



Local Air Quality Management

Environment Act 1995

AIR QUALITY UPDATING SCREENING ASSESSMENT FOR 2011



North Devon Council
Environmental Health and Housing Services
Prepared April 2012

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Executive Summary

This report concludes that:-

1. The findings in the Progress Report prepared in 2010 in relation to Carbon Monoxide, Benzene, 1,3 Butadiene, Lead, Sulphur Dioxide and PM₁₀ remain valid.
2. The results of the assessment on air quality of the implications of domestic solid fuel burning in the twin towns of Lynton and Lynmouth, confirms that an exceedance of the Air Quality Objectives for PM¹⁰ is not considered to be likely.
3. The measured bias adjusted annual means concentration for 2011 is greater than the threshold limit value for Nitrogen Dioxide at site 3. As the results of the detailed assessment undertaken in 2009 in this location did not result in an Air Quality Management Area (AQMA) being checked, North Devon Council do not intend to either undertake another detailed assessment, or re-consider the declaration of an AQMA in this location at this moment in time.

The situation shall however be reviewed in the next Progress Report – which will report data for 2012. If a potential exceedance still exists, NDC shall then consider either undertaking another detailed assessment, or declaring an AQMA.

4. The measured bias adjusted annual mean concentration for 2011 is greater than the threshold limit value for Nitrogen Dioxide at sites 12 and 13. These sites are located in the recently declared AQMA. This data shall therefore be analysed and discussed in detail in the Further Assessment, and the Local Air Quality Action Plan which are currently being prepared.
5. Nitrogen Dioxide is currently measured by diffusion tube at an additional 11 location surrounding the recently declared AQMA. This data shall be reported and discussed in detail in the Further Assessment, and the Local Air Quality Action Plan.
6. The Further Assessment and the Local Air Quality Action Plan are currently being prepared. The Further Assessment is currently scheduled to be submitted in 2012 and the Local Air Quality Action Plan in 2013.

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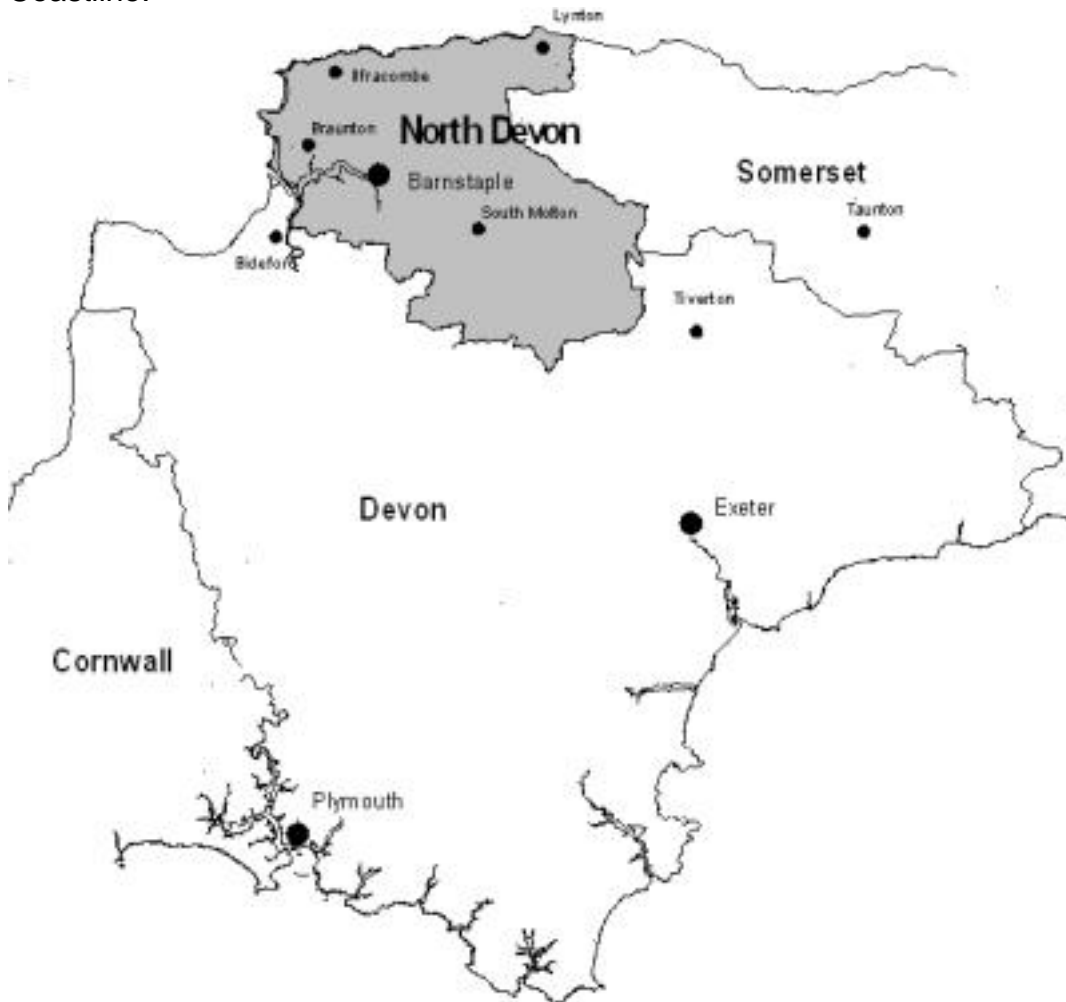
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1. INTRODUCTION

