod collapse*

*The traditional way to manage willows is called 'coppicing' and 'pollarding' usually at intervals of between three to seven years. The trees are cut to form a thick stump or 'coppice stool' that considerably extends the life of the tree, lets in light to the shrub layer and supports a wide diversity of wildlife. Vigorous new shoots quickly grow up whilst the cut 'withies' are used for basket making or planted elsewhere along the river to form new living riverbanks known as 'spiling' such as those created by volunteers along the Old Deer Park.*

*Planting native black poplar with local school children*

*The native black poplar is one of the rarest trees found along the Thames. A magnificent example can be found at Ferry Point in Brentford, and between Ham and Kingston the London's Arcadia project has planted many young specimens propagated from near-by Richmond Park. Ash and alder thrive along the river, particularly in the slower moving freshwater reaches at Hampton Court and Hurst Park. Other common riverside trees include horse chestnut, lime and sycamore – a non-native plant that thrives along the Thames out-competing many more important native species. In long stretches suckering elm can dominate forming a visual barrier between the towpath and the river.*

*Lime trees being planted on Richmond Hill*

*Where trees and scrub have gained a root hold on the bank they provide shelter, shade and roosting places. However, the shade of the trees has a direct effect on the underlying ground flora, reducing the variety of plants which mature to produce seed and hence gradually changing the flora to a limited number of shade-bearing species. The introduction of a rotational scrub management regime on a 10-15 year cycle would allow plant colonisation between repair programmes.*

**Tributaries and Channels**

2.88 There are no fewer than six **tributaries and channels** entering the Thames between Hampton and Kew. These tributaries extend the river habitat beyond the Thames, providing a corridor visibly used by birds, including kingfishers. These tributary creeks are also important for fish as they provide valuable refuges, feeding grounds, spawning areas and access routes to less disturbed freshwater reaches. The River Crane is tidal for 800 metres and the river channel has considerable ecological value. On the muddy banks aquatic plants include celery-leaved crowfoot, water-pepper, gypsy-wort and hemlock water dropwort.

*Naturalised riverbank at Walton*

2.89 Apart from the Longford River, most of these rivers pass through built up areas before entering the Thames, with little natural vegetation or open space alongside. The main Thames channel is therefore the principal corridor.

*A restored riverbank at Walton provides an excellent example that could be replicated elsewhere along the Thames*

***Policy NL 6*: *Create new habitats along the Thames tributaries and channels to provide an improved wildlife corridor. Build fish passes into the weirs on the tributaries to assist fish to reach quieter stretches.***

**HABITATS IN THE RIVER CORRIDOR**

2.90 The natural landscape reflects, through the plants that cloak it, the underlying geology and man's influence upon it. The Thames landscape has been formed over millions of years. As already described under Historical and Cultural Landscape, some 70 million years ago much of the London area was covered by the sea, which resulted in a deposition of L**ondon Clay**. There are now only a few places where London Clay is found at the surface, mainly within the valleys of the Rivers Crane and Brent where it has been re-exposed by erosion, and also where it is exposed over parts of Richmond Park. Because of its poor drainage qualities, the clay has marshy habitats associated with it, often damp woodland.

2.91 In contrast to the clay, the gravels are free draining and support dry acidic grassland. Today, Richmond Park and Hampton Court Park are the main areas where acid-loving plants indicate the underlying acidic gravels. The gravels also make a good substrate for building and have largely been covered by urban development. Apart from Richmond Park, it is therefore only where there has been a risk of flooding close to the rivers that gravels are now seen near to the surface. There are river terrace gravels near the Thames at Isleworth and Syon. The gravel under Ham Lands was excavated in the first half of the 20th century and has been infilled. Elsewhere flanking parts of the Thames, Crane and Brent there is often a superficial layer of **alluvium** deposited in relatively recent years by the rivers, making the land more fertile and less acidic. Some important meadows survive, such as the Syon tide meadows, but more often a lack of management has led to the development of woodland on the alluvium.

2.92 The land in the river corridor between Hampton and Kew supports a remarkably rich mosaic of woodland, scrub, grassland and wetland habitats. In many places, all of these habitats are found together. There is a great diversity of plants and animals, including numerous species that are rare in London.

