fact sheet

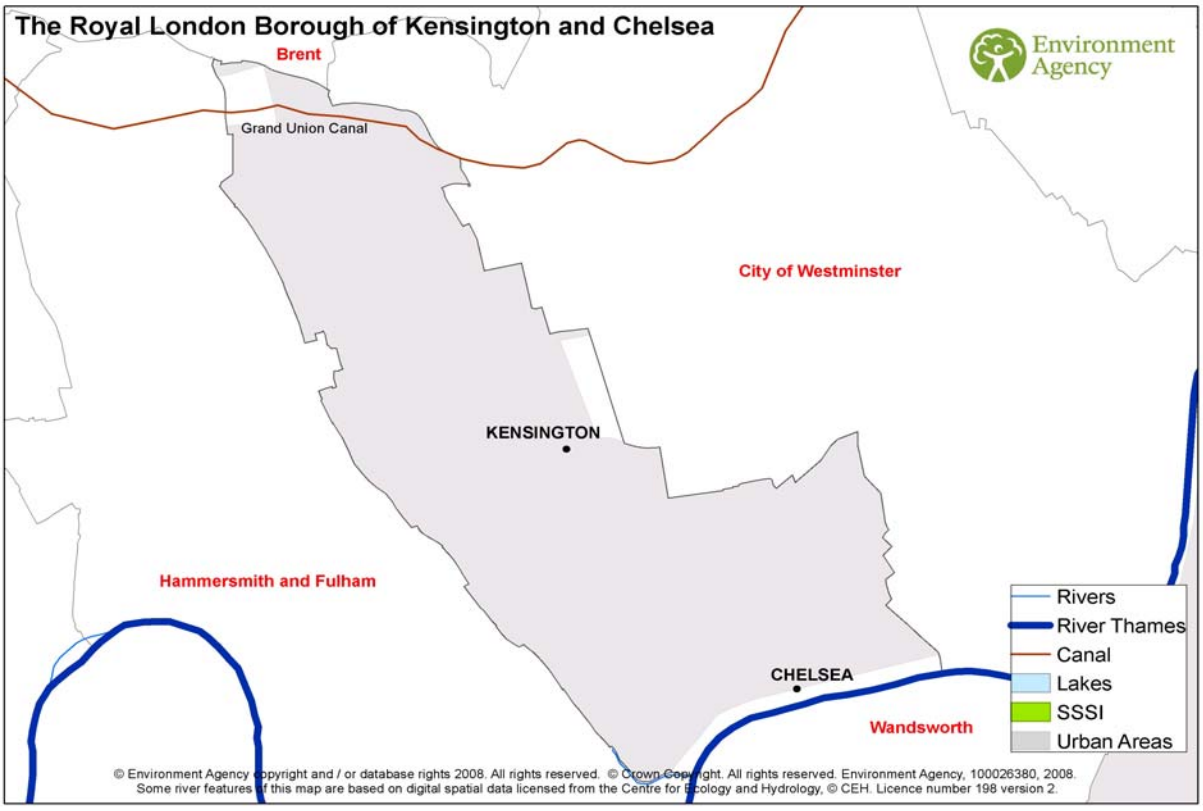
The Royal Borough of Kensington and Chelsea: Environmental summary

This report provides a snapshot of the environment in the Royal London Borough of Kensington and Chelsea. It outlines trends and changes in the environment, and highlights some of the work being carried out in the local areas to improve the environment, and people's experience of it. The report has been compiled as an extension of the London State of the Environment report to provide a local focus on the boroughs and the health of their environment.

To navigate to other chapters in the fact sheet, click on the following links: Key environmental facts, Sustainability, Climate change, Flood risk, Waste, Water quality, Water resources, Land, Wildlife and Appendix.

Introduction to the Royal London Borough of Kensington and Chelsea

The London Borough of Kensington and Chelsea is in Central London. Kensington and Chelsea's neighbouring boroughs are Westminster, Wandsworth, Hammersmith and Fulham, and Brent. The main districts in Kensington & Chelsea are Brompton, Chelsea, Earls Court, Holland Park, Kensington and Notting Hill. Predominantly a highly urbanised area, Kensington & Chelsea covers around 1,200 hectares.



