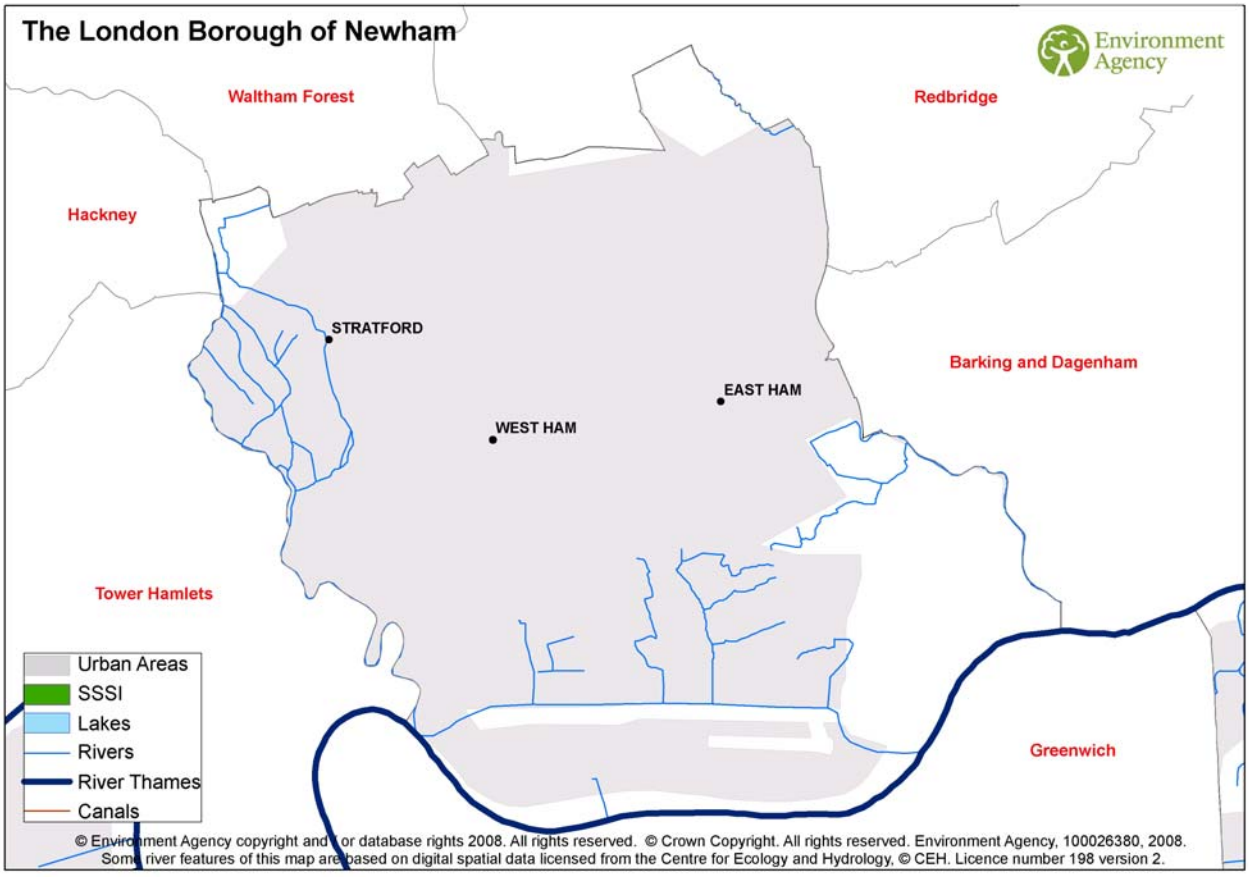
Newham borough: Environmental summary

This report provides a snapshot of the environment in the London Borough of Newham. 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 London Borough of Newham

The London Borough of Newham is in East London. Predominantly a highly urbanised area, Newham covers just under 4000 hectares. Newham's neighbouring boroughs are Waltham Forest, Redbridge, Barking and Dagenham, Tower Hamlets and Hackney.



