

East Midlands State of the Environment

Water

Good quality water is essential for a healthy environment, a healthy economy and a healthy society. It is vital that we have enough water of good enough quality to support people and wildlife. Although we have plenty of rainfall in the UK, parts of the East Midlands are among the driest in the country. A high population density and competing demands puts pressure at times on the supply and quality of water in parts of the region.

Much improvement has been achieved in the quality of our water environment in the last twenty years. However, new legislation called the Water Framework Directive (WFD) requires water in our rivers, canals, lakes and underground sources to meet even higher quality standards. To do this we will have to tackle many types of pollution and work with a range of sectors to continually manage and improve water quality.

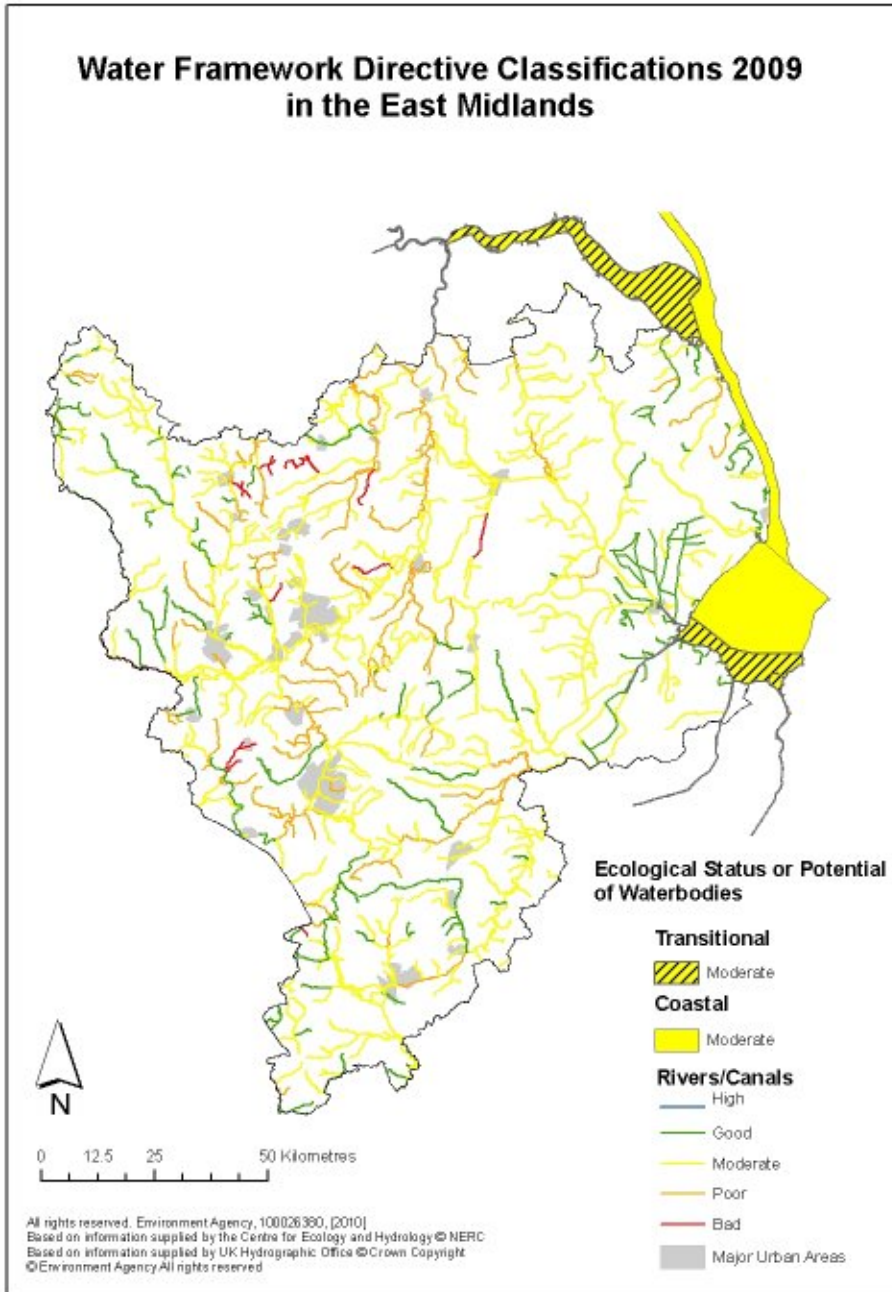
There are many challenges ahead. As well as a growing population, we must contend with an ageing water supply infrastructure, tougher environmental standards and climate change. All must be addressed to ensure that the needs of people and wildlife will be met in the future.