1.1 Description of Local Authority Area

The North Devon district occupies the northern most part of the county of Devon, and borders the western borders of Somerset, and the Bristol Channel, covering an area approximately 1,085 square kilometres (419 sq. Miles). The area is characterised by a rugged northern Bristol Channel coast, the sandy beaches of the West Coast, the estuarine and valley landscapes of the River Taw, and the open moorland and farmland of the Exmoor fringes. The district includes approximately one-third of the area of Exmoor National Park. The character of the North Devon district is inextricably linked to its natural landscape, which is its most prized asset. The landscape is highly valued by residents and tourists alike, and incorporates numerous Sites of Scientific Interest, Areas of Outstanding Natural Beauty, and Heritage Coastline.



The population of the area in 2000 was approximately 91,800, with approximately half the residents living in the four main settlements of Ilfracombe, Braunton, South Molton and Barnstaple, which is also the regional centre for northern Devon. The remainder of the population lives in the open countryside or in one of the numerous villages and hamlets of the area.

The area has an extensive rural road network and is connected to the rest of the region by the A39, A361 and A377 roads. There is also a regional rail

connection between Barnstaple and Exeter, which runs along the valley of the River Taw.

Employment in the district is concentrated in the main settlements. There is a strong dependence on the service industry, especially tourism related in the summer, and also in the public administration, health and finance sectors, reflecting Barnstaple's role as a regional centre. There is also a healthy industrial base in the area, and this is reflected in the 48 prescribed processes regulated under the Pollution Prevention and Control Regulations 2000, which are currently in operation within the administrative area of North Devon Council.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas and to determine whether or not the air quality objectives are likely to be achieved. Where exceedances are considered likely, the local authority must then decide an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043) and are shown in Table 1. This table shows the objectives in units of micrograms per cubic metre $\mu\text{g}/\text{m}^3$ (milligrams per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

Table 1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England

			Date to be achieved by
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

1.4.1 First Round of Review and Assessment

The first round of review and assessment (carried out in 2000) concluded that:-

1. The risk of exceeding the air quality objectives for Carbon monoxide, Benzene, 1,3-butadiene, Lead, Sulphur dioxide, PM10 and Nitrogen dioxide was negligible.
2. On this occasion these conclusions were dependent on a proposed gas fired power station in Yelland not being constructed. If constructed, a third stage review would have been required to consider localised exceedances of *Sulphur dioxide* and *Nitrogen dioxide*.