**Grassland**

*Syon House and meadows*

2.93 Due to the history of the area, significant grasslands still survive, never having been treated with chemicals or fertilisers. Richmond Park's acidic grasslands are the most extensive in London and because of this, together with the importance of the Park's ancient trees and wetland habitats, it has been designated a Site of Special Scientific Interest by Natural England and is a National Nature Reserve. Bushy Park and Hampton Court Park (or Home Park) also have large expanses of acid grassland, with sheep's fescue and common bent-grass dominating the sward over much of Bushy Park. Many areas turn red in early summer with an abundance of sheep's sorrel while other typical wildflowers of dry acid grasslands which are common here include cat's ear, sand spurrey, stickymouse-ear chickweed and harebell. Other areas of acid grassland include the roughs at both Sudbrook Park and the Royal Mid-Surrey golf courses.

*Cattle graze Syon wet meadows*

2.94 Other notable grasslands include the riverside Petersham Meadows and Ham Lands. Although flooding occurs only rarely, the damper areas provide diversity. Petersham Meadows give us a feeling of the way much of London's riverside must have looked in the past, with cattle grazing contentedly on the lush grass and wild flowers. In comparison, Ham Lands is a young site, apart from the line of the old avenue and the flood meadow to its west, being an area of in-filled gravel workings. The colonisation of the land fill has seen a fantastic array of unusual plants succeeding each other. For example, the nationally scarce Nottingham catchfly grew close to the towpath until it was overgrown by scrub. It will be important to hold back the natural succession to scrub and woodland over much of the meadows to ensure a continuing floral diversity. Seething Wells is another most unusual riverside site, the banks around the storage reservoirs having developed a calcareous grassland, rich in species.

*A wildflower meadow*

***Guidance NL 7: Manage significant grassland habitats with a traditional regime of grazing or hay cut, with no fertilisers or herbicides, to maintain or improve their diversity. Control the spread of scrub and bracken to conserve and enhance the nature conservation interest of the habitat.***

**Trees, Woodland, Scrub and Hedgerows**

2.95 Broadleaved woodland would once have covered almost all of the Thames valley, but clearance and management which started in Neolithic times has produced the grasslands and the subsequent scrub and secondary woodland, on managed grasslands.

### *Riverside Vegetation*

*Between Teddington and Kew, the river has a high organic content resulting in an abundance of docks and nettles. Because of this the TLS put in place a Towpath Management Plan that allowed for the riverbank to be cut several times a year. This has resulted in a considerable increase in the diversity of native flowering plants such as the magnificent purple loosestrife – a key indicator of good ecological health. Along the freshwater river and areas of calmer water on the tideway; flag iris, water mint, cow parsley, angelica and marsh marigold are found. The wild flowers, quite a number of which are rare in London, attract many invertebrates to feed. The purple hairstreak butterfly, for example, can be seen feeding on the bramble flowers along the edge of the towpath beside Kew Gardens. While trees provide some shelter from wind, the shade they cast may reduce the floristic interest of the towpath edges but can provide valuable habitat for young fish.*

*Himalayan balsam*

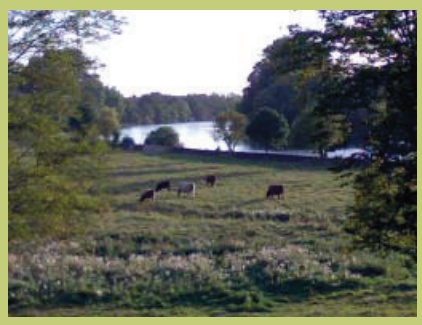
*The invasive Himalayan balsam is common along the riverbank although it has now been controlled in many places. Over the past couple of years two new invasive species, hypericam and oil seed rape have began to colonise large areas of riverbank particularly on the freshwater reaches.*

*Reeds and sedges at Marble Hill*

*Native flowers on the riverbank - good management is important if diversity is to be maintained*