Newham Key Environmental Facts

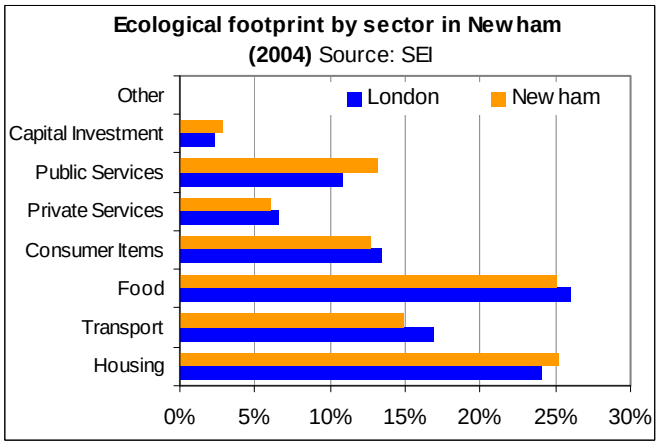
- The ecological footprint and carbon footprint in Newham are both low.
- Over half of all the properties in the borough are at risk of flooding from the tidal River Thames, but the likelihood is low due to protection from the Thames tidal defences, including the Thames Barrier.
- The amount of municipal waste produced in the East London Waste Authority, of which Newham is part, has increased. However, there has been a significant reduction in the amount going to landfill, and an increase in that recycled.
- The chemical and biological quality of the River Lee in Newham is low – it is affected by diffuse urban pollution. But, fish populations are moderately abundant.

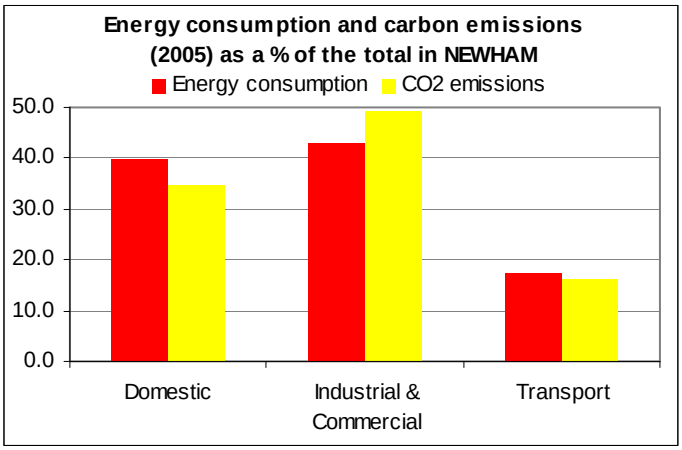
The Environment in Newham

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, per capita, in Newham is 4.51[1] global hectares per capita (2004). This footprint is much lower 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 25% each. This is consistent with the London trend.





Climate change

The carbon footprint in Newham is 9.61[1] tonnes/CO2 per capita, (2006) which would cost £254.57 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 lower 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 4,568 gigawatt hours per year (Gwh/yr) in 2005[2]. This has decreased from 4,668 in 2004.
- In 2005, around 43% of the energy consumption in the borough was from the industrial and commercial sector [2]. Domestic consumption was also high at 40%. The transport sector as the lowest energy consumption, at 17%.
- The total energy consumption in Newham equates to 2.96% of the total energy consumption in London[2]. Energy consumption in this borough ranks 14th out of all the London boroughs.

Carbon emissions:

- The industrial and commercial sector has the highest carbon emissions in Newham, accounting for 49% of the total. Electricity is the highest contributor.
- The transport sector has the lowest carbon emissions accounting for 16% of the total in the borough.
- The carbon emissions associated with Newham account for 2.81% of the total London emissions in 2005, which ranks 14th out of all the London boroughs.

Newham borough has signed up to the Local Area Agreement indicator 185 - reduction in CO2 emissions from local authority operations. Progress with this target with be monitored and reported next year.

Flood risk

Flood zones

The London borough of Newham 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 covers a large area in the south of the borough, around the tidal River Thames. Other areas include the areas around the west and eastern borders of the borough.

In Newham, there are just over 73,600 properties (66% of all properties) at risk of flooding* from tidal and river sources. The majority of these properties at risk are residential. Approximately 97% of those at risk are classified as having a low likelihood

of flooding due to the Thames tidal defences, which includes the Thames Barrier. **Locations of the floodplain and the likelihood of flood risk 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 has occurred in the borough of Newham in 1928, 1947, 1953, 1974, 1987 and 2000. The flood event in 1928 caused small areas of flooding in the south of the borough, and in East Ham. It was caused by tidal flooding from the tidal river Thames. In 1947, there was a large area of flooding in along the east side of the borough, around Stratford and Canning Town. This was fluvial (river) flooding from the lower River Lee. Flooding also occurred in Canning Town in 1953 – a large area was flooded from both tidal and fluvial (river) sources. In 1974, flooding from the Alders Brook occurred along the north-east border of the borough, at the City of London Cemetery. Flooding in 1987 occurred around the Whitings Sewer, in Beckton. The latest flood event in Newham, occurred in 2000. There were two different causes of this flood event – local drainage/surface water and fluvial (river) flooding. It occurred in playing fields to the east of Plashet. **Locations of these flood events are shown in appendix 2.**

