

# Air Quality 2004

## Summary in brief

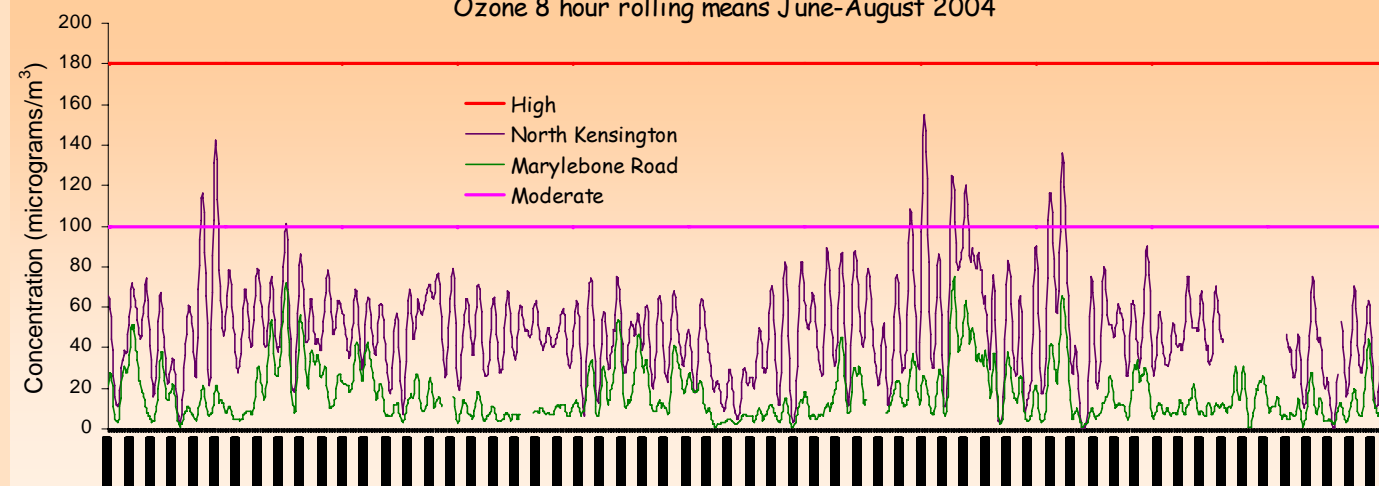
Levels of most pollutants were down in 2004 compared to concentrations measured in 2003. There were, however, a few notable episodes in the winter period and summertime, mainly due to ozone and particulate matter (PM<sub>10</sub>). Pollutants which exceeded their objectives or breached moderate levels in 2004 were nitrogen dioxide, PM<sub>10</sub> and ozone. Carbon monoxide, sulphur dioxide, lead and benzene largely met their respective objectives and did not breach the moderate band.

## Summer Ozone episodes

There were 34 days of moderate levels of ozone measured at the borough's monitoring site in North Kensington during 2004. The first elevated levels occurred on the 24<sup>th</sup> of April and lasted until the 2<sup>nd</sup> of May; peak levels coinciding with warm UK temperatures. However higher levels of air pollution were measured at the end of July and early August 2004 in the UK. For ozone both the maximum 8-hour and hourly means are used to calculate the index (see Defra banding over page), the graph below shows the 8-hour rolling means. The levels did not reach the high banding. Unusually, compared to many pollutants, the highest levels of ozone are usually measured at background locations away from roads. For example the Marylebone Road site, shown in green in the graph below, has considerably lower levels than the North Kensington site because ozone will react with other pollutants at roadside locations.

Compared with the August 2003 ozone episode, 2004 was characterized by lower peak ozone levels. This was due to lower temperatures and clean air from the Atlantic which helped to prevent the episodes becoming prolonged. This also meant that smaller areas of the UK were affected. Ozone is thought to aggravate asthma symptoms and other respiratory diseases. When levels reach or exceed the high band the government is required to issue warnings to the public.

Ozone 8 hour rolling means June-August 2004



Review and assessment reports and more information on air quality are available on the councils website: <http://www.rbkc.gov.uk/AirQuality>

## General air quality information

### How do we assess air quality?

Air quality can be assessed by comparing measured levels of pollutants with objective levels or compared to bands classed as low, moderate, high or very high. The government and local authorities use objectives as goals to aim for when trying to tackle the causes of the air pollution. 'Bands' are used in the government's data dissemination index to inform the public of air quality on a daily basis (for more information see overleaf).

### What is the council doing about air quality?

The Council is required to regularly review and report the monitoring data it collects. As a result of one of the reviews the council declared the whole borough an air quality management area in December 2000. Since then the council has produced an action plan, which looks at measures to improve air quality in the borough and annually updates the progress being made on the various measures.

