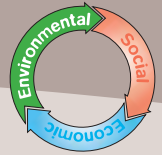




Air Quality



The air contains a wide variety of particles such as particulates, vapours and gases. These can harm human health, harm the environment, or cause a nuisance. If they are harmful, the air is described as being polluted.

INDICATOR AP1 – Number of Days of Air Pollution

Indicator AP1 is used to demonstrate the long-term air quality in Hertfordshire, and whether it is getting better or worse. AP1 is calculated by measuring the concentrations of four pollutants: Nitrogen Dioxide, Ozone, Carbon Monoxide and Particulates (PM10). We then add up the number of days when any of these four pollutants is classed as ‘moderate’, ‘high’ or ‘very high’ according to standards set by the Government.

The following graph shows how the days of air pollution have changed for each local authority over the last five years. In general, the number of days of air pollution rose between 1998 and 1999 before falling in 2000. In 2001, the number of days rose, before dropping again in 2002. This is likely to be because the pollutant causing most of the days of air pollution is ozone, and its formation is partly temperature dependent. It is a ‘secondary pollutant’, not emitted directly into the atmosphere, but formed by a complex series of reactions between oxides of nitrogen and volatile organic compounds, in the presence of sunlight.

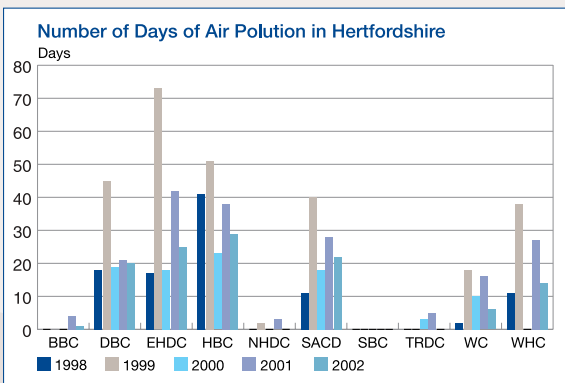
The greater number of days of pollution in 1999 and 2001 may therefore have been primarily due to the poorer weather conditions of 1998 and 2000 preventing ozone being formed quite as readily as it was when weather was better. Similarly this year, the number of days of air pollution has decreased. This can be explained by the effect of poor weather conditions, which reduces the number of episodes of poor air quality.

It is difficult to compare directly between the districts because they include different pollutants in the totals; for example NHDC and TRDC do not monitor ozone. Similarly some sites are situated close to busy main roads (and would therefore expect to measure more days of nitrogen dioxide or particulate pollution) and some are located in rural areas (and would therefore expect to measure more days of ozone pollution).

Air quality monitoring in Hertfordshire is co-ordinated through the Hertfordshire and Bedfordshire Air Pollution Monitoring Network. More detail on the network, the location of the analysers and the pollutants monitored can be found through the Network’s website www.seiph.umds.ac.uk/hbnet.htm.

In the next year or so, local authorities in Hertfordshire will be looking at the predicted concentrations of seven pollutants across their areas, as required by the Environment Act 1995, and comparing them against national health-based objectives.

Acknowledgement: The data summaries in this chapter have been provided with the assistance of the Environmental Research Group, Kings College, London



Notes: Sites in Stevenage and Broxbourne became operational in 2001. For the other sites, where no data is shown, no days of ‘moderate’ or ‘worse’ air pollution were measured. 2002 data is provisional.