Flood warning

In Newham borough, there are 3145 people registered (mid 2009) to Flood Warnings Direct (FWD). This is approximately 4% of the properties at risk of flooding. However, this low percentage 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

As waste collection authority, the council is responsible for a weekly collection for dry recyclates in orange sacks. Residual refuse in wheelie bins is collected weekly by MRS Environmental Ltd and taken to the bio MRF facility at Jenkins Lane, Newham, operated by Shanks Waste Services Ltd. Green garden waste for composting is collected by a prior booking arrangement.

Newham, together with Barking and Dagenham, Redbridge, and Havering form the East London Waste Authority (the statutory waste disposal authority). The East London Waste Plan will identify sites for the wide range of waste facilities needed to manage the waste produced in East London.

There is one reuse and recycling centre at Jenkins Lane, and 150 Bring Banks. There are 20 regulated facilities (ex waste management licences), 7 permitted installations (ex IPPC permits), and 132 exempt waste operations.

For more information on waste in Newham, visit Capital Waste Facts.

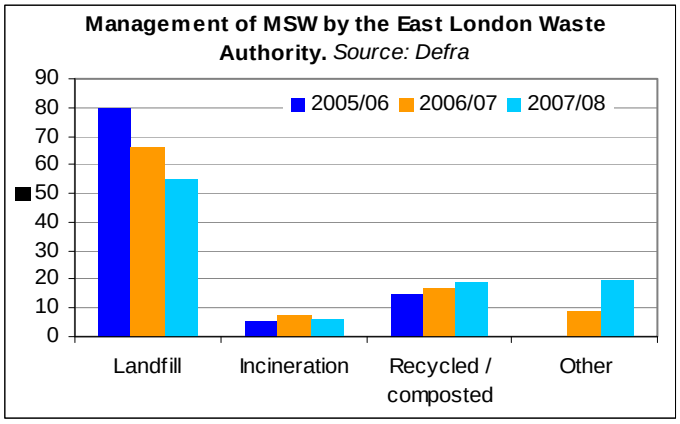
Municipal waste (MSW)

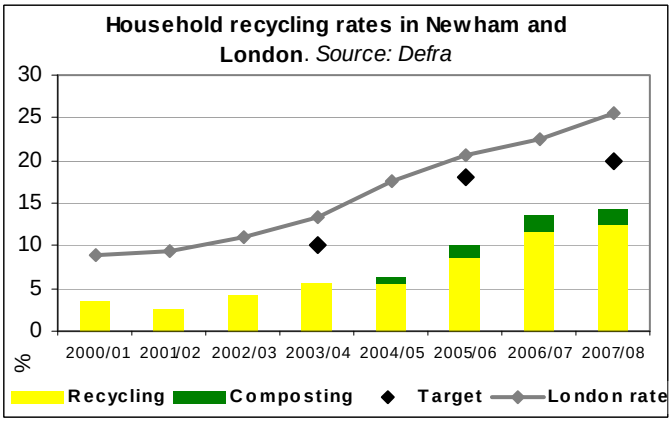
Municipal waste arisings in the East London Waste Authority in 2007/08 is 500,003 tonnes. This has increased by 7,808 tonnes from the 492,195 tonnes produced in 2005/06[3].

The East London Waste Authority was within the top 10 local authorities in the country for improvements in the percentage of MSW sent to landfill in 2006/07. This improved by 13%[3], from 80% to 67%. In 2007/08 , this reduced further to 55%.
There was an increase in the amount of MSW disposed of through incineration, from 2005/06 to 2006/07, although this declined slightly in 2007/08. The volume of waste being recycled or composted has increased, and is just under 20% in 2007/08. However, MSW to landfill is the main disposal method, with more than half being disposed in this way[3]. This diversion of waste from landfill needs to continue, alongside an increase in the amount recycled/composted.

The ELWA is currently not achieving its 2009/10 target (211,793 tonnes) under the Landfill Directive. It will need to reduce the amount of 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 biodegradable municipal waste (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 ELWA has declined from 270,560 tonnes in 2005/06 to 197,007 tonnes in 2007/08. This is within the allocation provided.

Newham 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, for Newham, are 20% in 2008/09, 22% in 2009/10 and 27% in 2010/11. Progress against these targets will be monitored annually.