At a glance

- The average annual rainfall in the East Midlands is less than 700mm per year, compared to the England and Wales average of around 900mm.
- Domestic water consumption is around 135 litres per person per day.
- Under the WFD, we monitor the quality of 590 stretches of rivers and canals in the East Midlands. These stretches are called water bodies and represent about 5,500 km length of watercourse. 20 per cent of river and canal water bodies met the new target of 'good' ecological status or potential.
- Other water body types include lakes, groundwater, coastal and transitional. 28 per cent of lakes and 71 per cent of groundwater sources also reached good status in 2009. No coastal or transitional water bodies met the standards.
- In 2008, all seven of the East Midlands Bathing Water sites complied with mandatory European standards. They all also achieved the tougher guideline standards.
- There were 49 water pollution incidents categorised as major or significant in 2009.
- Approximately 40 per cent of the region is underlain by useable aquifers, including Sherwood Sandstones, Lower and Upper Magnesian Limestone, Carboniferous Limestone, Lincolnshire Chalk and Spilsby Sandstone

Data and trends

WFD ecological classifications for rivers and canals in the East Midlands in 2009 are shown in the map below. They are based on the results from water sampling for factors such as dissolved oxygen, phosphate, fish, diatoms and invertebrates.



customer service line

08708 506 506

www.environment-agency.gov.uk

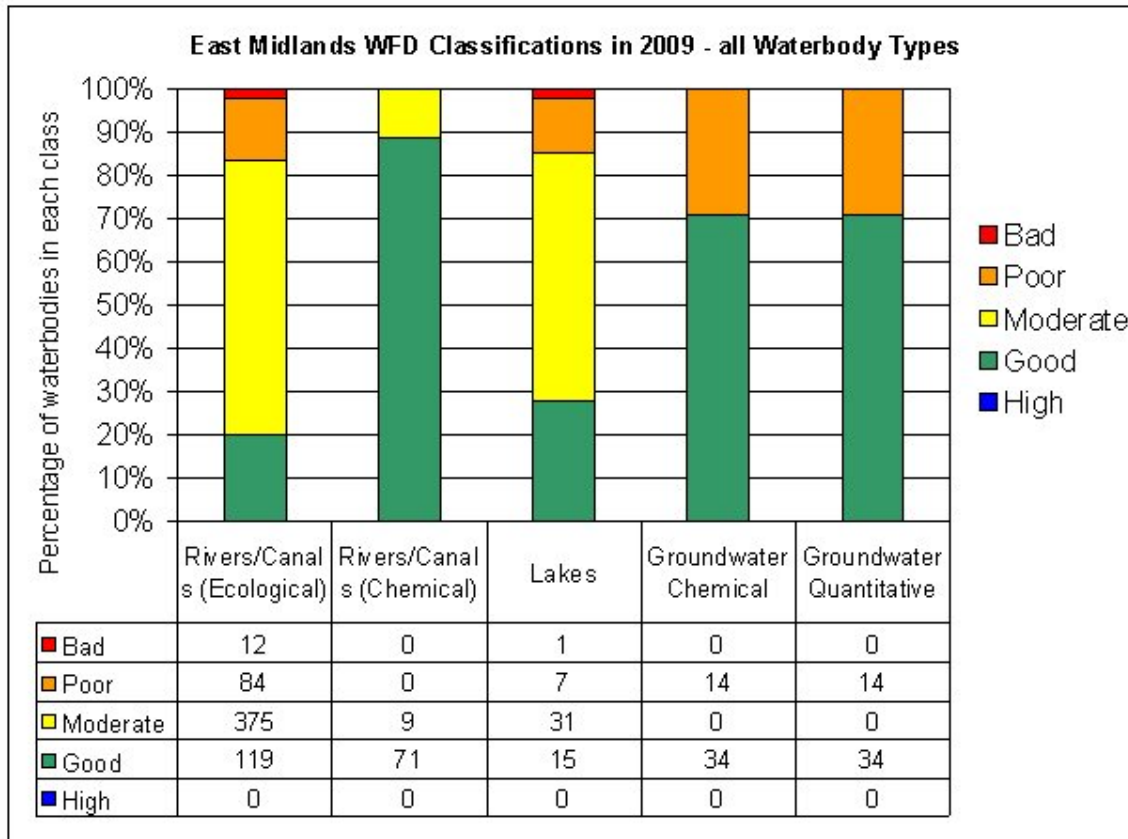
incident hotline

0800 80 70 60

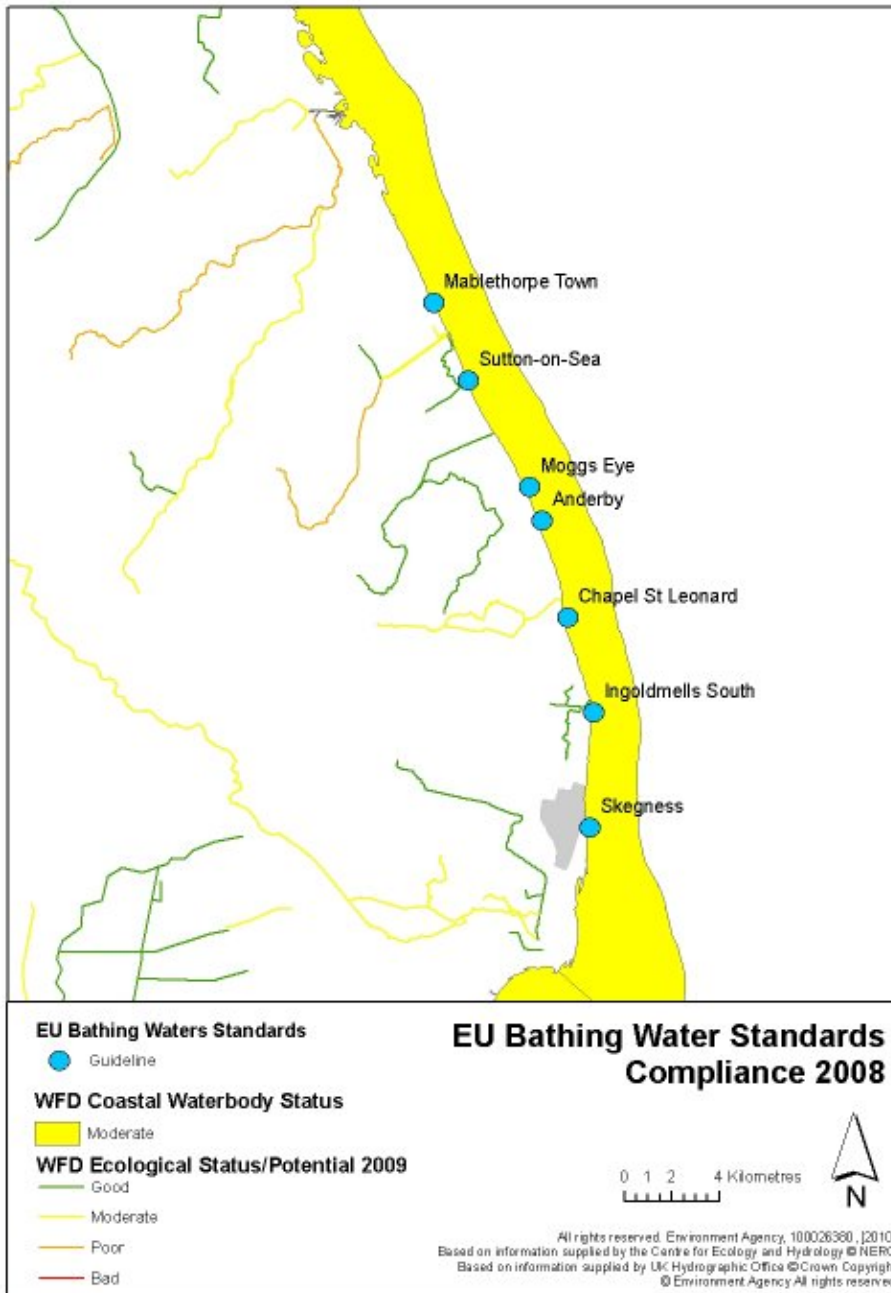
floodline

0845 988 1188

The following chart shows the percentage of water bodies reaching each WFD classification. Results are shown for all water body types along with the actual number of water bodies falling into each category. By 2027, all water bodies are required to reach at least 'good' status.



The map below shows the sites that were tested for EU bathing water standards in 2008. All seven sites met both the mandatory standards and the tougher guideline standards.