Kensington and Chelsea Key Environmental Facts

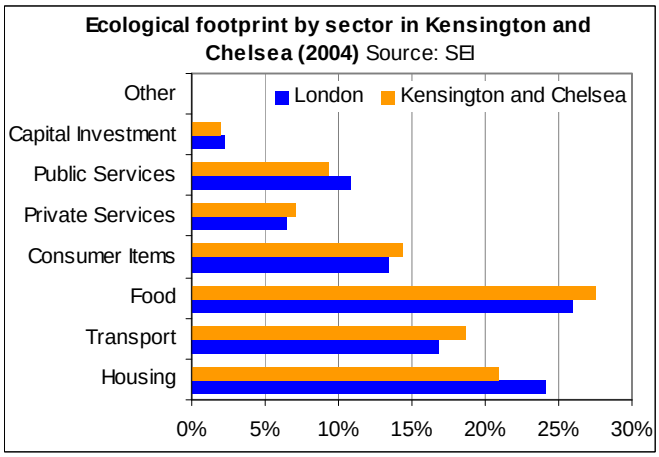
- The ecological footprint, and carbon footprint, in Kensington and Chelsea are amongst the highest in London, and significantly higher than the London average.
- The volume of municipal waste produced, which includes household waste, has decreased over the last few years and less is being sent to landfill.
- Only 5% of properties in the borough are classified as at risk from flooding, and the likelihood of flooding is low due to protection from defences.

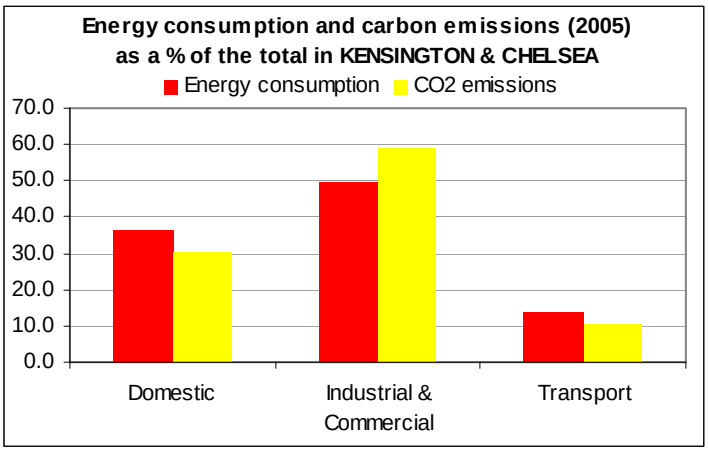
The Environment in Kensington and Chelsea

Sustainability

The ecological footprint is an indicator of 'how much land and sea is needed to provide the energy, food and materials we use in our everyday lives, and how much land is required to absorb our waste'. It is measured in global hectares per capita.

The ecological footprint in Kensington and Chelsea is 6.39[1] global hectares per capita (2004), which is one of the highest in London. This footprint is significantly higher than the overall London footprint of 5.48, and the UK footprint of 5.30[1]. The primary contributors to this footprint are food and housing, accounting for 28% and 21% respectively. This trend is consistent with the London figures.





Climate change

The carbon footprint in Kensington and Chelsea is 13.58[1] tonnes/CO2 per capita, (2006) which would cost £360 if valued using the shadow price of carbon (2009). This represents the cost to society of the damage caused by a tonne of carbon emitted into the atmosphere. The sector with the highest contribution to this footprint is housing, and more specifically the electricity, gas and other fuels used in the home. This carbon footprint is higher than the London average of 11.38 tonnes CO_2 per capita and the UK average of 12.12 CO_2 per capita.

Using the London Emissions and Greenhouse Gas Inventory (LEGGI):

Energy consumption:

- Energy consumption was 3,591 gigawatt hours per year (Gwh/yr) in 2005[2]. This has decreased from 3,726 in 2004.
- In 2005, half of the energy consumption in the borough was from the industrial and commercial sector [2]. The transport sector as the lowest energy consumption, at 14%.
- The total energy consumption in Kensington and Chelsea equates to 2.32% of the total energy consumption in London[2]. Energy consumption in this borough ranks 26th out of all the London boroughs.

Carbon emissions:

- The industrial and commercial sector has the highest carbon emissions in Kensington and Chelsea, accounting for 59% of the total. Electricity is the highest contributor.
- The transport sector has the lowest carbon emissions accounting for 11% of the total in the borough.
- The carbon emissions associated with Kensington and Chelsea account for 2.49% of the total London emissions in 2005, ranking 24th.

Kensington and Chelsea borough has signed up to the Local Area Agreement indicator 185 – CO2 reduction from local authority operations – as one of its top 35 indicators. Progress with these targets with be monitored and reported.