### *Grazing*

*Until relatively recently the traditional way to manage riverside meadows was through summer grazing. Today only Syon and Petersham Meadows are still grazed by cows although parts of Bushy and Home Park are managed by horses associated with the Royal Paddocks. Richmond and Bushy Parks are grazed by herds of red and fallow deer. The scope to re-introduce cattle to a much wider area than at present should be encouraged. A single 'floating' herd could be moved from one area to another opening up new avenues of funding, increased diversity, introducing the scope for local food production whilst providing economies of scale to riparian managers.*



*Petersham Meadows*

*Decaying stump in Petersham Lodge Woods provides an excellent habitat*

2.96 While sadly there is no ancient (pre-1600) woodland in the area, there are many individual trees of great age, especially in the ancient wood pasture of Richmond Park, which has almost 500 oaks pre-dating the enclosure of the park nearly 350 years ago. The trees were pollarded in the past for firewood and poles and to allow the tree to re-grow out of reach of browsing cattle and deer. The practice of pollarding has extended the life of the trees, and these ancient trees now support an unusually large number of animals, including over 200 types of beetle, as well as hole-nesting birds rare in London, such as the little owl and more recently the mandarin duck.

2.97 **Dead and decaying wood** is an important habitat in the regeneration cycle, which supports specialised plants and animals. All forms of dead wood, both standing or rotting on the ground, contribute to this habitat.

2.98 The secondary woodlands that have developed on abandoned farmland or common land are influenced by the underlying soils; silver birch, elm, sycamore and oak have colonised the acidic grasslands. Close to the river and on the islands, where there is more fertile alluvium, damp willow woodland grows, sheltering wetland plants such as wild angelica. Where tree planting takes place in appropriate 'natural' areas, local tree stock should be used when possible, or even better, natural regeneration should be encouraged to ensure the local genetic link is kept.

*2.99 2012 Update: Although in general the riverbanks need to be re-opened and thinned of trees, in places where trees have been identified as an important element in shaping the landscape character it is important to allow trees of all sizes to flourish, so that younger specimens can grow to maturity to take the place of any mature trees that are lost.*

*Willow coppice*

2.100 **Scrub** occurs as a transitional stage in the succession from grassland to woodland. Although scrub invasion into herb-rich grassland can often be detrimental to nature conservation, greatly reducing floral diversity, scrub in itself is an important habitat, especially for birds, providing food, shelter and nest sites. To prevent scrub developing into woodland it needs to be held in the transitional stage by cutting areas every 10 years or so. Indeed some parts of the secondary woodlands in the area could be similarly managed on a short coppice rotation to provide dense thickets that are so attractive to nesting birds.

***Guidance NL 8: Create new pollards and manage the woodlands and scrub to provide diversity of age and structure, conserving and enhancing nature conservation interest. Where practical, conserve dead/dying standing and fallen trees as dead wood habitat.***

*Students laying hedge*

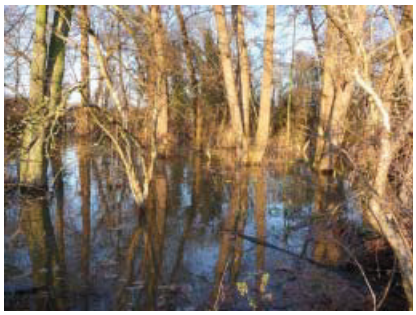
*2.101 2012 Update: Criss-crossing the landscape is a network of* ***hedgerows*** *that provide valuable green links and a habitat for nesting birds. Over the past ten years the TLS has planted over 4 miles of native hedgerow using a diverse range of species including holly, hawthorn, dog rose, field maple, damson and sloe. These are managed*

*by volunteers in the traditional way by layering the branches to form a thick stock-proof barrier. Mistletoe is abundant in Home Park. A TLS project to extend its geographical spread was started in 2006.*

**Wetlands and Backwaters**

2.102 Apart from the River Thames and tributaries, there are a number of small streams and ditches, ponds, marshy vegetation, wet woodland and wet grassland.

2.103 The most important wetland for nature conservation is the Syon Park flood meadows, designated by Natural England as a Site of Special Scientific Interest. The meadows are particularly unusual because part of the land is inundated twice daily by the (largely freshwater this far upstream) tide. As a consequence there are some very rare species such as the German hairy snail and the two-lipped door snail. The riverside muds have been colonised by willows and a shrub layer of mostly elder. While the trees are valuable for roosting birds, it is the wet grassland and creeks that need to be given priority in future management.



