

Updating and Screening Assessment - 2008 Progress Report

1 Introduction

The aim of this document is to report progress on implementing Local Air Quality Management (LAQM) in North Norfolk. This entails reporting the progress towards achieving and maintaining ambient concentrations of relevant pollutants below the objectives prescribed by government. To this end, new monitoring data are presented and new and proposed local developments with the potential to affect air quality are described and assessed.

In April 2007 North Norfolk District Council produced Progress report under the Air Quality Review and Assessment process imposed on local authorities to examine, manage and report on local air quality within their area.

The assessment continued on from the previous an Updating and Screening Assessment which was undertaken in 2006 which considered each of the 7 pollutants in turn and studied local levels relative to the Air Quality Strategy objectives.

The report took information from, monitoring data, desktop study data, information cited in the Air Quality Stage 1 and Stage 2 reports and details of new pollution sources or significant changes to current pollution sources both within the District and within neighbouring Authority areas. Information was also gathered from our Strategic Planning Department and the County Highways Department to assess whether any proposed industrial or highway construction/changes could have an impact on predicted local pollution levels.

As a result this assessment concluded that all the Air Quality Objectives have been met. North Norfolk has no Air Quality Management Areas and there are no planned changes that would significantly affect the air quality.

2 Local Air Quality Monitoring

North Norfolk District Council runs a comprehensive diffusion tube sampling program looking at specific concerns or sites, as well as a continuous air quality monitoring station located at Bacton on the Norfolk Coast.

There are 14 monitoring sites across North Norfolk (see table 1) monitoring Oxides of Nitrogen. These sites comprise two large towns, Cromer and North Walsham, the market town of Fakenham, the village of Hoveton and the village of Bacton used as a Background site.

Nitrogen Oxides are monitored due to concerns over the emissions from road vehicles and sites are selected due to their volume of traffic, level of congestion, proximity to receptors, e.g. residential property, general public. Benzene was monitored between April 2004 and June 2006 using diffusion

tubes to provide confidence in meeting the more stringent 2010 objective. The 2007 Updating and Screening Assessment demonstrated that the 2010 objective has been met and the monitoring program was stopped.

The Bacton Air Quality Monitoring Station provides a continuous monitoring site where selected pollutants can be measured at a rural background site. The site is used for the continuous monitoring of SO₂, NO_x, and, PM₁₀ along with meteorological data. The Station is also used as a co-location site with diffusion tubes including three NO_x tubes.