Flood risk

Flood zones

The London Borough of Kensington and Chelsea has some land within flood zones 2 and 3. Flood zone 2 represents the 1 in 1000 year probability of flooding, and flood zone 3 represents the 1 in 100 year probability of flooding. The area of land within flood zones 2 and 3 is predominantly in the south of the borough around the tidal River Thames.

In Kensington and Chelsea there are just over 5,000 properties (5% of all properties) at risk of tidal flooding* and are predominantly residential. All of the properties at risk are classified as having a low likelihood of flooding due to the high standard of protection provided by the Thames tidal defences. This includes the Thames Barrier, which became operational in 1982.* **Locations of the floodplain and the likelihood of flooding are shown in appendix 1.**

** Figures are indicative only and are taken from the 2008 National Flood Risk Assessment (NaFRA) – Environment Agency*

Fluvial (river) and tidal flood events
Flooding from tidal or fluvial (river) sources has not occurred in Kensington and Chelsea.

Flood warning
In Kensington and Chelsea 26 people registered (mid 2009) to Flood Warnings Direct (FWD). This a very low percentage of properties within the flood zones. This low number can be attributed to the fact that those at tidal risk receive alternative warnings and are protected by the Thames Barrier. The Environment Agency offers the FWD flood warning service, which gives advance warning of flooding via phone, text, email, pager or fax. We would encourage all households at risk of flooding to register. Warnings are also broadcast on local radio, particularly LBC who have agreed to broadcast flood warnings in London.

Future flood risk management
National Indicator (NI)189 is defined as: the percentage of agreed actions to implement long-term flood and coastal erosion risk management plans that are being undertaken satisfactorily. This refers specifically to the Thames Catchment Flood Management Plan (CFMP) which focuses on flooding from rivers and the Thames Estuary 2100 (TE2100) Plan which is concerned with flooding from the sea. Both of these plans make recommendations for how flood risk will be managed in the future and through NI189 we will be working together with Local Authorities to implement them.

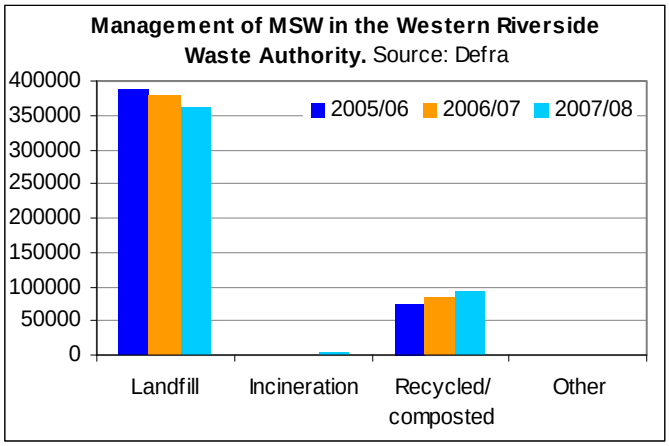
Waste

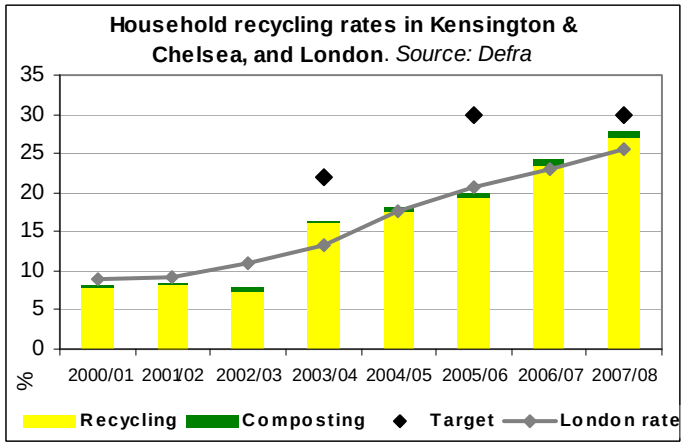
Waste in the Borough of Kensington and Chelsea is collected by Kensington and Chelsea Borough Council and disposed of by the Western Riverside Waste Authority. This also disposes of the waste produced in Hammersmith and Fulham, Lambeth and Wandsworth.

For more information on waste in Kensington and Chelsea, visit Capital Waste Facts.

Municipal Waste (MSW)
Municipal waste arisings in the Western Riverside Waste Authority in 2007/08 are 457,397 tonnes. This has decreased by 4,698 tonnes from the 462,095 tonnes produced in 2005/06.