customer service line

08708 506 506

www.environment-agency.gov.uk

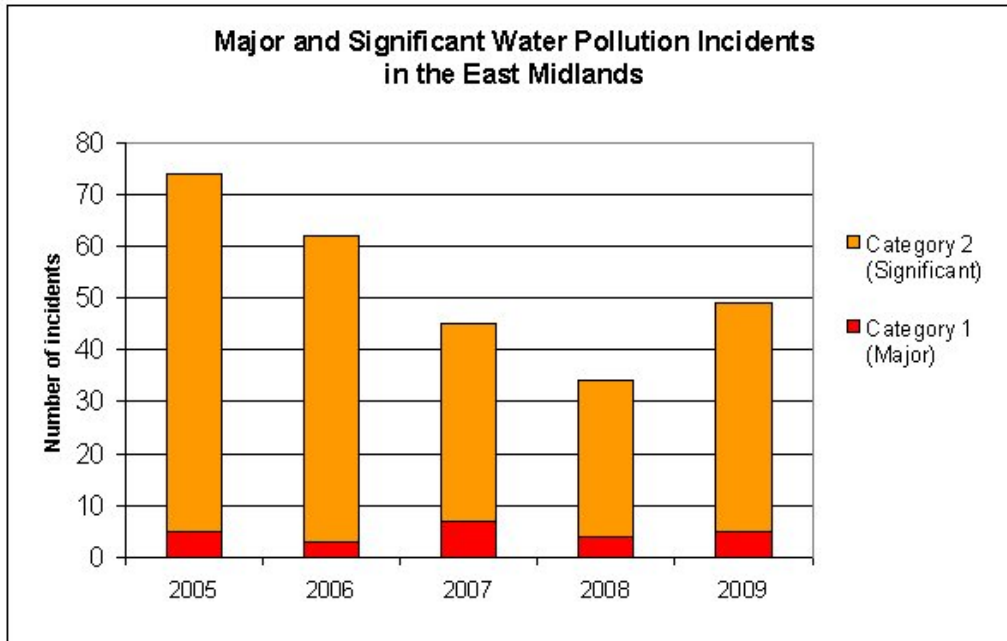
incident hotline

0800 80 70 60

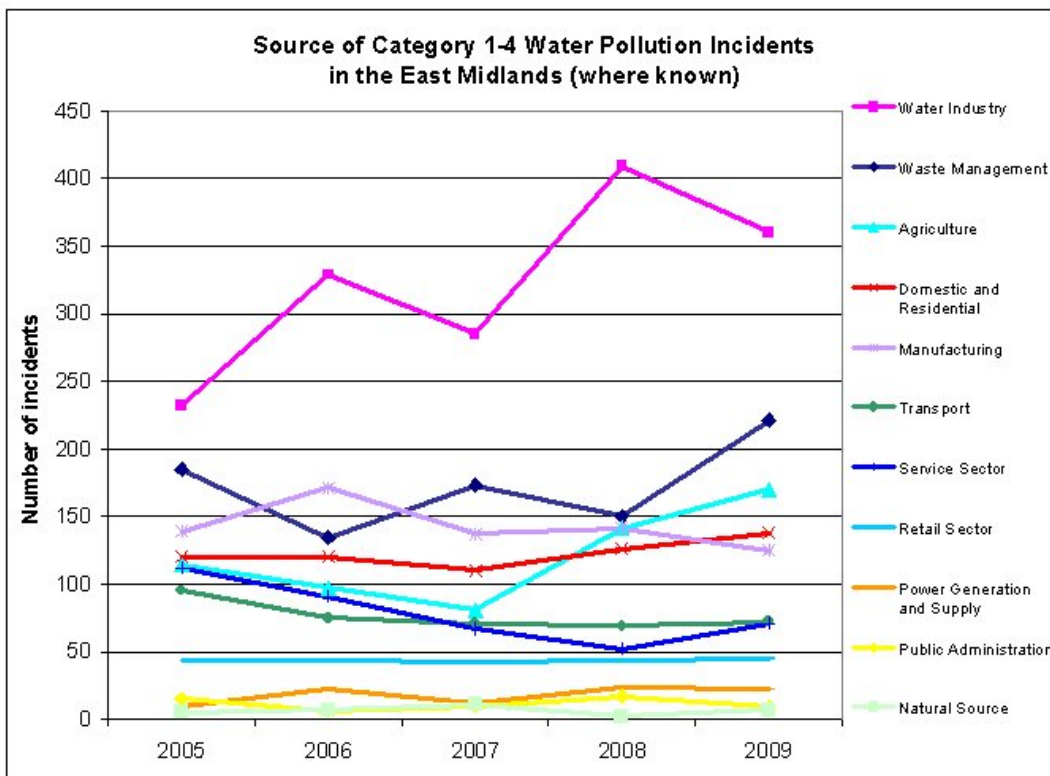
floodline

0845 988 1188

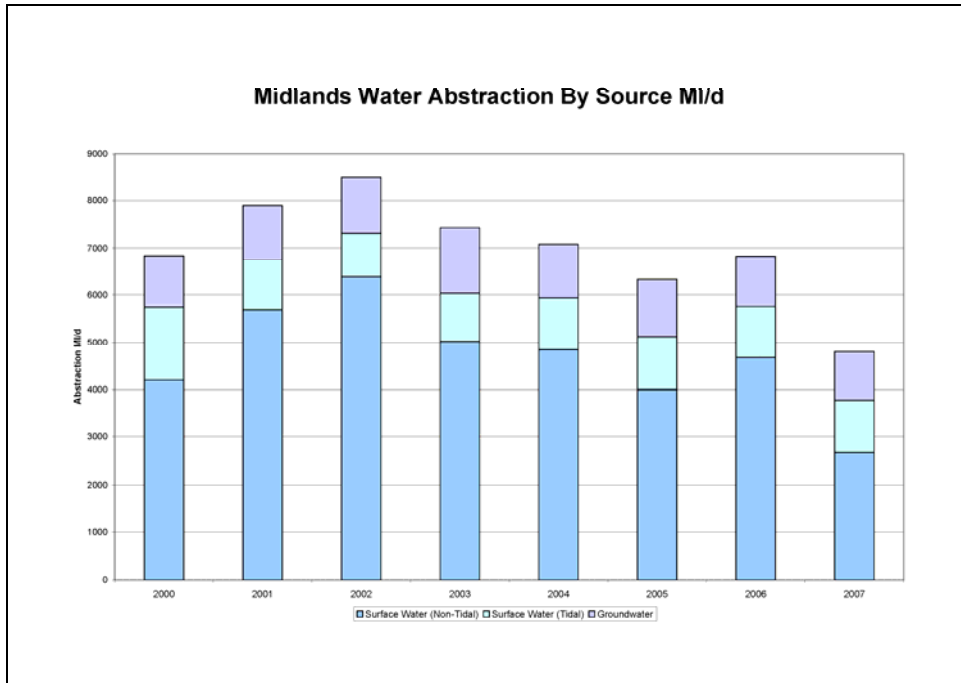
The next chart shows the number of major or significant pollution incidents which have affected rivers, canals, lakes and coastal waters in the East