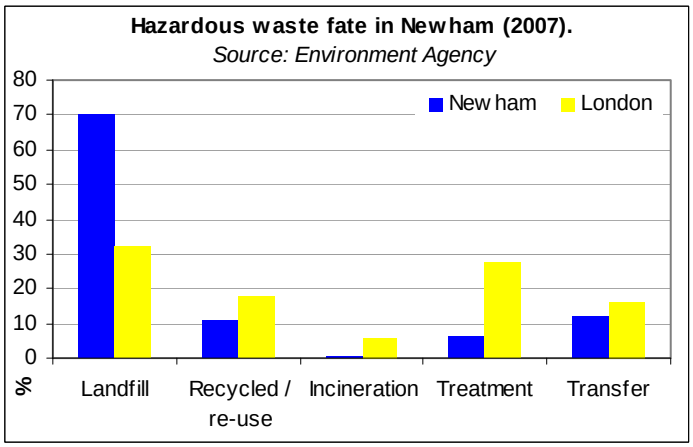
Recycling and composting

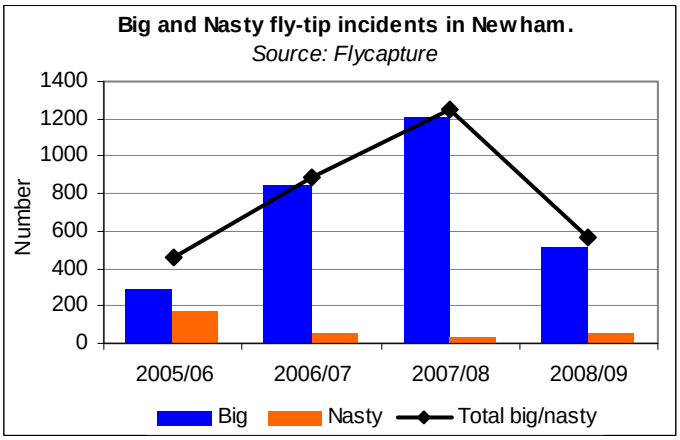
- Newham borough has one of the lowest recycling and composting rates in London, ranking 32nd out of the 33 boroughs. The recycling only rate is 12.34% ranking 32nd , and the composting only rate is 2.06 ranking 26th.
- The household recycling and composting rate in Newham has increased steadily since 2000/01, and the rate of composting has also seen a slight increase over the last few years.
- The current recycling and composting rate of 14.4% is much lower than the total London rate of 25.5% and the East London Waste Authority rate of 19.96% (2007/08).
- Newham borough has not met the statutory targets set in 2003/04, 2005/06 or 2007/08[3].
- There needs to be improvements in the amount of household waste that is recycled or composted in order to meet the statutory targets set.

Hazardous waste

The volume of hazardous waste arising in the borough of Newham was 18,630 tonnes in 2007, a decline from the 36,364 tonnes in 2006. This accounted for 46% of the hazardous waste produced in the East London Waste Authority and approximately 6% of that produced in London. The primary waste disposal method was landfill, with the majority (70%) of the hazardous waste produced in Newham being disposed of in the way. This level of disposal at landfill is much higher than the London average, for hazardous waste.

Out of the 18,630 tonnes arising in Newham, 26% was disposed of within London, this is much lower than the 78% in 2006. The remaining hazardous waste was diverted to other regions for disposal. The main recipients were the East Midlands (34%) and the South East (17%).





Fly-tipping

The number of fly-tipping incidents in Newham has increased dramatically since 2005/06 from 457 to 1247 in 2007/08, but has declined 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 shown a stepped increase over the last few years, and a decline more recently. The number of nasty incidents has declined from 172 to 37 in 2007/08, although is still high and has increased in 2008/09.

Newham has signed up to the local area agreement indicator N196 – improved street and environment cleanliness (fly-tipping). This aims to achieve a year on year reduction in the number of fly tipping incidents. Progress with this target will be monitored using data from the fly capture database.

Water Framework Directive

Under the **Water Framework Directive (WFD)**, there are 4 river water-bodies that extend into Newham, although the corresponding rivers may be outside of the borough boundaries. The water bodies for the Lee, Whiting's sewer and Thames, Creekhead, Trinity, Wylees sewers are all classified as having moderate ecological status in the draft plan (October 2009). The Roding water-body has been classified as poor ecological status. **These are shown in appendix 3.** 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

The watercourse currently designated under the chemical **General Quality Assessment (GQA)**, in the borough, is the River Lee. There has been a reduction in the GQA network over the last few years, although this has not impacted designations in Newham borough. Under the new chemical GQA calculations, biological oxygen demand has been removed as one of the parameters. This means the calculation is now based on ammonia and dissolved oxygen levels to grade each river reach.

