

Air Quality



The Herts and Beds Air Quality Network was launched in 1999 to enable better co-ordination across the area and more effective monitoring of air quality. In January 2000, the Government, through DETR, published its strategy for air quality in the UK, entitled 'Working Together for Clean Air', linking pollution with health, and setting out target limits for emissions of key pollutants.

The air contains a wide variety of substances such as particles, vapours and gases. Some are naturally occurring substances, and others are caused by human activities, most significantly road transport, industrial processes, energy generation and solvent use. Some of these substances can harm human health and the environment, in which case the air is described as being polluted.

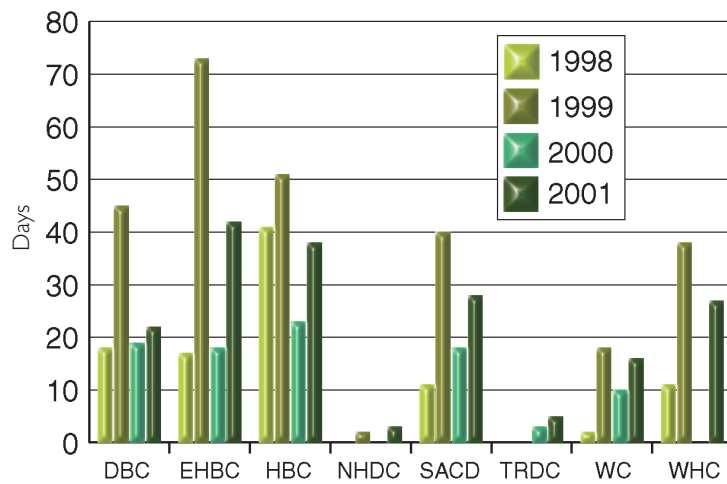
Indicators are used to demonstrate the long-term air quality in Hertfordshire, and signify whether it is getting better or worse. Air quality has always featured in the State of Hertfordshire's Environment Report, but monitoring has varied. The current indicator, 'Number of days of air pollution', has been included in the report since 2000 although data exists from 1998.

INDICATOR API - Number of Days of Air Pollution in Hertfordshire

The number of days of air pollution is calculated by first measuring the concentrations of four pollutants: Nitrogen Dioxide, Ozone, Carbon Monoxide and Particulates (PM10). Days when any of these four pollutants are classed as 'low', 'moderate', 'high' or 'very high' are calculated according to standards set by the Government. A day of air pollution is recorded when pollutants exceed the 'low' level.

The following chart shows how the pattern of air pollution has changed over the last four years. In general, the number of days of air pollution rose between 1998/9 and fell in 2000. In 2001, the number of days had risen again. The pollutant most in evidence is ozone. Ozone is referred to as a 'secondary pollutant', which means that it is not emitted directly into the atmosphere, but is formed by a complex series of reactions between oxides of nitrogen and volatile organic compounds, in the presence of sunlight. Sunnier summers result in higher ozone levels.

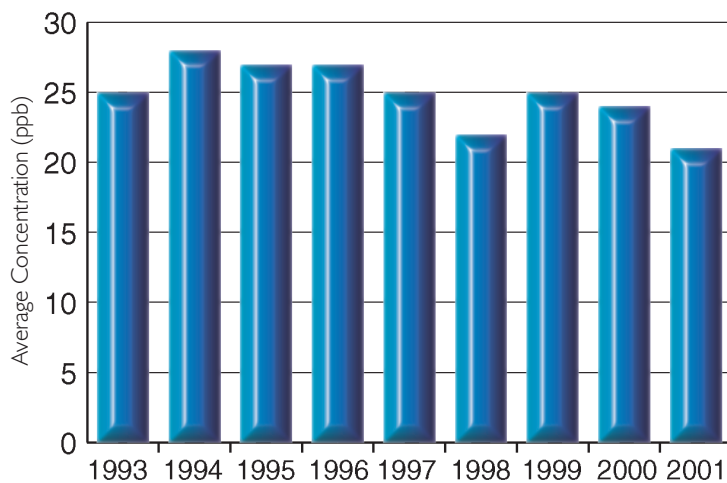
Number of Days of Air Pollution in Hertfordshire



It is not possible to compare directly between the districts because they include different pollutants in their totals; for example North Herts and Three Rivers do not monitor ozone. In addition, only eight out of the ten districts are presented in this graph because until recently two authorities did not have automatic monitoring equipment.

Although data for the above indicator does not stretch back ten years, data from nitrogen dioxide diffusion tubes can be used to show air quality over this period. Whilst diffusion tubes are a low technology way of pollutant monitoring, they do allow trends to be established. The following graph shows how average concentrations have changed since 1993.

Nitrogen Dioxide in Hertfordshire



The value for each year is made up of the average of all indicator sites across the county. The 2005 objective for nitrogen dioxide is 21 ppb, expressed as an annual mean.

Local authorities in Hertfordshire have recently completed air quality 'review and assessments', as

required by the Environment Act 1995. The process looks at the predicted concentrations of seven pollutants, and compares them against the 'National Air Quality Regulations 2000' objectives for 2004/5. The pollutants are Benzene, 1,3-Butadiene, Lead, Nitrogen Dioxide, PM10 Particles, Sulphur Dioxide and Carbon Monoxide. Ozone is also monitored as a regional pollutant.

When it is predicted that an objective limit for any of these pollutants will be exceeded, local authorities have to assess whether the public is likely to be exposed to these high levels for any substantial amount of time (local residents for example). If significant public exposure is identified then an Air Quality Management Area (AQMA) must be designated, and an action plan drawn up to improve air quality.

By the end of 2001, Three Rivers, Hertsmere, Broxbourne and East Herts Councils were intending to declare AQMAs. Areas identified are close to the M1, the M25, and the A1184 through Sawbridgeworth. St Albans is currently evaluating its evidence, but the remaining councils are not declaring any AQMAs. Local authorities are required to repeat the process by the end of 2003.

Air quality monitoring in Hertfordshire is co-ordinated through the Herts and Beds Air Pollution Monitoring Network. Broxbourne and Stevenage Borough Councils have this year commissioned air quality monitoring equipment, which will enable future reports to include information from all authorities in the county.

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Further information sources:
 Contact: Richard Brown, Watford Council
 Tel: 01923 226400 or your local Environmental Health Department
 See: Ceefax pages 404, 410-414
 Contact: Department of the Environment, Food and Rural Affairs air quality freephone number:
 Tel: 0800 556677
www.defra.gov.uk/environment/airquality/index.htm
 AEA Technology:
www.aeat.co.uk/netcen/airqual/bulletins
 The Herts and Beds Air Pollution Monitoring Network:
www.seiph.umds.ac.uk/hbnet.htm