Midlands since 2005. Last year there was a rise in the number of incidents from the previous year, however there has been a generally improving trend since 2005 when there were 74 incidents.



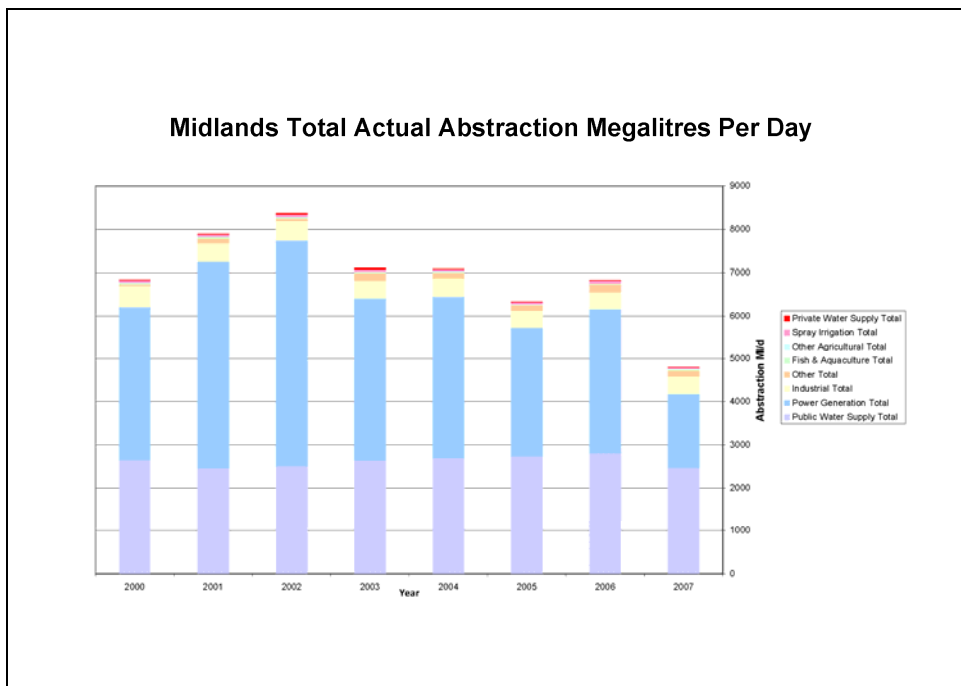
The following chart shows data for all incidents (category 1 to 4) to water from each sector since 2005. It excludes incidents where no sector was identified.