There has been a 5% decrease in the amount of waste sent to landfill, from 2005/06 to 2007/08, and a 4% increase in the amount recycled and composted. However, MSW to landfill is the main disposal method, with 79% being disposed in this way. This diversion of waste from landfill needs to continue on a larger scale, alongside an increase in the amount recycled/composted.





The Western Riverside Waste Authority is currently not achieving its 2009/10 target, of 198,694 tonnes, under the Landfill Directive. It will need to reduce the amount of biodegradable municipal waste (BMW) land-filled over the next couple of years in order to meet this target. Under the Landfill Allowance Trading Scheme (LATS), each waste disposal authority is given an allocation for the amount of BMW that they can landfill each year. This is to reduce the amount of waste land-filled in order to meet the requirements of the Landfill Directive. The amount of BMW going to landfill in the Western Riverside Waste Authority has declined from 262,096 tonnes in 2005/06 to 244,825 tonnes in 2007/08. This is within the allocation provided.

Kensington and Chelsea has signed up to the Local Area Agreement indicator N192 – percentage household waste sent for re-use, recycling and composting. This aims to see the local authority maximise waste recycling in order to achieve the Governments targets for waste management. The targets for this indicator, in Kensington and Chelsea are 28.2% by 2008/09, 30.7% by 2009/10, and 33.2% by 2010/11. Progress with these targets will be monitored.

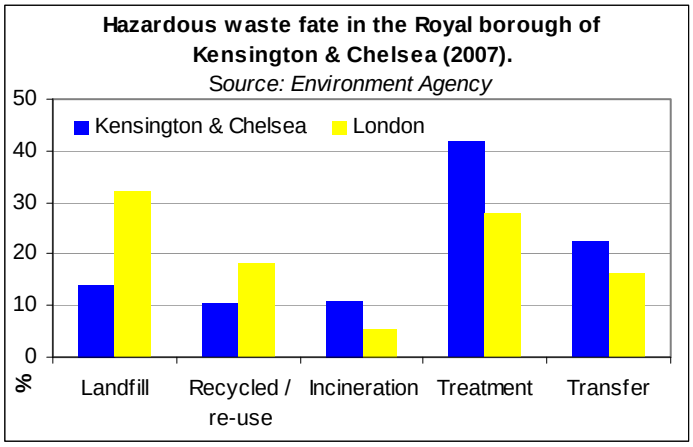
Recycling and composting

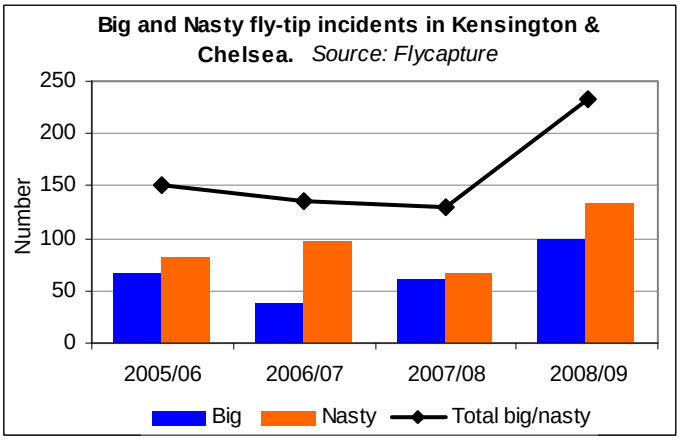
- Kensington and Chelsea borough ranks 13th out of all the London boroughs for recycling and composting. The recycling only rate is 18.96% ranking 3rd, and the composting rate is 0.9% ranking 28th.
- The household recycling rate in Kensington and Chelsea has increased dramatically since 2000/01, although the rate of composting has remained very low over the last few years.
- The current recycling and composting rate is higher than the total London rate of 25.5% and the Western Riverside Waste Authority rate of 26.14% (2007/08).
- Kensington and Chelsea has not met its statutory household recycling and composting target in 2003/04, 2005/06 and 2007/08, although the latter was much closer to achieving the target than in previous years[3].
- More recycling and composting needs to be done in order to meet the target levels set in Kensington and Chelsea.

Hazardous waste

The volume of hazardous waste arising in Kensington and Chelsea was 1,746 tonnes, a decrease from the 2,223 tonnes in 2006. This accounted for 10% of the hazardous waste produced in the Western Riverside Waste Authority. The primary method of waste fate is waste treatment, accounting for 42%. The volume of hazardous waste sent to landfill has declined from 2006 from 44% to 14% in 2007.