1.4.2 Updating and Screening Assessment

The Updating and Screening Assessment (produced in 2002/-3) concluded that:-

1. The risk of exceeding the air quality objectives for Carbon monoxide, Benzene, 1,3-butadiene, Lead, Sulphur dioxide, PM10 and Nitrogen dioxide was negligible.
2. A detailed assessment was required for the 15-minute Sulphur Dioxide only arising from public exposure to idling trains at Barnstaple railway station.
3. Monitoring results for Nitrogen dioxide identified potential exceedances of the annual mean objective at several locations in Barnstaple, however these locations were likely to see significant reductions in road traffic numbers should the proposed western bypass and downstream bridge be constructed. As this was scheduled for completion by early 2006, it was considered that a detailed assessment for Nitrogen dioxide was not necessary.

1.4.3 Progress Report

The Progress Report (produced in 2005) concluded that:

1. The findings of the 2003 Updating and Screening Assessment remain valid for Carbon monoxide, Benzene, 1,3-Butadiene, Lead and PM¹⁰.
2. A Detailed Assessment is not required for the 15-minute Sulphur dioxide objective, due to changes in the timetable for trains operating from Barnstaple Station.
3. Construction of the Barnstaple Western Bypass has now commenced. The predicted reductions in road traffic in central Barnstaple are still expected to be achieved, however compliance with the annual mean

objective for *Nitrogen dioxide* at Rolle Street is expected to be approximately 12 months later than stated in the 2003 USA.

4. There are no new industrial processes or planned developments in the North Devon District with the potential to significantly impact upon achievement of the National Air Quality Standards.

1.4.4 Updating and Screening Assessment

The Updating and Screening Assessment (produced in 2006, reporting 2005 data) concluded that:

1. Monitoring results for Nitrogen Dioxide identified potential exceedances of the annual mean objective at several locations in Barnstaple, however these locations were likely to see significant reductions in road traffic numbers should the proposed western bypass and downstream bridge be constructed. As this was scheduled for completion by May 2007, it was considered that a detailed assessment for Nitrogen dioxide was not necessary.

1.4.5 Progress Report

The Progress Report (produced in 2007, reporting 2006 data) concluded that;

1. The findings in the Progress Report prepared in 2007 in relation to Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur Dioxide and PM¹⁰ remain valid.
2. It was determined that whilst 2 of the 16 sites monitored in 2006 were equal to the threshold limit for Nitrogen Dioxide, and, and 1 site exceeded the limit, a detailed assessment of Nitrogen Dioxide at these locations was not necessary at that time. The western bypass and downstream bridge project was completed in May 2007, and was forecast to have a significant effect on traffic flows in and around Barnstaple. It was stated that the effects of the completion of this project on the Nitrogen Dioxide levels at these sites would be able to be assessed during this years LAQM Progress Report.

1.4.6 Progress Report

The Progress Report (produced in 2008, reporting 2007 data) concluded that:

- 1 The findings in the Progress Report prepared in 2007 in relation to Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur Dioxide and PM₁₀ remain valid.
- 2 It was determined that 3 of the 16 sites monitored in 2007 exceeded the threshold limit for Nitrogen Dioxide. It was therefore determined that a detailed assessment of Nitrogen Dioxide should be undertaken at the following sites:

Site 3 Rolle Street 2, Barnstaple

- Site 12 The Square, Braunton
- Site 13 The London Inn, Braunton

1.4.7 Updating and Screening Assessment

The Updating and Screening Assessment (produced in 2009, reporting 2008 data) concluded that:

- 1 The findings in the Progress Report prepared in 2008 in relation to Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur Dioxide and PM₁₀ remain valid.
- 2 The measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2008 was greater than the threshold of 40 µg/m³ at sites 12 and 13. The results of previous monitoring undertaken resulted in a detailed assessment being commenced at these sites in March 2009, the results of which were scheduled to be reported in April 2010.

Whilst sites 12 and 13 were the only sites to exceed 40 µg/m³ for 2008, it was interesting to note that as a result of previous monitoring undertaken, a detailed assessment was also commenced in March 2009 for site 3.

The results for monitoring undertaken in 2008 did not suggest an exceedance of the threshold at this site, however the results of the detailed assessment were to be reported in April 2010.

1.4.8 Progress Report

The Progress Report (produced in 2010, reporting 2009 data) concluded that:

- 1 The findings in the Progress Report prepared in 2009 in relation to Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur Dioxide and PM₁₀ remain valid.
- 2 The measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2009 is below the threshold limit value, except for sites 12 and 13.