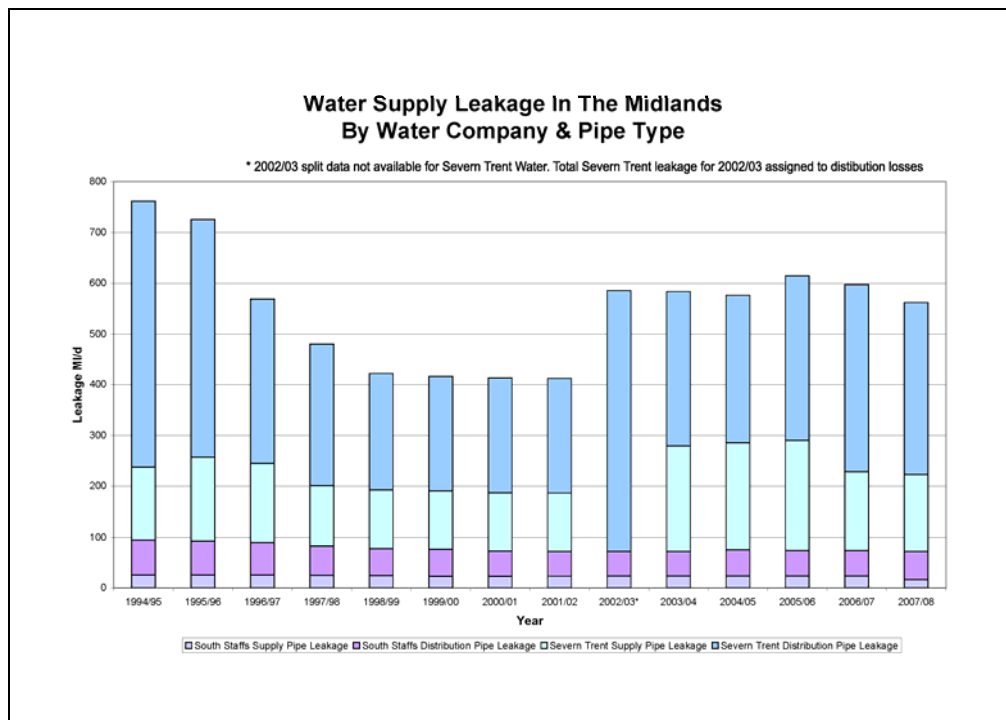
Midlands water supply comes from abstraction of water from tidal and non-tidal surface waters (rivers and reservoirs) and groundwater. Surface water provides 78 per cent of total abstraction and groundwater provides 22 per cent. Total abstraction of water has been showing a general downward trend since a peak in 2002. In 2007, 4800 million litres were abstracted each day, a 30 per cent reduction on the previous year.



Water abstraction can be broken down by economic sector. In the Midlands, public water supply and power generation are the main water users. Together they account for 87 per cent of all water abstraction in the region. Water use in all sectors has shown a general downward trend in recent years.



Losses of water put into supply occur through distribution pipes owned by the water companies and supply pipes connecting customers to the mains. Total leakage losses for the two main water companies in the Midlands (Severn Trent Water and South Staffordshire Water Company) were 561 million litres per day in 2007. Losses due to leakage are reducing but are still high.



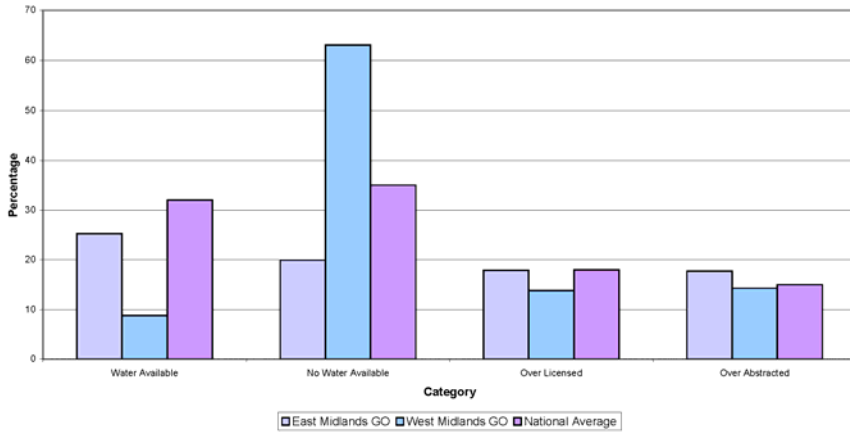
We makes assessments of the availability of water resources as part of our Catchment Abstraction Management Strategies (CAMS). These determine whether the current level of licensed and actual abstraction leaves enough water available for a sustainable aquatic environment.

Over abstracted areas are those where the amount of water being taken for human use is more than is sustainable and environmental damage is already occurring.