Out of the 1,746 tonnes arising in Kensington and Chelsea, over half (53%) was disposed of within London. This is an increase from 2006, when around a third was disposed of within London. The remaining hazardous waste was diverted to other regions for disposal. The main recipient was the South East, receiving 27% of the hazardous waste.





Fly-tipping

The number of big and nasty fly-tipping incidents recorded in the Royal borough of Kensington and Chelsea has declined between 2005/06 and 2007/08 but increased in 2008/09. Big incidents are those of tipper lorry load size or larger, and 'nasty' incidents are those involving oil, fuel or chemical drums. The number of big incidents has increased since 2006/07, but the number of nasty incidents has fluctuated, with a big increase in 2008/09.

Water Framework Directive

Under the Water Framework Directive (WFD), the only designated watercourse in Kensington and Chelsea is the Grand Union Canal, which has been classified as having good ecological status in the draft plan (October 2009). However the river water-body for the Brent (from below the Silk Stream to the Thames) falls within the boroughs boundaries. This has been classified as having poor ecological status in the draft plan (August 2009). **This is shown in appendix 2.** Under the WFD, these need to achieve good status or good potential by 2027. A programme of measures to improve the status is being developed. The Water Framework Directive (WFD) will introduce a series of measures to address urban diffuse pollution in some parts of London, in order to achieve the 'good' ecological status required for the Directive.

Water quality

Chemical water quality

There are no watercourses in Kensington and Chelsea designated under the GQA scheme. There has been a reduction in the GQA network over the last few years. The Grand Union Canal (canal feeder to Camden Road) was previously designated. This showed historically poor water quality achieving grade E since 1991 –with the exception of an improvement to a grade D between 1994 and 1996.

Kensington & Chelsea is served by Beckton sewage treatment works. This works is situated in Beckton (Newham) and discharges into the tidal River Thames at a rate of 1,420,000 cubic metres per day. Beckton has been identified by Thames Water as having future growth/capacity issues. Beckton currently serves a population equivalent of 3,280,000, which will be subject to increase once the proposed housing growth scheme is implemented. Beckton was identified for improvements to ensure that it meets with new Tideway standards.

Water pollution incidents
The number of water pollution incidents to occur in Kensington and Chelsea between 2004 and 2008 is low. However, in 2004 there was a major (category 1) incident. The incident was attributed to an authorised activity from the water industry – the pollutant being storm sewage. 2004 also saw a significant (category 2) incident recorded which was ascribed to the unauthorised disposal of animal and vegetable oil, and a category 3 incident following the release of untreated sewage from a combined sewer overflow (CSO). There were no pollution incidents recorded between 2005 and 2007, however there were three in 2008 – the cause of two of these was not identified, the other was an accidental spillage.

Water resources

- Thames Water supplies water to the London Borough of Kensington and Chelsea, and falls within the London Water Resource Zone (WRZ).
- The 5 year average (2004 to 2009) per capita consumption (PCC) in the London WRZ is 158.4 litres per person per day. The 5 year mean for England and Wales is 148 litres per person per day and for the GLA it is 160.9 litres per person per day[4].
- The Government has set a target for households to achieve 130 litres per person per day so work needs to done on making changes to consumption patterns to protect water resources in order to meet this target.
- The majority of London's public water supplies come from the rivers Thames and Lee (with about 80% of London's supply taken from the freshwater River Thames upstream of Teddington Weir). The remaining supplies are obtained from groundwater sources situation beneath the London Borough's from the confined chalk aquifer.
- The Borough is underlain by London Clay and provided this remains intact, it protects the Chalk aquifer below from contamination at the surface. There are areas of river aquifer gravel overlying the clay which require protection.

Water abstractions
There are 5 active abstraction licences in Kensington & Chelsea which are predominantly from groundwater sources. The majority of these licences (60%) are within the Industrial, Commercial and Public Services sector. Other abstractions are for Agriculture (20%) and Production of Energy (20%). Due to stresses on water availability it is unlikely that licences for large water abstractions (>1-2Ml/d) will be granted unless the applicant can demonstrate that the resources are available. However the centre and South East of the borough of Kensington and Chelsea is covered by the Central and South London Policy which states that new consumptive licences are restricted to <0.2Ml/day annual average, subject to the local assessment being favourable. This is subject to review.

Kensington & Chelsea has the Grand Union Canal which is managed by British Waterways. The London Catchment Abstraction Management Strategy (CAMS) covers this area.