*Wet woodland in Petersham*

2.104 Other wetlands in the area include the wet ditch running down the northwestern side of the Old Deer Park, the ponds at Richmond Park and Bushy Park, the Ham Lands backwaters, the Home Park water meadows and the small ponds on the golf courses. At Petersham long inter-connected areas of wet woodland have established. The well-managed wetlands are a riot of colour in the summer months with flowering water plants and dragonflies, that support a fascinating diversity of species such as wild horseradish and many different **sacrophylic insects** living in the decaying wood that falls in the water.

*Backwaters in the Home Park are an important habitat*

2.105 *2012 Update: As climate changes it is anticipated that summer droughts will increase. Wetlands that are fed by freshwater tidal inundation could become important places for a range of wildlife to take refuge during these times although it would be important to monitor the salinity of the water. A key priority for the TLS in the coming years will be to manage the open spaces located in areas that flood frequently so that a mosaic of different habitats suited to wet conditions are created to form a viable green corridor between Barnes and Surrey. These should be connected to each other by a series of creeks and linked to the main channel of the Thames through a series of sluices.*

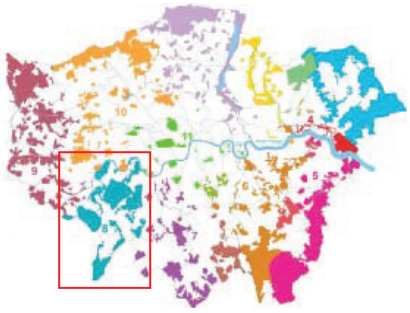
***Guidance NL 9*: *Manage the wetlands by keeping trees and scrub to a minimum to allow sunlight on to the water and edges, and where appropriate, maintain by grazing or cutting the wet grassland. Restore, extend and connect old wetland systems and take opportunities to create new wetlands where appropriate, with the aim of conserving and enhancing the nature conservation interest of the habitat.***

2.106 *2012 Update: One of the most important wetland habitats is the **reed and sedge beds** that provide a habitat for a host of wildlife including insects, birds, fish and rare mammals such as water vole and bats. Although 97% of London's natural reedbeds have been*

*lost, recent conservation efforts have begun to reverse this decline. New reedbeds have been planted at Hampton, Marble Hill, Richmond and Molesey and the Wildlife and Wetland Centre at Barnes is now classified as a Site of Special Scientific Interest.*

***The Green Grid and Integrated Biodiversity Opportunity Areas***

*2.107 2012 Update: The open spaces of the Arcadian Thames are recognized as one of the largest and most important connected landscapes in London – places for both people and for wildlife to move through. The relatively continuous areas of open space leading through the built environment are linked to each other through the network of avenues, small open spaces and river channels that characterise the region. These links also connect the urban Arcadian landscape with the Green Belt, preventing individual sites from becoming isolated.*



*The All London Green Grid showing the Arcadian Thames area*

*2.108 2012 Update: Watercourses are important links, especially the Thames, Crane, Hogsmill and other rivers. The Thames connects Hampton Court and Bushy Parks with Ham Lands and Petersham Meadows and from there it links to the Old Deer Park, Syon, Kew and downstream to Dukes Meadow and Barnes. The extensive open area of Richmond Park is connected to the river via Petersham Meadows.*

*2.109 2012 Update: Opportunities to connect these green spaces along the Thames with the wider landscape are set out in the Surrey Green Arc project and the Mayor's All London Green Grid Supplementary Planning Guidance (ALGG SPG). The role of the Green Grid is set out in the London Plan and detailed in the Area Framework 9 'The Arcadian Thames'. The purpose of the Green Grid is to act as a strategic framework to bring together partners to achieve a greater strategic and local impact. The aim of the SPG is to create, enhance and promote a network of interlinked, multifunctional and high quality open and green spaces that connect with town centres, public transport nodes, the countryside in the urban fringe, the Thames and major employment and residential areas.*