The results of previous monitoring has led to a detailed assessment being undertaken for Nitrogen Dioxide at sites 2, 3, 12 and 13.

The results of this detailed assessment were discussed separately in the report entitled "Detailed Assessment of Nitrogen Dioxide in Rolle Street, Barnstaple, and Braunton" was scheduled to be submitted to DEFRA by the end of June 2010.

1.4.9 Detailed Assessment

The Detailed Assessment (produced in 2010, reporting data gathered in 2009) concluded that the measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2009 was below the threshold limit for Rolle Street, Barnstaple, and that there was a borderline exceedance in Braunton.

North Devon Council therefore did not intend to declare an AQMA for Rolle Street, Barnstaple, but announced their intention to declare an AQMA for Braunton.

1.4.10 Progress Report

The Progress Report (produced in 2011, reporting 2010 data) concluded that:

1. The findings in the Progress Report for 2009 in relation to Carbon Monoxide, Benzene, 1, 3-Butadiene, Lead, Sulphur Dioxide and PM₁₀ remain valid.
2. The Environmental Health and Housing Services department of NDC had recently received confirmation that the twin towns of Lynmouth and Lynton have no mains gas supply. The implications of domestic solid fuel burning in relation to compliance with the relevant Air Quality Objectives would therefore be assessed, and reported in the Updating and Screening Assessment 2012.
3. The measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2010 is below the threshold limit value, except for site 12.
4. NDC was in the process of declaring an AQMA in Braunton (site 12). The diffusion tube-monitoring network in Braunton had recently been expanded. The results from this additional monitoring were scheduled to be reported in 2012, and shall be used to inform the Further Assessment.

2. NEW MONITORING DATA

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no automatic monitoring sites in North Devon.

2.1.2 Non-Automatic Monitoring

Nitrogen Dioxide is routinely measured by diffusion tube at 16 locations in the North Devon District. The monitoring programme has been in place since 2000, and the monitoring sites are identified in Table 2.

Nitrogen Dioxide is also currently measured by diffusion tube at an additional 11 locations surrounding the recently declared AQMA in Braunton. This data shall be reported and discussed in detail in the Further Assessment, and the Local Air Quality Action Plan.

These documents are currently being prepared. The Further Assessment is currently scheduled to be submitted in 2012 and the Local Air Quality Action Plan in 2013.

Table 2 Details of Non-Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
1	Kerbside	SS 55756 BNG 33720	NO ₂	N	Y (1m)	0.5m	Y
2	Kerbside	SS 55533 BNG 33615	NO ₂	N	Y (1m)	0.5m	Y
3	Kerbside	SS 55421 BNG 33652	NO ₂	N	Y (1m)	0.5m	Y
4	Kerbside	SS 55658 BNG 32828	NO ₂	N	Y (10m)	0.5m	Y
5	Urban Background	SS 54230 BNG 32526	NO ₂	N	Y (1m)	N/A	Y
6	Kerbside	SS 53936 BNG 32409	NO ₂	N	N(100m)	0.5m	Y
7	Kerbside	SS 56716 BNG 32203	NO ₂	N	Y (1m)	0.5m	Y
8	Kerbside	SS 56671 BNG 32088	NO ₂	N	Y (1m)	0.5m	Y
9	Kerbside	SS 55559 BNG 33298	NO ₂	N	Y (1m)	0.5m	Y
10	Kerbside	SS 56130 BNG 33181	NO ₂	N	Y (3m)	0.5m	Y
11	Kerbside	SS 55764 BNG 33702	NO ₂	N	Y (1m)	0.5m	Y
12	Kerbside	SS 48896 BNG 36714	NO ₂	N	Y (1m)	0.5m	Y
13	Kerbside	SS 48731 BNG 36642	NO ₂	N	Y (1m)	0.5m	Y
14	Kerbside	SS 51544 BNG 47330	NO ₂	N	Y (1m)	0.5m	Y
15	Kerbside	SS 55704 BNG 33169	NO ₂	N	Y (1m)	0.5m	Y
16	Kerbside	SS 71426 BNG 25877	NO ₂	N	Y (1m)	0.5m	Y

2.2 Comparison of Monitoring Results with AQ Objectives

Air quality monitoring is currently undertaken for Nitrogen Dioxide only, using diffusion tubes – there is no monitoring programme for PM10, Sulphur Dioxide, or Benzene. As such Nitrogen Dioxide is the only pollutant to be considered for the purpose of this section of the report.