Land

Land-use and development
The land use in Kensington and Chelsea is dense urban land. There is no greenbelt land in the borough.
The London Plan 10 year Housing target from 2007/8 to 2016/17 is 3,500 new homes within Islington. Target growth areas identified are Kensal and Notting Barns.

Land pollution incidents
The number of land pollution incidents in Kensington and Chelsea was very low between 2004 and 2008. There were no major or significant (category 1 or 2) incidents reported, and only three category 3 incidents – one in 2005 and two in 2008. These incidents only had minimal impact on the environment.
Category 4 land pollution incidents, which do not impact on the environment, have not been included.

Land Contamination
We protect the environment and by so doing assist in bringing sites back into beneficial use through our land contamination work. Since 2000 there are a few redevelopments in the area, e.g. Kensal Green Gasworks where we have been or are still heavily involved.

Between 2000 and 2008, 10 sites have been investigated as a result of planning applications or voluntary submissions; 4sites required no further remedial action, 6 had unrecorded remedial status and no sites were remediated. **Locations of investigated sites are shown in appendix 3.**

Green Flag Award
There are 5 parks or green spaces in Greenwich borough that have been awarded the Green Flag[5] in 2009. This recognises high environmental quality and management, and access to all members of the community. The green spaces awarded the Green Flag are Holland Park, Kensington Gardens, Kensington Memorial Park and The Wildlife Garden at the Natural History Museum. New in 2009 is St Luke's Gardens.

Wildlife

SSSI Condition
There are no sites of Special Scientific Interest (SSSI) in Kensington and Chelsea borough[6].

Conservation sites
Each borough has a number of Sites of Importance for Nature Conservation (SINC). There are 3 types of SINC: Sites of Metropolitan Importance, Sites of Borough Importance and Sites of Local Importance.

The Sites of Metropolitan Importance are designated by the Mayor of London, and the GLA - they are the most important wildlife sites in London. There are 5 of these sites in Kensington and Chelsea[7]. They are Hyde Park and Kensington Gardens, London's Canals, Holland Park, Kensal Green Cemetery and the River Thames and its tidal tributaries.

Sites of Borough Importance are habitats designated as important wildlife sites by the borough's themselves. The lowest grading wildlife sites are the Sites of Local Importance - these are smaller sites such as parks and gardens that help the community have access to wildlife near their homes. In Kensington and Chelsea, there are 9 Sites of Borough Importance and 5 Sites of Local Importance[7].

Biological river quality
The biological quality is assessed using the biological General Quality Assessment (GQA) which uses macro-invertebrate populations to give a long-term indication of water quality. This is because macro-invertebrates can be affected by pollutants that occur at low concentrations or infrequently, and are often missed by chemical sampling.

The Grand Union Canal (canal feeder to Camden Road) is designated under the biological GQA. The biological quality of this reach has been historically poor, and it declined from poor (grade E) to very poor (grade F) in 2003. It has remained at this level between 2003 and 2008. Very poor quality represents a river where only a small number of species tolerant to pollution are present, and in worse cases there may be no life in the river.

River and habitat restoration
There are no proposed river restoration projects planned within the London Borough of Kensington and Chelsea. Details of projects in greater London can be found in the London River's Action Plan at http://www.therrc.co.uk/lrap.php

Invasive species
A small number of invasive species have been recorded in Kensington and Chelsea borough. The most commonly found invasive species in the borough is Japanese Knotweed. This is an invasive weed species that grow on the river banks and reduce the ability of native species to grow. Japanese Knotweed grows rapidly, colonising river habitats and preventing diversity of plant species.

The Wildlife and Countryside Act (1981) is a measure for preventing the establishment of non-native wildlife which may be detrimental to native species. The Act states that it is an offence to plant or cause to grow in the wild any plant which is stated in part II of schedule 9. This includes Japanese Knotweed and Giant Hogweed. Giant Hogweed (*Heracleum mantegazzianum*) is a toxic plant and potentially hazardous to human health, for more information follow this link http://www.nonnativespecies.org/documents/Giant%20Hogweed%20(v3b).pdf or contact your local Environmental Health Officer. It is the riparian owner's responsibility to remove invasive weeds. The Environment Agency only has a duty to remove invasive species that are affecting river flows and increasing flood risk.

Fish
The London Borough of Kensington & Chelsea is adjacent to the main River Thames which is known in this reach to support an extremely diverse and abundant fish population. The inter tidal fish community consists of 125 species, being a combination of marine, migratory and freshwater fishes. Species commonly known to frequent the tidal River Thames include grey mullet, bass, smelt, flounder, dace, roach, bream, eel and carp. Improving water quality and varied marginal fish habitat are extremely important factors in sustaining this diverse and valuable fish community.

