

## Air Quality

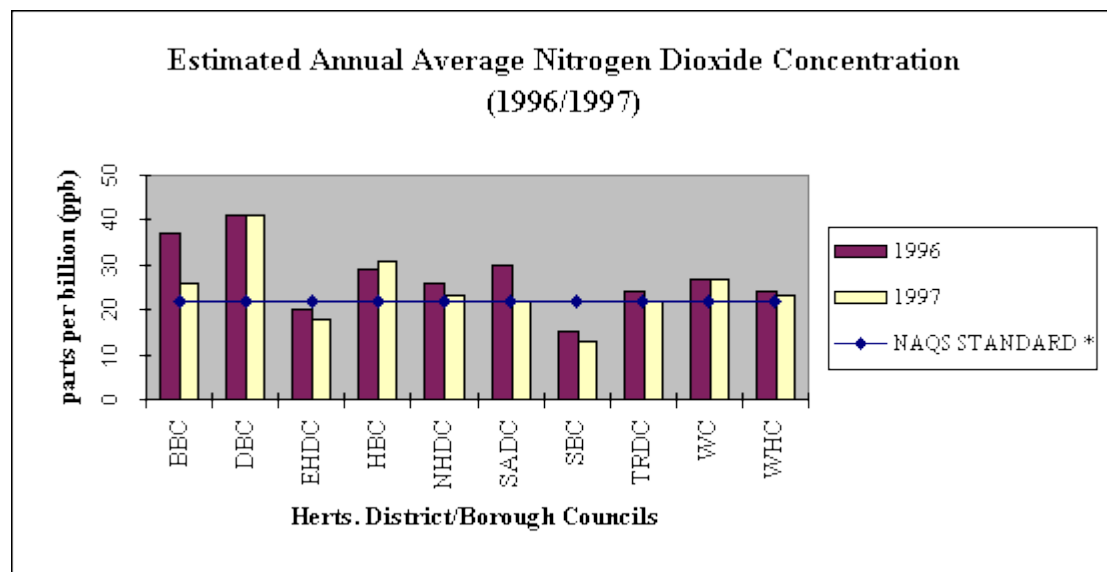
### Introduction

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

Monitoring studies are continuing to look at trends in air quality in Hertfordshire and finding out whether it is getting better or worse. Currently, levels of air pollution are generally stable in the County, although they are above the National Air Quality Standards targets. Out of all the pollutants monitored in Hertfordshire each year, nitrogen dioxide and ozone have been chosen to monitor annual changes in air quality as they are useful indicators of overall air quality. Concentrations of nitrogen dioxide are measured at specific sites around the county. To conform to new government standards, the number of hours are also measured in each year which are now classed as "low, moderate, high, or very high" for ozone concentrations (N.B. the graphs still show the old "very good" to "very poor" scale).

### Indicator 1: Nitrogen Dioxide

In towns, most nitrogen dioxide in the air will have come 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 natural habitats and it can also damage buildings by attacking the materials the building is made of.



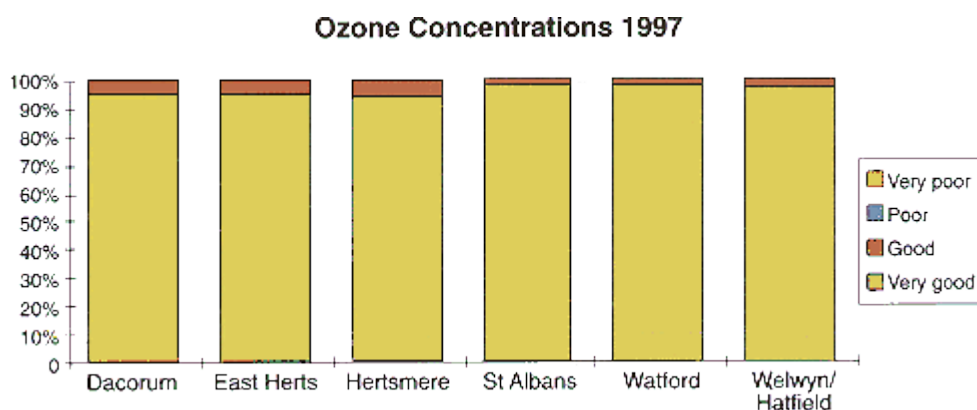
Overall (eight out of ten sites) the concentrations of nitrogen dioxide in Hertfordshire currently exceed the National Air Quality Strategy (NAQS \*) standard of 21 ppb to varying extents. The NAQS objective has changed since last year's report: the new objective is to achieve a nitrogen dioxide concentration below 21 ppb by the year 2005.

### 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 protective 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 can irritate your eyes, nose and throat and can cause coughs and headaches

A total of six sites now continuously monitor ozone levels in Hertfordshire. This year two additional monitoring sites were established - in East Herts and in St Albans. Currently data is too variable to see any trend. Overall, the ozone concentrations in Hertfordshire are within the 'very good' or 'good' bands, however some hours of 'poor' air quality were measured in 1997.



## Recent developments in air quality monitoring in Hertfordshire

### PM10 survey

This was a 12 month monitoring survey of levels of fine particles (PM10) in the ten district/borough councils in Hertfordshire. The survey showed that five out of the ten district/borough authorities in Hertfordshire recorded, on occasions, levels above the EPAQS standard of 50mg/m<sup>3</sup>. Four further districts will soon be continuously monitoring PM10.

Other sources of information are:

- \* Local television now gives daily bulletins on the local air quality.
- \* the Department of the Environment air quality freephone - 0800 556677
- \* ceefax pages 404, 410-414 & teletext page 106
- \* Your local council environmental health department.

For further information contact:

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