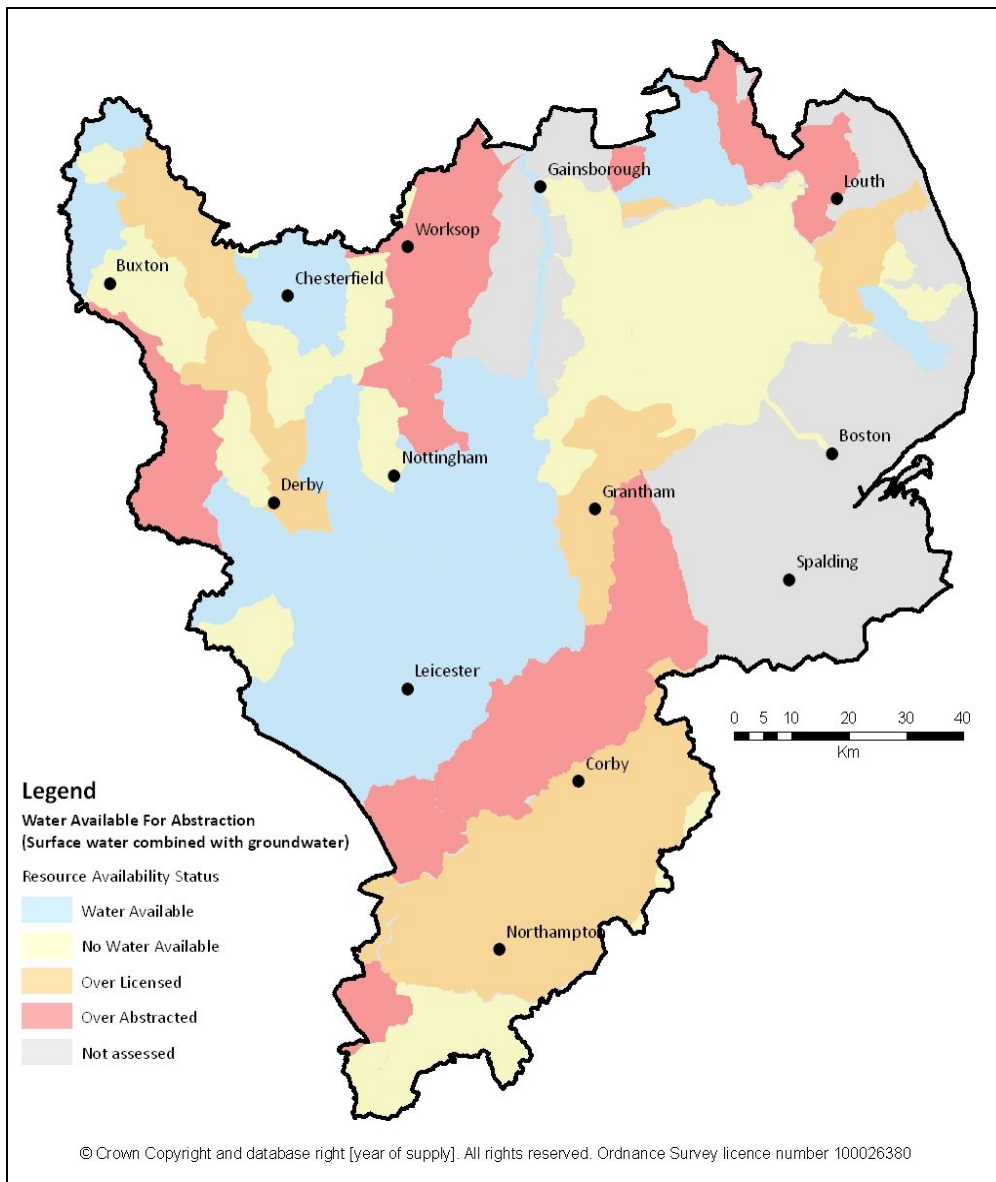
In over licensed areas more water has been licensed for abstraction than is available but the full licensed amounts are not yet being taken. These areas have potential for environmental damage to occur if the licensed amounts are abstracted.

In the East Midlands more resources are over abstracted and over licensed than the national average for England and Wales.

Water Resource Availability Status East & West Midlands Regions



The following map shows water availability for abstraction across the East Midlands. Water resources are heavily utilized across the region with many areas having no water available for abstraction without causing environmental damage. Significant portions of the region already suffer from over abstraction or over licensing problems. The main areas where water is still available for abstraction lie in the centre of the region between Leicester and Nottingham. Predicted increases in population for these areas by 2030 will increase pressure on water resources and may change the water available status.



The following two maps show effective rainfall in the East Midlands in summer and winter. Effective rainfall is the rainfall that is available to recharge groundwater resources after losses from evapo-transpiration. In much of the region summer effective rainfall is less than 100mm per annum. Rainfall is greatest in the northwest corner of the region, which includes the upland areas of the Peak District. In this localised area annual rainfall totals are higher than anywhere in the East Midlands.