There is also a short section of the Grand Union Canal within the borough. Although we do not have fish survey information for the canal, being managed by British Waterways, we know that fish populations predominantly consist of mixed coarse fish species, generally thought to be in a healthy condition. The most common species are bream, roach, perch, tench and carp.

Angling is a very popular, healthy outdoor activity that generates considerable income for local communities. The canal should be seen as a valuable recreational resource within London.

For more information on biodiversity and open spaces, visit the GIGL website.

Air quality

As a central London borough, emissions within the Royal Borough of Kensington and Chelsea derive mainly from transport and from residential and commercial heating plant. Most pollutants remain well within their respective national objective levels, with the exception of NO_2 and PM_{10} which continue to exceed the objectives. The entire borough was declared as an Air

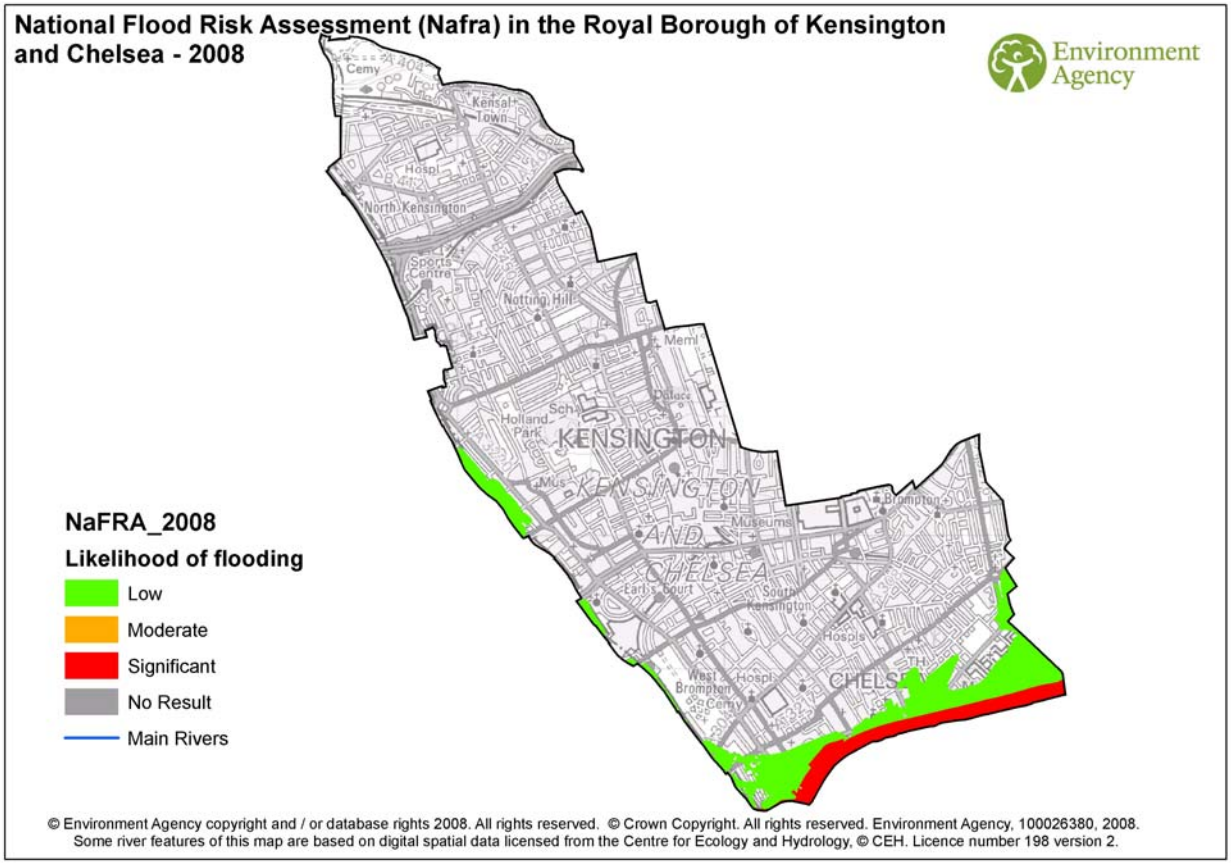
Quality Management Area for these pollutants in 2000. There has however been evidence of a slight downward trend in NO_2 in recent years but despite this levels remain significantly above objectives levels. Levels of PM_{10} continue to exceed the objectives at some locations in the borough. Ozone, a pollutant which is not directly emitted from with sources within the borough, also exceeds objective levels during the warmer weather.