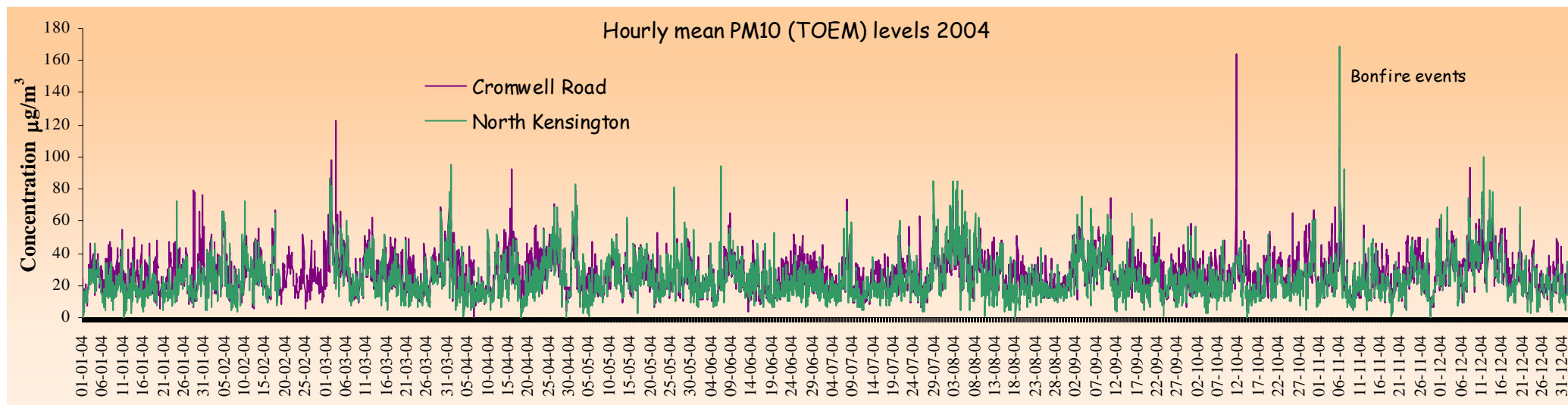
### Review and assessment

In April 2004 the council submitted its Updating and Screening Assessment of the borough's air quality to Defra (Department of environment, food and rural affairs) the Mayor of London. This document reported in detail the latest monitoring data for all pollutants which have been set objectives, and checked for any changes to our previous assessments. This was then followed by work to produce the 2005 quality progress report.



## Winter Smogs

Bad air quality in the winter tends to be associated with the poor dispersion of pollutants or specific events such as Guy Fawkes Night. Local bonfires and fireworks often lead to elevated levels of particulate matter (PM<sub>10</sub>), especially when coupled with poor dispersion, typical of cold inversions. Sometimes levels can reach the 'very high' pollution threshold. In 2004 most events were on the Friday 5<sup>th</sup> and Saturday 6<sup>th</sup>. In fact the highest peak measured in the borough was at our background site on the evening of the 5<sup>th</sup> of November. Other winter peaks occurred in early March, mid October and mid December due to calm weather.



## DEFRA banding

This system has been developed by Defra and is used to disseminate air quality information to the public on a day to day basis, by putting concentrations of pollutants into different bands such as 'low' or 'high' for example. Each band has a health related message.

Number of days experiencing Moderate levels and above

	North Kensington	Cromwell Road	Earls Court
PM <sub>10</sub>	2	6	22
Ozone	34	-	-
Nitrogen dioxide	0	0	-

Standard Threshold= Low to moderate, High =Information Threshold, High and above = Alert Threshold

Table to show pollutant levels in each banding category

Description...	Low	Moderate	High	Very High
Sulphur Dioxide ( $\mu\text{g}/\text{m}^3$ , 15 minute averages)	<265	266-531	532-1063	$\geq 1064$
Ozone ( $\mu\text{g}/\text{m}^3$ )	<99 (8hr running average)	100-179 (hourly average)	180-359 (hourly average)	$\geq 360$ (hourly average)
Carbon Monoxide ( $\text{mg}/\text{m}^3$ , 8 hour running average)	<11.5	11.6-17.3	17.4-23.1	$\geq 23.2$
Nitrogen Dioxide ( $\mu\text{g}/\text{m}^3$ , hourly average)	<286	287-572	573-763	$\geq 764$
PM10 Particles ( $\mu\text{g}/\text{m}^3$ , 24 hour running average) TEOM - continuous methods	<50	50-74	75-99	$\geq 100$
PM10 Particles ( $\mu\text{g}/\text{m}^3$ , 24 hour running average) Grav. Equiv. - non continuous methods	<64	65-96	97-129	$\geq 129$

For more information on the index including health advice visit <http://www.airquality.co.uk/archive/standards.php#band>