*2.110 2012 Update: This integrated approach to managing open spaces at a landscape level, pioneered by the Thames Landscape Strategy, has been given further weight by the adoption of the Thames and its Tributaries as London's Biodiversity Opportunity Area (BOA). These BOAs identify the areas of greatest potential for habitat restoration and creation in the UK – established at the landscape scale, informed by Natural England's Natural Signature programme. Although the BOAs are regional priorities they will encompass national priorities. At present, Natural England and the Environment Agency are developing this concept alongside the designation of Nature Improvement Areas.*

***Guidance NL 10: Conserve, improve and create green links for the benefit of nature conservation and people, in line with the All London Green Grid and Surrey Arc.***

## WILDLIFE AND PEOPLE

2.111 Since Neolithic times, wildlife has been adapting to and taking advantage of man's modifications to the natural environment. Through the centuries, man has not only relied on wildlife for his own survival but drawn on it for entertainment and inspiration.

2.112 Between Hampton and Kew there are a remarkable number of open spaces, including the River Thames, which bring wildlife close to people. Within the area virtually the whole population is within one kilometre of accessible places, recognised as high quality wildlife areas.

*Volunteers planting Hunter's Pond*

2.113 Although housing and workplaces usually take priority within built up areas, the pleasure of seeing grebes nesting on the river or dragonflies over a flooded ha-ha brings a richness to human life which is difficult to define in quality of life surveys. The Thames landscape offers a particularly good opportunity to demonstrate and explain the wildlife still flourishing within our city.

2.114 The Thames Path and the Royal Parks offer some of the best access to areas of nature conservation interest in any comparable capital city. Although it is necessary to restrict access to some sensitive sites, many are still visually accessible. The Syon flood meadows and wooded aits, for example, can be enjoyed from the towpath opposite.

*Wetland habitats can be created in town centres - this example is at Kingston*

2.115 On the tidal part of the river, the foreshore offers a fascinating area for public access. Where access to the intertidal zone does not damage nature conservation interests access is tolerated along long stretches of the river at low tide. On the freshwater Thames, beaches allow young people to touch the water within a relatively safe environment – these habitats should be extended through the restoration of natural riverbanks.

2.116 Maintaining traditional management of grassland and other habitats needs little modification to accommodate visitors. Examples of work that might be needed include regular cutting of paths through hay meadows, and coppicing wide rides through woodland both of which increase the habitat diversity for wildlife.

*Volunteers from the Ham and Petersham Association pick litter along the towpath*

***Guidance NL 11: Assist people in enjoying places of nature conservation importance by providing appropriate visual or physical access arrangements, except where it would prove detrimental to the nature conservation interest.***

2.117 The more each of us knows about our local environment the more we care about it. Involvement in caring for the environment develops our sense of stewardship and commitment.

2.118 *2012 Update: Active involvement in conserving the natural landscape can take many forms, such as physical work, monitoring species, acting as a warden, and campaigning. The TLS has fostered a greater sense of ownership in the Thames landscape taking the lead in inspiring all manner of groups to actively manage their local 'patch'.*

This approach met a perceived need not fulfilled by the statutory or private sectors in that groups have the freedom to express views and carry out campaigns on sensitive matters without the need to take account of an official statutory or corporate position. This enables them to raise public awareness of issues, put pressure on local and national government and to offer advice to the statutory and private sectors.

2.119 *2012 Update: The growing interest in, and awareness of, the environment has led to an increasing importance being placed on environmental education, both within the school curriculum and for the community at large. The Thames Landscape Strategy provides a wealth of formal and informal opportunities to get close and discover nature, for interpreting and learning about the landscape, the wildlife and the history, and also for taking action to manage the landscape. Opportunities to engage, access and discover the landscape are discussed in Chapter 5.*

*Swans are popular at Kingston*

***Guidance NL 12: Encourage community involvement and volunteer action for conservation at all levels.***

***Guidance NL 13: Encourage schools to make good use of local nature conservation sites. Promote environmental education, particularly through interpretation of the natural landscape. Provide on- and off-site information about current management initiatives.***

*Young people learn about the natural world on a TLS tree planting day*

## THE IMPORTANCE AND PROTECTION OF PLACES FOR NATURE CONSERVATION

2.120 The following places for nature conservation are graded according to their importance:

**Sites of Special Scientific Interest** (SSSIs) are notified by English Nature (under the 1981 Wildlife and Countryside Act) to protect areas of national importance. Syon Park and Richmond Park are the SSSIs in the area.