2.2.1 Nitrogen Dioxide

The results of the “routine” diffusion tube monitoring undertaken at 16 sites in 2011 are shown in table 3.

The bias adjustment factor applied to the annual mean concentration was 0.92. This was calculated using the spreadsheet at [. This spreadsheet was accessed on 13th February 2012, inputting “Gradko” as the analysing laboratory, “20% TEA in water” for the preparation, and 2010 for the year.](#)

A short-term correction factor was also applied to those sites with a collection efficiency of below 75%, and those which had a collection efficiency of below 100% and an unadjusted annual mean concentration of < 36 ug/m³ – in accordance with advice received from the helpdesk. The calculations associated with this annualisation are included as Appendix B to this report.

The measured bias adjusted annual mean concentration for 2011 is greater than 40 µg/m³ at 3 sites - 3, 12 and 13.

Site 3 is located in Rolle Street, Barnstaple. The results of the detailed assessment referred to in Section 1.4.9 of this report concluded that the measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2009 was below the threshold limit for Rolle Street. NDC did not therefore intend to declare an AQMA for this location at that time.

NDC do not intend to either undertake another detailed assessment, or re-consider the declaration of an AQMA in this location at this moment in time. However, the situation shall be reviewed in the next Progress Report - which will report data for 2012. If an exceedance still exists, NDC shall then consider either undertaking another detailed assessment, or declaring an AQMA for this location.

Sites 12 and 13 are located in the recently declared AQMA. This data shall therefore be analysed and discussed in detail in the Further Assessment, and the Local Air Quality Action Plan which are currently being prepared.

Diffusion Tube Monitoring Data

Table 3 Results of Nitrogen Dioxide Diffusion Tubes – 2011

Site ID	Location	Within AQMA?	Data Capture	Annual mean concentrations
			2011 %	2011 ($\mu\text{g}/\text{m}^3$) Adjusted for bias
1	Pilton Causeway, Barnstaple	N	92	30.47
2	Rolle Street 1, Barnstaple	N	92	30.46
3	Rolle Street 2, Barnstaple	N	75	40.28
4	Lower Sticklepath Roundabout, Barnstaple	N	100	23.89
5	Sticklepath School, Barnstaple	N	100	8.47
6	Cedars Roundabout, Barnstaple	N	83	24.21
7	Newport Road, Barnstaple	N	100	30.43
8	South Street, Newport, Barnstaple	N	92	25.22
9	Castle Street, Barnstaple	N	100	17.35
10	Alexandra Road, Barnstaple	N	100	29.97
11	Belle Meadow Road, Barnstaple	N	100	27.23
12	The Square, Braunton	Y	100	44.35
13	The London Inn, Braunton	Y	83	41.57
14	Church Street, Ilfracombe	N	100	24.72
15	High Street, Ilfracombe	N	100	20.89
16	Broad Street, South Molton	N	100	28.85