2.1 North Norfolk District Council Monitoring Locations

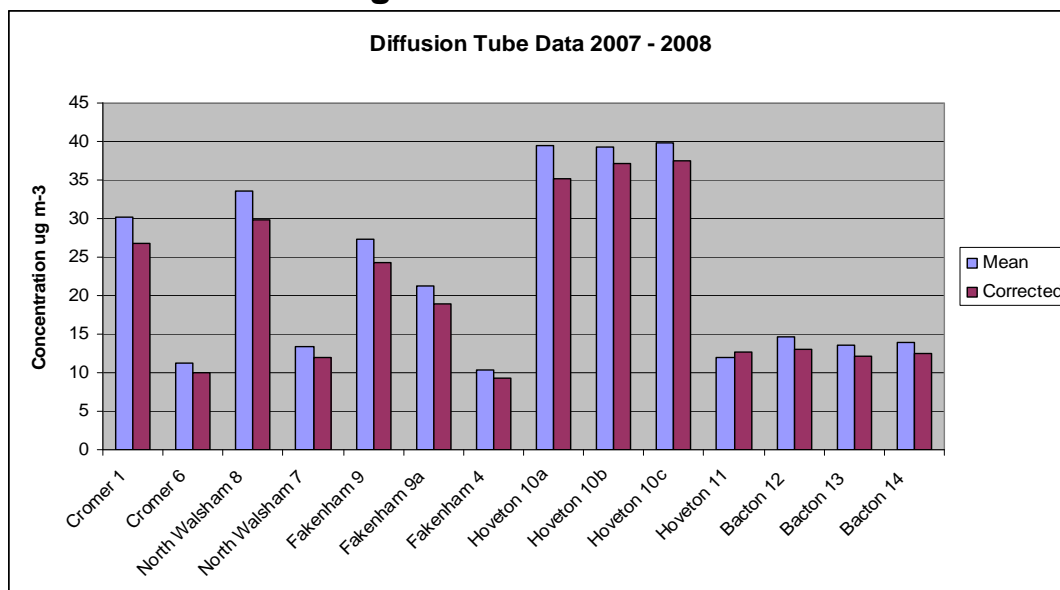
Site Name	Location	Pollutant	Site Type	Method	OS Grid Ref.
Cromer 1	9 Hamilton Road, Cromer	NO _x	Roadside	Diffusion Tube	TG 217 422
Cromer 6	33 Cliff Road, Cromer	NO _x	Background	Diffusion Tube	TG 227 412
North Walsham 8	Angel Court, North Walsham	NO _x	Roadside	Diffusion Tube	TG 281 303
North Walsham 7	26 Corbett Road, North Walsham	NO _x	Background	Diffusion Tube	TG 283 309
Fakenham 9	Post Office, Queens Road, Fakenham	NO _x	Roadside	Diffusion Tube	TF 921 296
Fakenham 9a	33-35 Oak Street, Fakenham	NO _x	Roadside AQC	Diffusion Tube	TF01868 29640
Fakenham 4	Fakenham Infants School, Norwich Road, Fakenham	NO _x	Background	Diffusion Tube	TF 926 296
Hoveton10a	Miss Roy Stalham Road, Hoveton	NO _x	Roadside	Diffusion Tube	TG303181
Hoveton10b	Miss Roy Stalham Road, Hoveton	NO _x	Roadside AQC	Diffusion Tube	TG309186
Hoveton 10c	Roys Food Hall, Stalham Road, Hoveton	NO _x	Roadside	Diffusion Tube	TG30155 18285
Hoveton 11	Waveney Close, Stalham Road, Hoveton	NO _x	Background	Diffusion Tube	TG31133 18622
Bacton 12	Church Farm, Church Road, Bacton	NO _x	Background co-location AQC	Diffusion Tube	TG33344 33667
Bacton 13	Church Farm, Church Road, Bacton	NO _x	Background co-location AQC	Diffusion Tube	TG33344 33667
Bacton 14	Church Farm, Church Road, Bacton	Nox,	Background co-location AQC	Diffusion Tube	TG33344 33667
Bacton 15	Church Farm, Church Road, Bacton	Nox, SO ₂	Background co-location AQC	Continuous	TG33344 33667

2.2 Diffusion Tube Monitoring Data 2007 – 2008 ($\mu\text{g m}^{-3}$).

Monitoring Site	Mean	Corrected
Cromer 1	30.15	26.84
Cromer 6	11.28	10.04
North Walsham 8	33.59	29.89
North Walsham 7	13.42	11.95
Fakenham 9	27.25	24.25
Fakenham 9a	21.19	18.86
Fakenham 4	10.42	9.27
Hoveton 10a	39.51	35.17
Hoveton 10b	39.26	37.16
Hoveton 10c	39.83	37.44
Hoveton 11	11.96	12.64
Bacton 12	14.61	13.01
Bacton 13	13.58	12.09
Bacton 14	13.96	12.43

Gradko International, our diffusion tube supplier, have stated that the mean % bias correction for our data (20% TEA/WATER) is 0.9.

2.3 Recent Monitoring Data



Data capture has increased since the 2007 progress report and the Bacton Air Quality station has had data capture above 97%. Diffusion tube data capture has improved since 2007, however some losses were experienced due to third party interference and human error.