**National Nature Reserves** – Richmond Park

2.121 In Surrey, sites of County importance are designated **Sites of Local Nature Conservation Importance**, while in London there are three grades:

*Richmond Hill, soaring above Petersham Meadows*

• **Sites of Metropolitan Importance** are those sites which contain the best examples of London's habitats, rare species, rare assemblages or are particularly significant within large areas of otherwise heavily built-up London. Sites of Metropolitan Importance in the area include the Rivers Thames and Crane, Bushy and Home Park, Ham Common, Ham Lands, Petersham Common, and Sudbrook Park Golf Course.

• **Sites of Borough Importance** are important from a borough perspective, where loss of the habitat would mean a significant loss to the borough. These include Kew Gardens and the Old Deer Park,

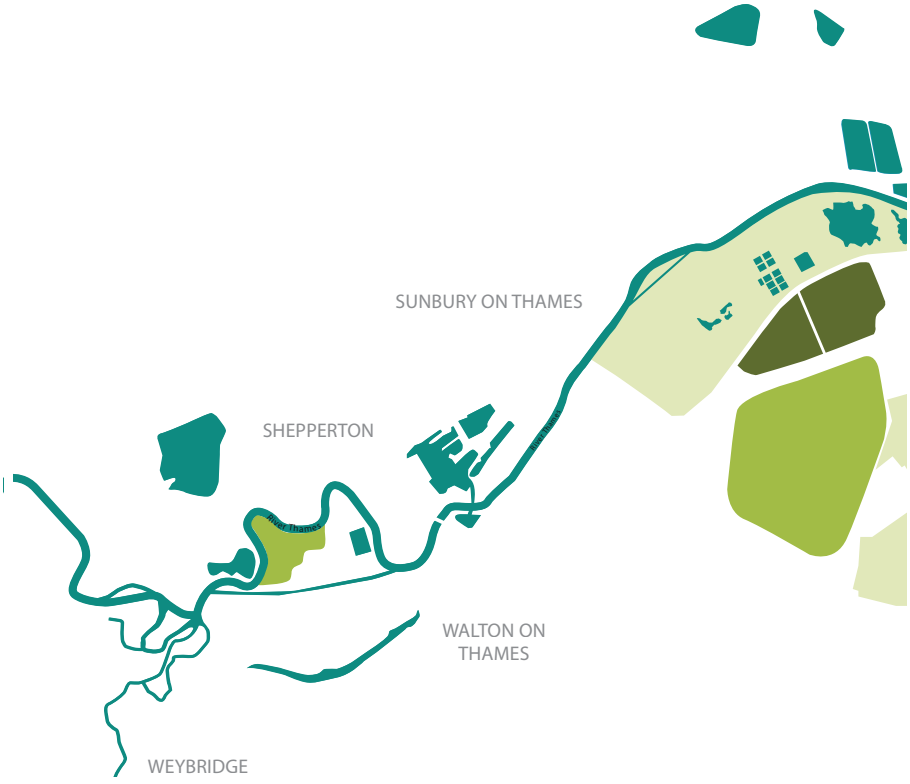
the Copse and Holly Hedge Field (formerly part of the grounds of Ham House), Petersham Lodge Woods, Petersham Meadows, Seething Wells Reservoirs, and Syon Park.

• **Sites of Local Importance** are of particular value to nearby residents or schools. These sites may already be used by schools for nature study or be run by management committees mainly composed of local people. They include some cemeteries, the Cassel Hospital, the Hogsmill River in central Kingston, Hampton Court House grounds, Marble Hill Park and Orleans House Gardens, and Kew Pond and Kew Green.

2.122 An additional local designation:

• **Local Nature Reserve** (LNR) status can be declared by a local authority, on land in which it has a legal interest, after consultation with English Nature. Grant aid is available. A management plan places nature conservation as top priority and encourages educational use and community involvement. There are LNRs at Ham Lands and the Hogsmill River Park.