Table 4 Results of Nitrogen Dioxide Diffusion Tubes – 2006 to 2010

Site ID	Location	Within AQMA ?	Annual mean concentrations ($\mu\text{g}/\text{m}^3$) Adjusted for bias				
			2006	2007	2008	2009	2010
1	Pilton Causeway, Barnstaple	N	34.10	30.47	30.49	30.51	35.07
2	Rolle Street 1, Barnstaple	N	29.47	37.03	30.89	30.60	36.94
3	Rolle Street 2, Barnstaple	N	44.99	41.45	35.67	35.08	35.99
4	Lower Sticklepath Roundabout, Barnstaple	N	23.21	25.36	22.95	21.15	23.52
5	Sticklepath School, Barnstaple	N	7.94	10.42	5.29	8.40	9.89
6	Cedars Roundabout, Barnstaple	N	20.78	19.11	19.56	20.54	20.28
7	Newport Road, Barnstaple	N	33.79	34.03	32.34	31.16	35.39
8	South Street, Newport, Barnstaple	N	26.93	27.79	23.92	22.95	29.53
9	Castle Street, Barnstaple	N	40.03	24.34	15.63	15.37	19.66
10	Alexandra Road, Barnstaple	N	32.70	34.39	32.92	29.80	32.11
11	Belle Meadow Road, Barnstaple	N	25.67	33.43	29.38	25.17	29.12
12	The Square, Braunton	N	35.54	41.72	44.08	39.68	46.48
13	The London Inn, Braunton	N	40.40	42.87	45.44	40.81	36.20
14	Church Street, Ilfracombe	N	22.77	23.76	23.19	20.43	22.30
15	High Street, Ilfracombe	N	22.85	29.30	21.15	20.29	21.04
16	Broad Street, South Molton	N	24.09	23.98	21.91	21.54	25.84

3. ROAD TRAFFIC SOURCES

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

NDC confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People may spend 1-hour or more close to Traffic

NDC confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

3.3 Roads with a High Flow of Buses and/or HGVs

NDC confirms that there are no new/newly identified roads with high flows of buses/HGVs.

3.4 Junctions

NDC confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed since the Last Round of Review and Assessment

NDC has assessed new/newly identified junctions meeting the criteria in Section A.5 of Box 5.3 in TG (09), and concluded that it will not be necessary to proceed to a Detailed Assessment.

3.6 Roads with Significantly Changed Traffic Flows

NDC has assessed new/newly identified roads with significantly changed traffic flows, and concluded that it will not be necessary to proceed to a Detailed Assessment.

3.7 Bus and Coach Stations

NDC confirms that there are no relevant bus stations in the Local Authority area.

4. OTHER TRANSPORT SOURCES

4.1 Airports

NDC confirms that there are no major passenger or freight airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

NDC confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

4.2.2 Moving Trains

NDC confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Ports (Shipping)

NDC confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

5. INDUSTRIAL SOURCES

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

NDC confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been introduced

NDC confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

NDC has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

5.2 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

NDC confirms that there are no petrol stations meeting the specified criteria.

5.4 Poultry Farms

NDC confirms that there are no poultry farms meeting the specified criteria.

6. COMMERCIAL AND DOMESTIC SOURCES

6.1 Biomass Combustion – Individual Installations

NDC confirms that there are no biomass combustion plant in the Local Authority area.

6.2 Biomass Combustion – Combined Impacts

NDC confirms that there are no biomass combustion plant in the Local Authority area.

6.3 Domestic Solid-Fuel Burning

Having received confirmation that the twin towns of Lynmouth and Lynton have no mains gas supply, NDC has undertaken an assessment of the implications of domestic solid fuel burning on compliance with the relevant Air Quality Objectives.

This assessment has been undertaken in accordance with the requirements of “*Local Air Quality Management - Technical Guidance LAQM.TG(09)*”.

The results of the assessment confirm that an exceedance of the Air Quality Objectives for PM₁₀ is not considered to be likely.

7. FUGITIVE OR UNCONTROLLED SOURCES

There is 1 operational quarry in the North Devon District – which has stockpiles, but no relevant exposure.

Regular inspections of all permitted sites are undertaken in accordance with the Environmental Permitting Regulations 2010. No concerns have been highlighted in relation to dust emissions from this site that may lead to a breach of the concentration limit.

8. CONCLUSIONS AND PROPOSED ACTIONS

8.1 Conclusions from New Monitoring Data

The results of the “routine” diffusion tube monitoring undertaken at 16 sites in 2011 are shown in table 3.

The measured bias adjusted annual mean concentration for 2011 is greater than 40 µg/m³ at 3 sites - 3, 12 and 13.

Site 3 is located in Rolle Street, Barnstaple. The results of the detailed assessment referred to in Section 1.4.9 of this report concluded that the measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2009 was below the threshold limit for Rolle Street. NDC did not therefore intend to declare an AQMA for this location at that time.

