

AIR POLLUTION

Introduction

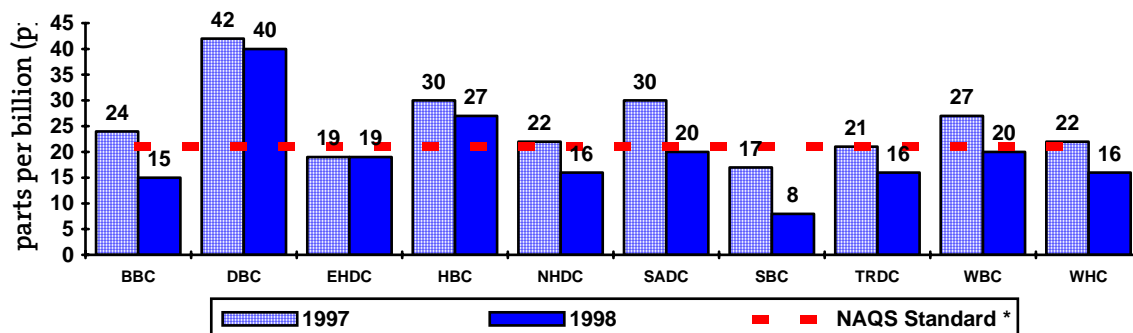
The air contains a wide variety of substances as particles, vapours and gases. If these substances harm human health, harm the environment, or cause a nuisance, then the air can be described as being polluted.

We can look at trends in air pollution in Hertfordshire, and whether it is getting better or worse, by looking at two particular pollutants. We measure the concentration of nitrogen dioxide at specific sites in each district or borough of the county. Also we add up the number of days in each year when ozone pollution is classed as 'low', 'moderate', 'high' or 'very high'. The pollution caused by fine particulates (PM10s) in the air has started to be measured and will be included in this report from next year.

Indicator 1: Nitrogen Dioxide

In towns most nitrogen dioxide in the air comes from road vehicles. Nitrogen dioxide is harmful in two main ways: it can cause breathing problems and it also contributes to the problem of acid rain. Acid rain is harmful to nature and it can also damage buildings by attacking building materials.

**Estimated Annual Average Nitrogen Dioxide Concentration
1997 & 1998**



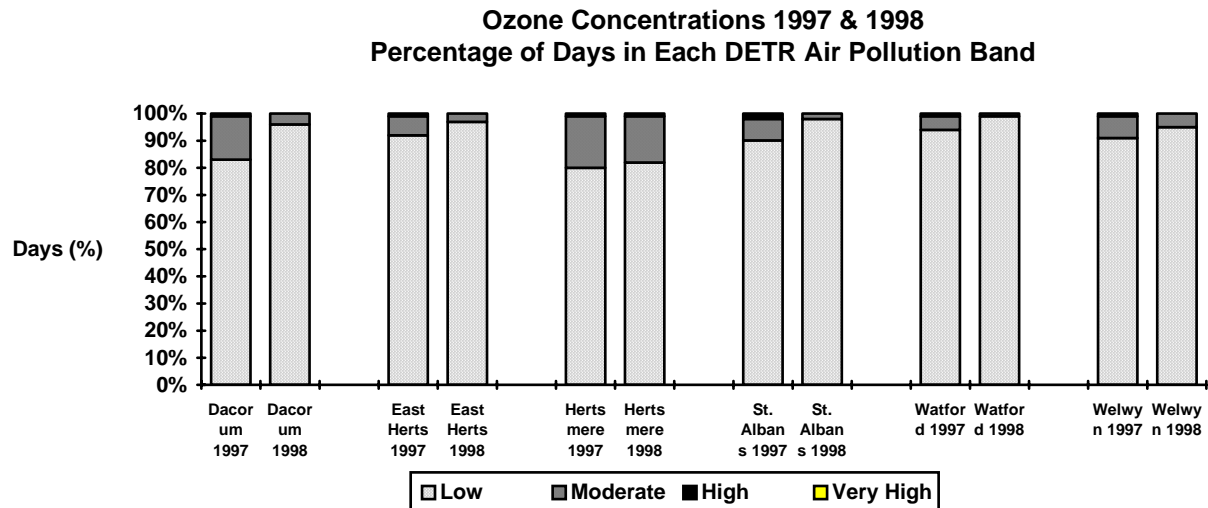
The results so far for 1998 indicate that for 8 out of 10 Hertfordshire sites the concentrations of nitrogen dioxide currently do not exceed the National Air Quality Strategy (NAQS) standard of 21 ppb. The current NAQS objective is to achieve a nitrogen dioxide concentration below this standard by the year 2005. However, the results for 1998 may be lower than for 1997 due to the meteorological conditions experienced so far in 1998 which will help to disperse the pollution.

Indicator 2: Ozone

Ozone is called a 'secondary pollutant'. This means that ozone is not emitted directly into the atmosphere, but is formed in the air by a complex series of chemical reactions powered by sunlight, so ozone pollution is worse on sunny summer days than in the winter.

This is 'ground level ozone pollution' and should not be confused with the 'hole in the ozone layer' which is high above the earth. Ozone high in the atmosphere protects us from the sun, therefore lack of ozone in the upper atmosphere also causes a problem. Ozone at ground level can irritate your eyes, nose and throat and it can cause coughs and headaches.

Ozone is now monitored continuously at six sites in Hertfordshire. Overall ozone pollution in Hertfordshire is within the 'low' or 'moderate' bands, however one day of 'high' ozone pollution was measured in 1998.



Local Air Quality Management

All of Hertfordshire's district/borough councils have been undertaking a review and assessment of their local air quality for all pollutants set out in the Air Quality Regulations 1997. This is the first key step in the local air quality management process and will provide the benchmark for action, and the mechanism by which success can be measured. It will be completed by December 1999, and be undertaken again at least one more time before the end of 2005.

The objectives of a review and assessment are:

- identify areas where national policies appear unlikely to deliver the national air quality objectives by the year 2005,
- ensure that air quality considerations are integrated into local authorities' decision making processes, such as land use planning and traffic management.

Improved Air Quality Monitoring in Hertfordshire

Monitoring of the air pollution in Hertfordshire has never been so widespread or so accurate as it is today. Just about every district/borough council has at least one monitoring site that measures for air pollution continuously. These sites are often supplemented by non-continuous air pollution monitoring, such as passive diffusion tubes measuring monthly nitrogen dioxide concentrations.

Personal Exposure to Air Pollutants in Hertfordshire

A report by the Building Research Establishment on personal exposure to air pollutants was published in July 1998. This research was undertaken for Hertfordshire Environmental Forum and the DETR and it involved 24 Hertfordshire County Council and 6 BRE employees

measuring their exposure to air pollutants in the home, outdoors, at the office and whilst travelling. 80% or more of the personal exposure to air pollutants for the group occurred during time spent indoors. Exposure to several volatile organic compounds was found to be higher when travelling by car than when using other modes of transport. Travelling by train had the lowest exposure, then cycling, bus and walking were the same, and car travel had the highest exposure.

What Can You Do About Your Local Air Quality ?

Do you know what your local air quality is like?

Do you do anything to help improve it? For example, do you walk, cycle or use public transport instead of using the car, especially during 'poor' air quality times?

Some local television now give daily bulletins on the quality of our air.

Other sources of information are:

- the Department of the Environment air quality freephone - 0800 556677
- ceefax pages 404, 410 - 414
- teletext page 106
- internet - <http://www.open.gov.uk/doe/doehome.htm>
- internet - <http://www-seiph.umds.ac.uk/EnvHealth>
- Your local council environmental health department.

**For further information contact: Alan Gough,
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