customer service line

08708 506 506

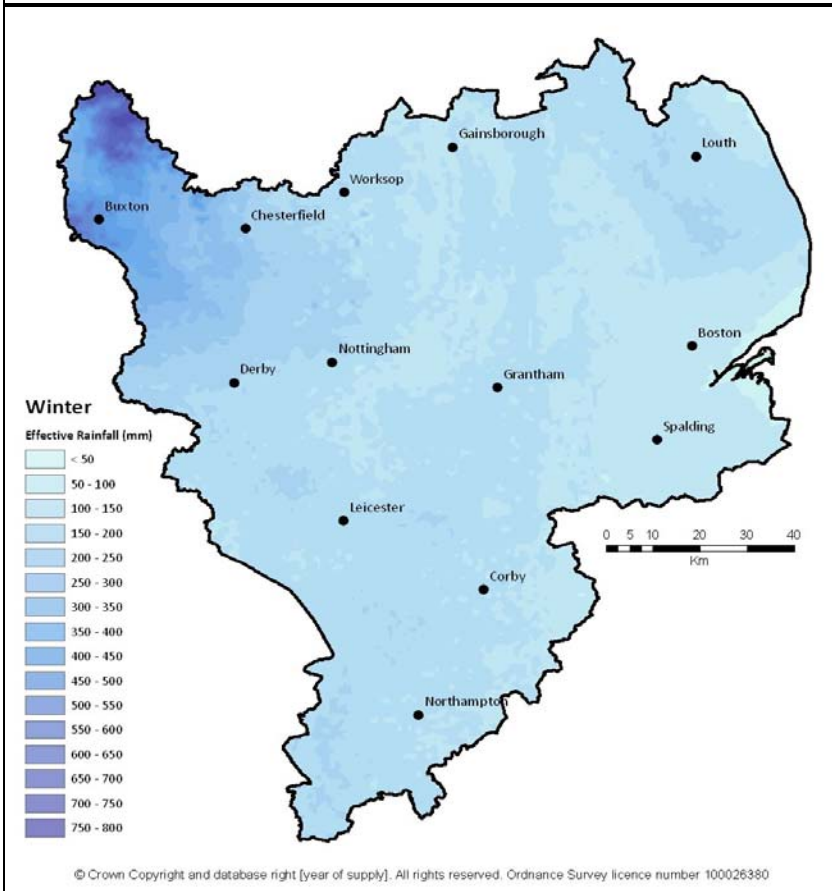
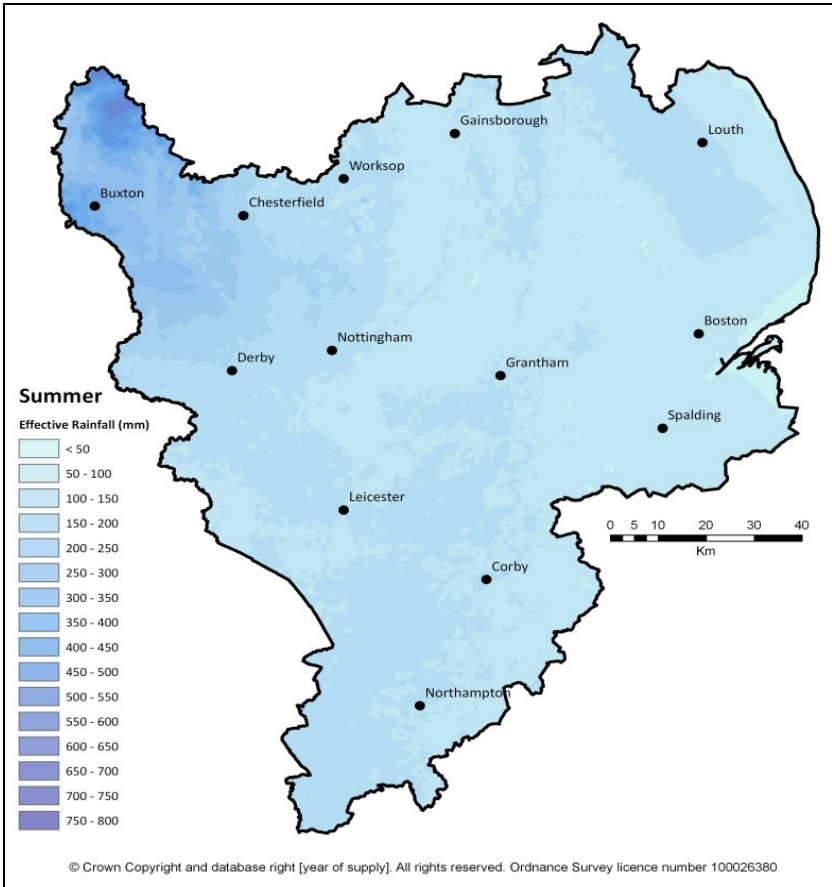
www.environment-agency.gov.uk

incident hotline

0800 80 70 60

floodline

0845 988 1188



customer service line

08708 506 506

www.environment-agency.gov.uk

incident hotline

0800 80 70 60

floodline

0845 988 1188

Our role

We are responsible for safeguarding the water environment. To do this, in the next few years we will:

- Work with partners to implement the Severn and Humber river basin plans to achieve 'good ecological status' for surface waters.
- Improve fish stocks, which contribute to a healthy and more ecologically diverse environment that provides opportunities for recreation.
- Implement our 'Restoring Sustainable Abstraction' programme to protect the environment by changing or removing unsustainable extraction from surface and underground supplies.
- Ensure that water-related Sites of Special Scientific Interest (SSSIs) will be in favourable or recovering condition and Biodiversity Action Plan (BAP) habitats and species are enhanced.
- Work in partnership with others to manage droughts.
- Ensure that people use water wisely, understanding the value of water to the economy, society, wildlife and the environment.

customer service line

08708 506 506

www.environment-agency.gov.uk

incident hotline

0800 80 70 60

floodline

0845 988 1188