NDC do not intend to either undertake another detailed assessment, or re-consider the declaration of an AQMA in this location at this moment in time. However, the situation shall be reviewed in the next Progress Report - which will report data for 2012. If a potential exceedance still exists, North Devon Council shall then consider either undertaking another detailed assessment, or declaring an AQMA for this location.

Sites 12 and 13 are located in the recently declared AQMA. This data shall therefore be analysed and discussed in detail in the Further Assessment and the Local Air Quality Action Plan - which are currently being prepared.

8.2 Conclusions from Assessment of Sources

NDC confirms that there are no road traffic sources that have not been adequately considered in previous rounds of Review and Assessment, as can be shown in 3.0.

NDC confirms that there are no other transport sources that have not been adequately considered in previous rounds of Review and Assessment, as can be shown in 4.0.

NDC confirms that there are no industrial sources that have not been adequately considered in previous rounds of Review and Assessment, as can be shown in 5.0.

NDC confirms that there are no commercial and domestic sources that have not been adequately considered in previous rounds of Review and Assessment, as can be shown in 6.0.

NDC confirms that there are no fugitive or uncontrolled sources that have not been adequately considered in previous rounds of Review and Assessment, as can be shown in 7.0.

8.3 Proposed Actions

In relation to the exceedance of the bias adjusted annual mean concentration for Nitrogen Dioxide at site 3, NDC will review the relevant monitoring data in the next Progress Report - which will report data for 2012. If a potential exceedance exists, NDC shall then consider either undertaking another detailed assessment, or declaring an AQMA for this location.

In relation to the exceedance of the bias adjusted annual mean concentration for Nitrogen Dioxide at sites 12 and 13 – which are located in the recently declared AQMA - this data shall be analysed and discussed in detail in the Further Assessment, and the Local Air Quality Action Plan.

These documents are currently being prepared. The Further Assessment is currently scheduled to be submitted in 2012 and the Local Air Quality Action Plan in 2013.

References

“Local Air Quality Management - Technical Guidance LAQM.TG (09)”,
Department for Environment, Food and Rural Affairs, London, 2009.

Appendices

Appendix A: QA/QC Data

Appendix B: Short term to Long Term Data Adjustment

Appendix C: Map showing Diffusion Tube Locations

Appendix D: Map Showing AQMA Boundary

Appendix A:

QA/QC Data

Diffusion Tubes are supplied and analysed by Gradko Laboratories, using a 20% TEA in water preparation.

The bias adjustment factor applied to the annual mean concentration was 0.92.

This was calculated using the spreadsheet at

This spreadsheet was accessed on 13th February 2012, inputting "Gradko" as the analysing laboratory, "20% TEA in water" for the preparation, and 2010 for the year.

QA/QC of diffusion tube monitoring

Gradko Laboratories' internal analysis procedures are assessed annually by UKAS, to confirm compliance with ISO 17025.

Furthermore, Gradko's NO₂ diffusion tube procedures have been amended to follow the guidelines of the DEFRA Harmonisation document related to the preparation, extraction, analysis and calculation procedures for NO₂ passive diffusion tubes.