- The River Lee, from Lea Bridge Weir to Carpenters road, has shown a decline in water quality over time from fairly good quality (grade C) to fair quality (grade D) in 1998, which remained through to 2008.
- The chemical quality of the River Lee, from Carpenters road to the River Thames, has shown fluctuations between grade D and E historically. There has been an improvement to grade D (fair quality) in 2007 and 2008. However, using the old method there was a decline to very poor (grade F) in 2006 - this is due to high BOD levels which are no longer in the calculation.

The poor water quality in this area could be due to urban diffuse pollution, and misconnections. There are some investigative studies currently being undertaken on the Lower Lee to look causes of pollution and how we can mitigate these. A great deal of monitoring is also being undertaken on the areas within the 2012 Olympic Games development.

Newham is served by Beckton sewage treatment works. This works is situated in Beckton, Newham and discharges into Tidal River Thames. Beckton has been identified by Thames Water as having future growth/capacity issues. Beckton currently serves a population equivalent of 3,280,000 people, which will be subject to increase once the proposed housing growth scheme is implemented. Beckton will be improved to ensure that it meets with new Tideway standards.

Water pollution incidents

The number of category 1 (major impact) to 3 (minor impact) pollution incidents recorded each year in Newham fluctuated between 2004 and 2008. In 2004 there was one significant (category 2) water pollution incident recorded which was due to an accidental spillage, and six minor (category 3) incidents. The situation worsened in 2006 when a major (category 1) incident was recorded at Creekmouth due to the discharge of untreated sewage following a storm. This year also saw four category 2 incidents and 10 category 3 incidents. No major or significant incidents have since been reported. 2006 saw the highest number of category 3 incidents recorded in a single year with 17. The number of incidents reported each year has since declined and only seven were recorded in 2008. Over this five year period the most common category 3 incidents were fire, unauthorised activities, and containment and control failures such as pipe, sewer or drainage failures.

Water resources

- Thames Water supplies water to the London Borough of Newham and falls within the London Water Resource Zones (WRZ). This WRZ is highly water stressed.
- The 5 year average (2003/04-2007/08) per capita consumption (PCC) in the London WRZ is 158.4 litres per person per day[4]. The 5 year mean for England and Wales is 148 litres per head per day and for the GLA it is 160.9 litres per person per day.
- 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.
- Much of the Borough is underlain by London Clay and where present, provided it remains intact, it protects the Chalk aquifer below from contamination at the surface. However, along the River Thames, this clay layer is missing and there is an increased risk of contamination of the Chalk. There is an outcrop of river gravel overlying the clay in places, particularly along river corridors where much of the previous industrial development occurred. Both the rivers and associated gravels groundwater require protection.

Water abstractions

There are 12 active abstraction licences in Newham which are predominantly from groundwater sources. The majority of these licences (43%) are within the Industrial, Commercial and Public services sector. Other abstractions are Water supply (33%,

Environmental (16%) and Amenity purposes(8%). 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 central and North of the borough of Newham is covered by the East London Policy which stipulates that new licences are restricted to 182,500 m3/yr and time limited to 2013. This is subject to review.

The Catchment Abstraction Management System (CAMS) assessment of the rivers in the area show that there is currently adequate water available 12% of the time to meet environmental needs.

Land

Land-use and development
The land use in Newham is predominantly urban, but there are a number of small areas of greenbelt land throughout the borough boundaries. The London Plan 10-year Housing target from 2007/8 to 2016/17 is 35,100 new homes within Newham. Stratford, Canning Town, West Ham, Custom House, Silvertown and Thames Gateway have been identified as the target growth areas.

Land pollution incidents
The number of category 1 (major impact) to 3 (minor impact) land pollution incidents recorded in Newham between 2004 and 2008 has shown great fluctuation, but has improved on the whole. Between 2004 and 2006 there were six category 2 incidents, which caused significant environmental damage. The main cause of these incidents was unauthorised activity, primarily unauthorised activity. Whereas no category 2 incidents have been reported in the last two years. The number of category 3 incidents, which result in minimal environmental damage, has also seen a decline over this five year period. There were 10 incidents in 2004, with the number peaking in 2006 when 18 incidents were reported. The number has since fallen and only three incidents were recorded in 2008. Category 4 land pollution incidents, which have no environmental impact, 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 a great deal of regeneration has taken place and continues apace with some large scale developments such as Beam Reach.

