



LOCAL AIR QUALITY MANAGEMENT UPDATING AND SCREENING ASSESSMENT

Part IV of the Environment Act 1995

Prepared by:

**Lewes District Council
with assistance from the
Sussex Air Quality Steering Group**

May 2003

CONTENTS

	Page No.
Summary	3
Glossary	4
1. Introduction	5
2. Air Quality Objectives	6
3. Information about Lewes District Council	7
4. Updating and Screening Assessment for Carbon Monoxide	9
5. Updating and Screening Assessment for Benzene	10
6. Updating and Screening Assessment for 1,3-Butadiene	12
7. Updating and Screening Assessment for Lead	13
8. Updating and Screening Assessment for Nitrogen Dioxide	14
9. Updating and Screening Assessment for Sulphur Dioxide	17
10. Updating and Screening Assessment for PM₁₀	18
11. Conclusions	22
References	23
Appendices	
I Map of Lewes District Council	24
II Emissions	25
III Air Quality Monitoring	30
IV Air Quality Modelling	31
V Consultation	33

SUMMARY

Local Authorities in the United Kingdom have the statutory duty to review and assess air quality on a regular basis. This report represents the first step of this process to carry out an updating and screening assessment of local air pollution levels. This is intended to identify potential areas and pollutants of concern, focusing on the changes in emission levels since the end of the previous round of review and assessment in 2000.

Although national data show a decline in air pollution levels in recent years, there is still concern about local hotspots mainly related to road transport emissions and certain industrial processes. In Sussex, industrial sources represent only a small percentage of total emissions of most air pollutants. Road transport is the main source of local air pollution in our region. Population exposure to traffic-related pollutants is expected to be relatively high near major roads or in congested city centres. In this report, particular attention has been given to these kinds of locations.

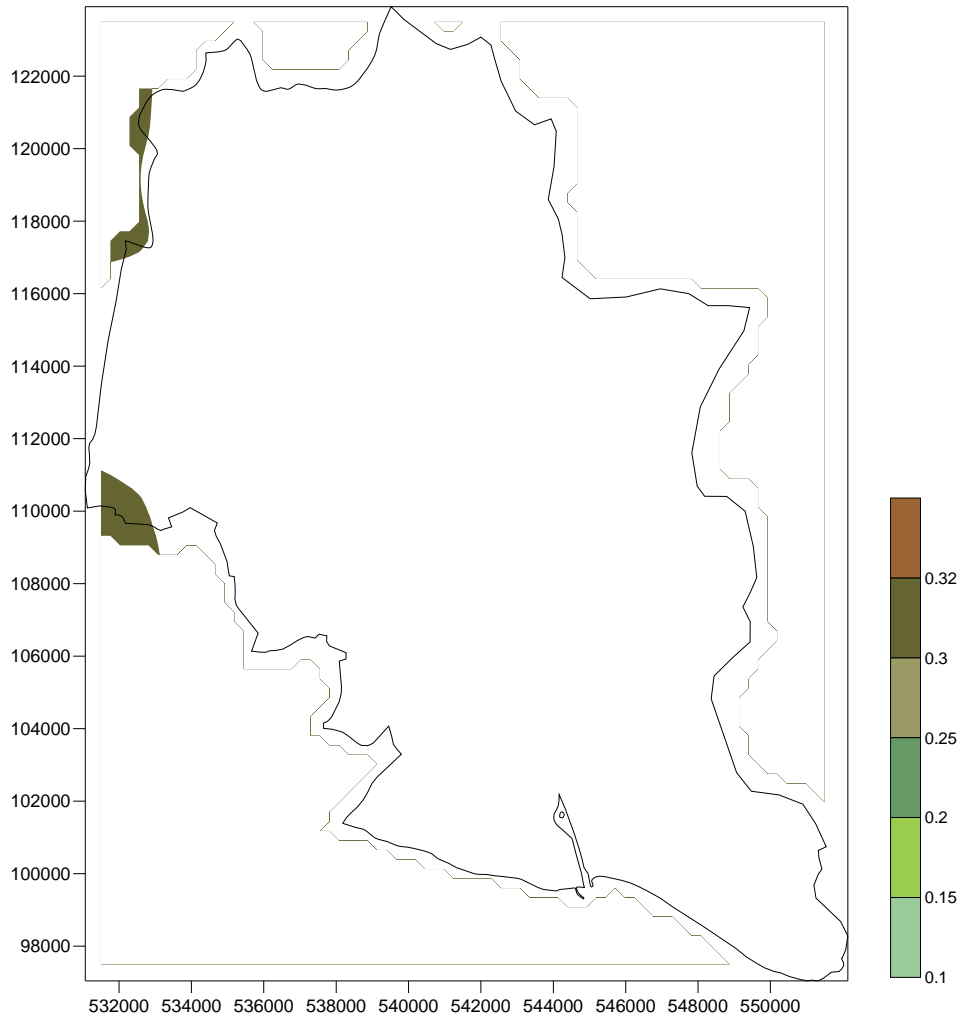
The updating and screening assessment has used information about old and new emission sources in Lewes District Council, air quality monitoring data collected during recent years, and screening modelling tools. The resultant data have been compared with the air quality objectives of seven pollutants (carbon monoxide, benzene, 1,3-butadiene, lead, nitrogen dioxide, sulphur dioxide, and particles). This assessment has confirmed that for all the above pollutants other than particles that the objectives are likely to be met in locations of relevant exposure. There is however evidence that the 2010 objectives for particles (PM₁₀) may be exceeded at roadside locations.

For this reason, the Council will undertake a Detailed Assessment of air quality at the roadside locations with relevant exposed populations. The Council will also undertake a Detailed Assessment of air quality for roads meeting the definition of street canyons in Lewes town centre. The results of the detailed assessments will be published by April 2004.

GLOSSARY

AADT	Annual Average Daily Traffic (vehicles per day)
APEG	Airborne Particles Expert Group
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
AURN	Automatic Urban and Rural (air quality monitoring) Network
CO	Carbon monoxide
COMEAP	Committee on the Medical Effects of Air Pollutants
DA	Detailed Assessment
DEFRA	Department for Environment Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges Screening Model
ESCC	East Sussex County Council
HGV	Heavy Goods Vehicles
LAQM	Local Air Quality Management
mg/m ³	Milligrams of the pollutant per cubic metre of air
µg/m ³	Micrograms of the pollutant per cubic metre of air
ppb	Parts per billion
ppm	Parts per million
NAEI	National Atmospheric Emissions Inventory
NAQIA	National Air Quality Information Archive
NO	Nitric oxide
NO ₂	Nitrogen dioxide
PM ₁₀	Particles with diameter less than 10µm
QA/QC	Quality Assurance / Quality Control
R&A	Review and Assessment
SAQSG	Sussex Air Quality Steering Group
SO ₂	Sulphur dioxide
TEOM	Tapered Element Oscillating Microbalance
USA	Updating and Screening Assessment

Figure 1 Interpolated benzene (annual mean concentration $\mu\text{g}/\text{m}^3$) plot for Lewes D.C (2010)



Following the guidance given in TG03, this assessment of the District shows that there is no potential for an exceedence of the annual mean benzene objectives in either 2003 or 2010.