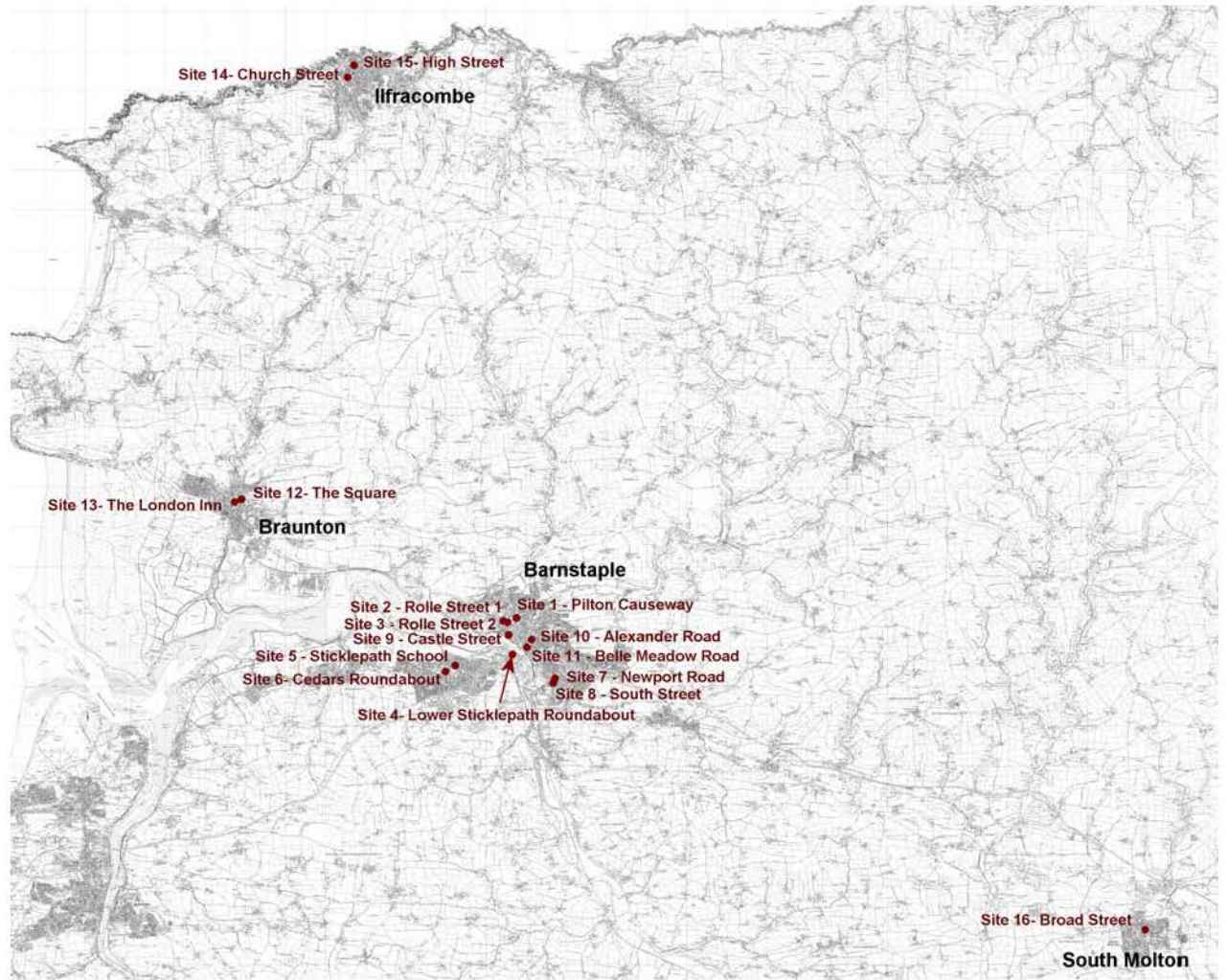
Appendix B

Short term to Long term Data adjustment

Site 3																
Monthly Mean NO ₂ 2011																
Site Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units	Annual Average	Period Mean	Correction Factor
Boumemouth	21.47	20.13	27.04	20.28	8.85	8.82	9.76	10.41	9.04	14.28	16.92	14.25	µgm ⁻³	15.10	14.54	1.04
Bristol St Paul's	38.58	34.21	37.99	28.66	15.70	16.01	21.83	19.35	23.49	27.00	36.00	26.32	µgm ⁻³	27.09	26.29	1.03
														Average correction factor		1.03
Site 13																
Monthly Mean NO ₂ 2011																
Site Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units	Annual Average	Period Mean	Correction Factor
Boumemouth	21.47	20.13	27.04	20.28	8.85	8.82	9.76	10.41	9.04	14.28	16.92	14.25	µgm ⁻³	15.10	15.81	0.96
Bristol St Paul's	38.58	34.21	37.99	28.66	15.70	16.01	21.83	19.35	23.49	27.00	36.00	26.32	µgm ⁻³	27.09	28.21	0.96
														Average correction factor		0.96

Appendix C

Map showing approximate diffusion tube locations



Appendix D

Map showing AQMA Boundary in Braunton



Map Showing Boundary of North Devon Council Air Quality Management Area No.1 - in Branton, North Devon

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