Between 2000 and 2008, 157 sites have been investigated as a result of planning applications or voluntary submissions; 13 sites required no further remedial action, 138 had unrecorded remedial status and 6 sites were remediated (covering 4.2 hectares). **Locations of investigated sites are shown in appendix 4.**

Green Flag Award
There are 6 parks or green spaces in the borough of Newham that have been awarded the Green Flag[5]. This recognises high environmental quality and management, and access to all members of the community. These are Bow Creek Ecology Park, Central Park, Forest Land Park, Manor Park and Stratford Park. New in 2009 is Memorial Park.

Wildlife

SSSI Condition
There are no sites of Special Scientific Interest (SSSI) in Newham 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 4 of these sites in Newham. They are the Lea valley, Epping Forest South, the River Thames and its tidal tributaries and the River Roding.

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 Newham, there are 20 Sites of Borough Importance and 11 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 biological quality of the designated rivers in Newham has improved since 2000. Only one of the reaches of the River Lee in Newham is designated under the biological GQA scheme - from Lea Bridge Weir to Carpenters Road. This was classified as fairly good quality in 1995 but declined to poor quality (grade E) in 2000. The quality then improved in 2005, back to fairly

good (grade D) quality which remained through to 2008. This represents a river where the species sensitive to pollution are becoming scare and there is a range of species that can tolerate pollution.

River and habitat restoration
There are no proposed river restoration projects planned in Newham. Historically there have been projects both on the River Lee and the Roding. The motivation of those was habitat improvement. 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 number of invasive species have been recorded in Newham. 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 Newham 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.

The lower River Lee and Navigation flows through the London Borough of Newham, from Carpenters Arms to where the Lee meets the main River Thames. The presence of inter tidal fish species has been confined to the River Lee South of Three Mills by the construction of the Prescott Barrage. A fish pass has been constructed at the Barrage to encourage the migration of fresh water fish. We know that fish populations in this section of river are moderately abundant, being an indicator of a relatively healthy water environment. The most common species present are bream, roach, perch, dace, eel, tench and carp. Roach are an adaptable species able to thrive in a variety of habitats. Eels are an important European designated species often found throughout river systems where there are unobstructed routes for migration to and from the sea. Fish populations can be improved through simple habitat enhancements, and by ensuring good water quality and quantities.

Angling is a very popular, healthy outdoor activity that generates considerable income for local communities. The Lower Lee is a popular and valued location for local people to visit and enjoy fishing in London, and presents a real opportunity for further development, potentially providing significant social and economic benefits for the local community.

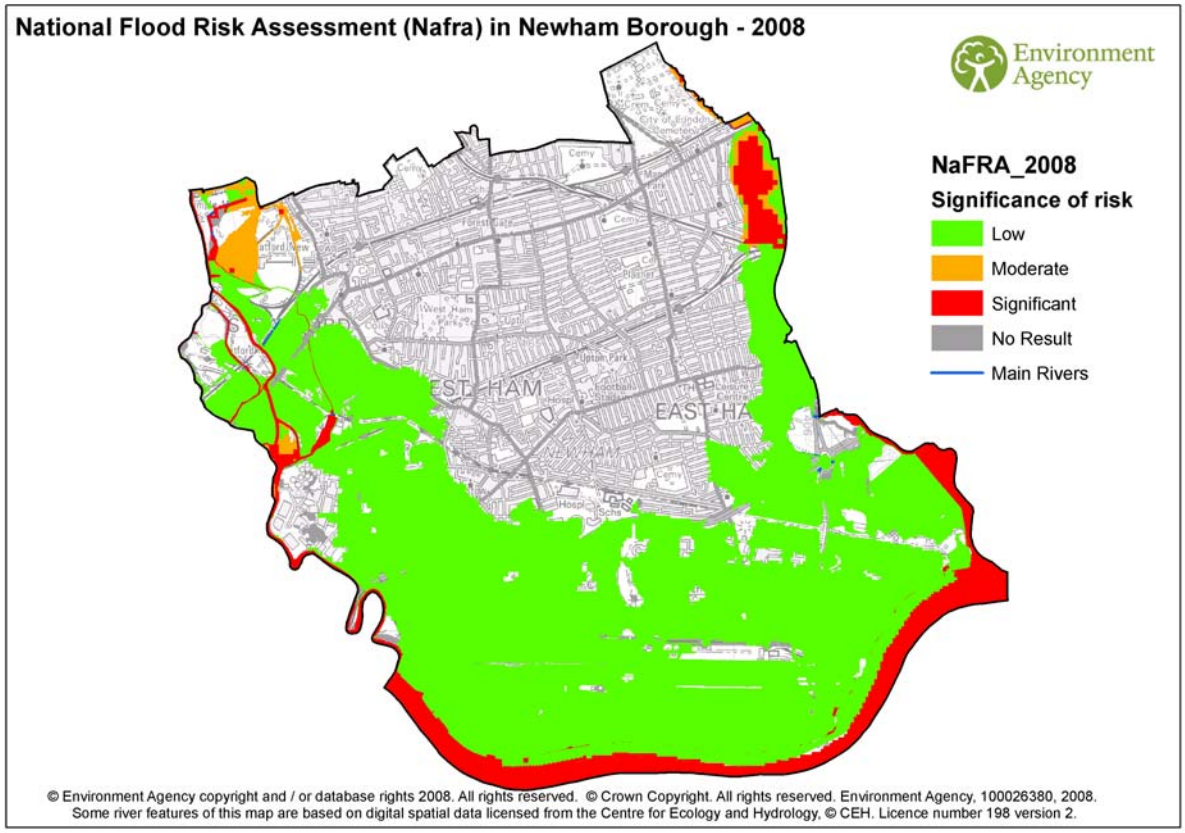
For more information on biodiversity and open spaces, visit the GIGL website.