2.4 Continuous Monitoring data

2.41 Bacton Air Quality Monitoring Station, NO² Data 01/04/2007 to 31/03/2008.

Pollutant	NO ₂
Annual Mean	10.11
Data Capture	78.9%
Exceedences	0
90 th Percentile	12.67

2.42 Number of Exceedences of the Objectives

Pollutant	Air Quality (England) Regulations 2000 / (Amendment) Regulations 2002	Exceedences	Days
Nitrogen Dioxide	Annual Mean >40 µg m ⁻³	0	0
Nitrogen Dioxide	Hourly Mean >200 µg m ⁻³	0	0

2.43 Bacton Air Quality Monitoring Station PM₁₀ Data 01/04/2007 to 31/03/2008.

Pollutant	PM ₁₀₊
Annual Mean	15.63
24 Hour Mean	15.49
Data Capture	97.2%
Exceedences	0

2.44 Number of Exceedences of the Objectives

Pollutant	Air Quality (England) Regulations 2000 / (Amendment) Regulations 2002	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily Mean >50 µg m ⁻³	0	0

3 Data Quality Control

The Council's monitoring network is operated and run by officers trained in all aspects of the monitoring processes including routine site operations, field calibrations and data ratification.

3.1 Equipment servicing and maintenance regimes

Analysers have planned maintenance schedules. All analysers are maintained following manufacturers' instructions and have six monthly full service and recalibration conducted under servicing contract. This contract has now been awarded to Enviro Technology Services plc. Results of the servicing, calibrations and repairs are fully documented and stored centrally.

3.2 Calibration methods

The calibration procedures are a two point zero/span calibration check being performed at regular intervals of two weeks. The methodology for the calibration procedure being derived from the manufacturers' instruction handbooks. All the calibration data is stored using an electronic database of calibrations and used in the scaling and ratification process. Gases are supplied and certified by Air Liquide Ltd.

3.3 Data Scaling, Validation and Ratification

Since April 2006, all data from continuous analysers is now collected by Opsis Enviman Comvisioner software. The raw data from the machines is stored as monthly binary packed logger data files. These data are then converted to ASCII format files. On a monthly basis the ASCII files from all sites are inspected and the calibration factors applied. Spurious or doubtful data is removed and the time period is flagged with a number representing the reason why the data were removed, e.g. machine faults.

These ratified data files are then saved in the same folder as the original ASCII data file and are accessed through the Opsis Enviman Reporter software.

4 Discussion

The data shows that all the National Air Quality Objectives have been met. The only monitoring location showing concentrations close to the objective are located round the bridge crossing of the river Bure and road junction in the centre of Hoveton. In the progress report produced in 2007 a slight increase in NO² was observed compared to the previous year. The diffusion tube data capture during 2006/7 was low as a result of sever third party interference and it is thought that this contributed to the high annual average. The annual average NO² concentration for 2007/8 shows a general reduction in at all sites.

The Bacton air quality monitoring station data capture during 2007/8 was above 95% and the data shows all the objectives continue to be met.

The major industrial plant in North Norfolk is the Bacton Gas Terminal. As part of the Integrated Pollution Prevention and Control permit monitored by The Environment Agency the terminal contracts AEA Technologies to produce quarterly reports on emissions from the site and to demonstrate compliance with the air quality objectives.

5 New Local Developments

5.1 Industrial Sites

There have been no developments within North Norfolk or our neighbouring authorities over the past two years that have impacted air quality. Further more there are no pending developments that would affect air quality.

5.2 Airports

North Norfolk has a number of small airfields supporting light aircraft but does not have any airports. The nearest airport is Norwich Airport located on the outskirts of Norwich.

6 Conclusion

All the current monitoring data shows that North Norfolk District Council continues to meet all the Air Quality Objectives and no there is no requirement to proceed to detailed assessment for any of the pollutants.

The current level of monitoring will be maintained and is due to be reviewed in the next round of review and assessment