References

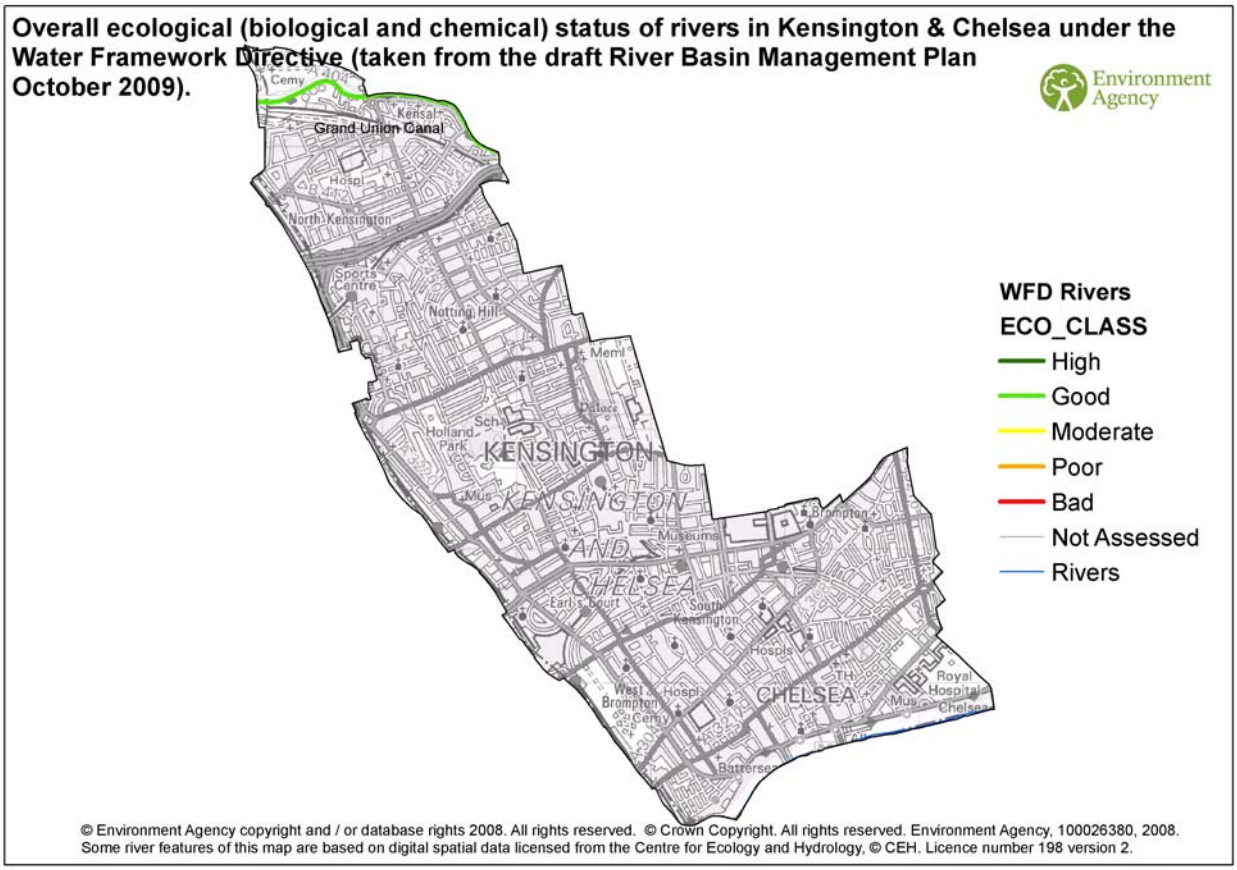
1. *REAP data release: Published by SEI - BRIO Model v2 May 2009 Available at http://www.resource-accounting.org.uk/downloads*
2. *LEGGI (London emissions and greenhouse gas inventory) 2004-2005*
3. *www.defra.gov.uk/environment/statistics/wastats*
4. *Thames Water draft water resources management plan*
5. *Communities and Local Government (CLG)*
6. *Natural England*
7. *London Wildweb (Mayor or London) – www.wildweb.london.gov.uk/wildweb/About.do*

Appendix

Appendix 1 – Map of flood zones and likelihood of flooding in Kensington and Chelsea



Appendix 2 – Map of the ecological status of rivers, under the Water Framework Directive



Appendix 3 – contaminated sites – locations of investigated contaminated land sites