References

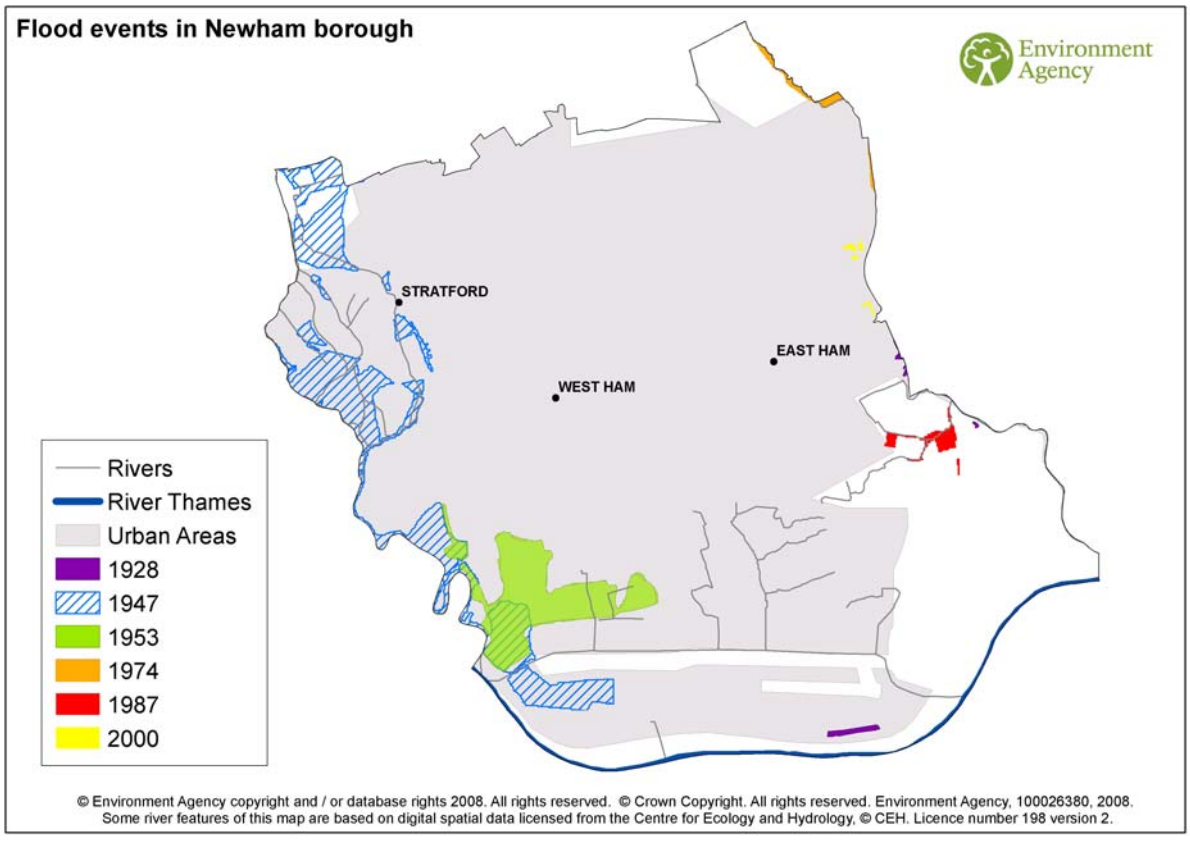
1. *REAP data release: Published by SEI - BRIO Model v2 May 2009 Available at http://www.resource-accounting.org.uk/downloads*
2. *LEGGI (London emissions and greenhouse gas inventory) 2004-2005*
3. *www.defra.gov.uk/environment/statistics/wastats*
4. *Thames Water draft water resources management plan*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