***Guidance NL 14: Strongly resist development, management or change of use which could damage or destroy the nature conservation importance of SSSIs, SoMIs, SoBIs, LNRs and other identified Sites of Importance for Nature Conservation. Encourage management which promotes the conservation and enhancement of wildlife wherever possible, and proposals to increase the number, size and diversity of sites of nature conservation importance.***



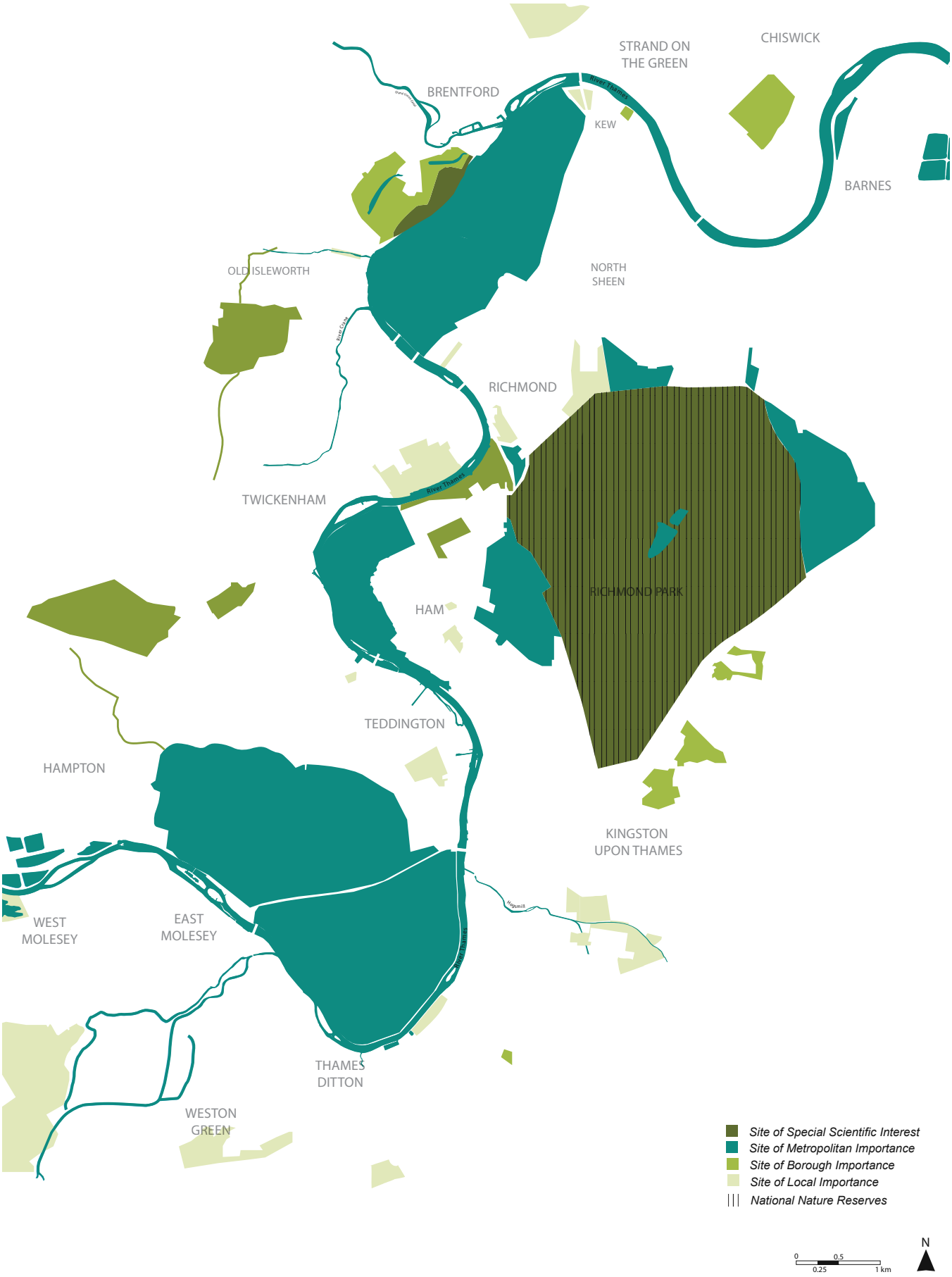



Figure 14 - Natural Landscape Designations