Appendix

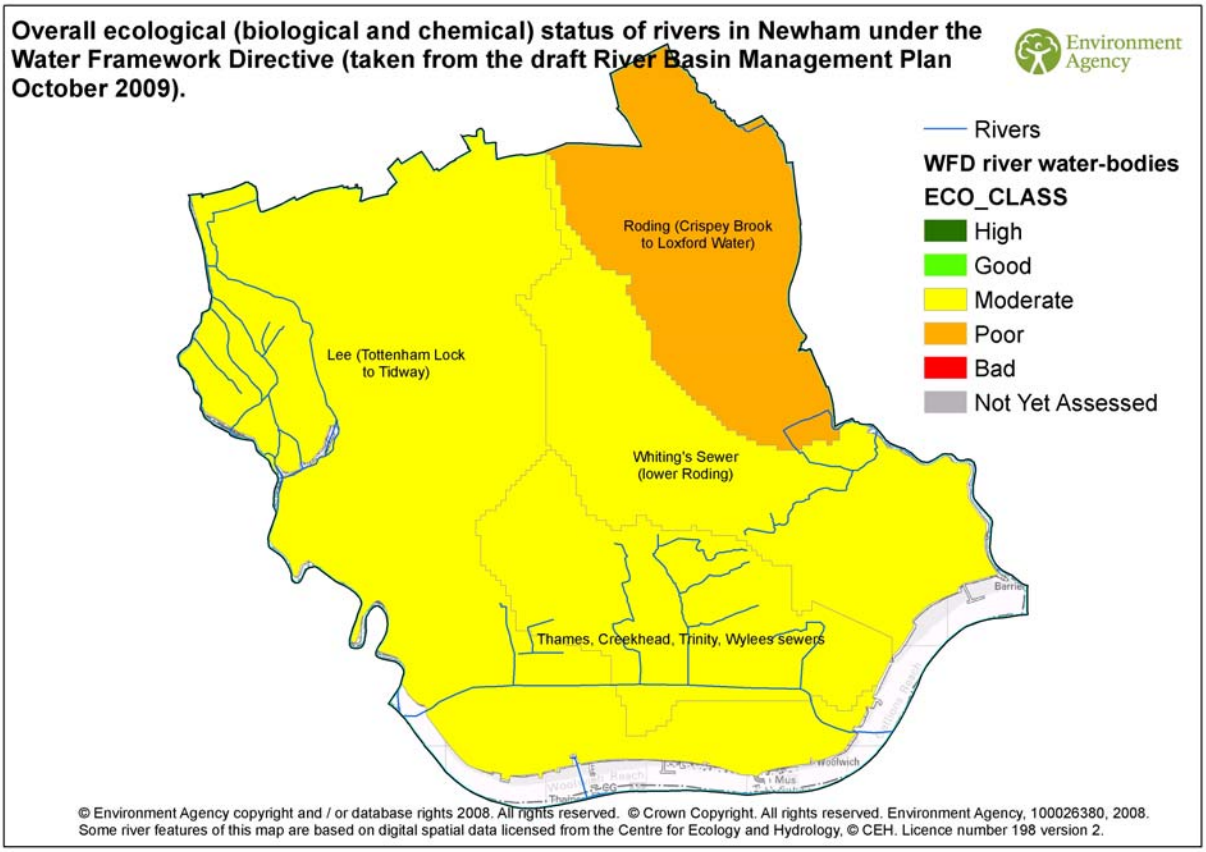
Appendix 1 – Map of flood zones and likelihood of flooding in Newham



Appendix 2 – Map of the flood events in Newham



Appendix 3 – Map of the ecological status of rivers under the Water Framework Directive



Appendix 4 – contaminated site – investigated land contamination sites in Newham