

Local Air Quality Management  
Environment Act 1995

**AIR QUALITY UPDATING SCREENING  
ASSESSMENT FOR 2014**



North Devon Council  
Environmental Health and Housing Services  
Prepared April 2015

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## **Executive Summary**

This report concludes that:-

1. The findings in the Progress Report prepared in 2014 in relation to Carbon Monoxide, Benzene, 1,3 Butadiene, Lead, Sulphur Dioxide and PM<sub>10</sub> remain valid.
2. The measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2014 is below the threshold limit for all sites, except for site 13 - London Inn, Braunton. This site is located in the declared Air Quality Management Area (AQMA).
3. The extensive consultation exercise which has been undertaken in relation to the draft Air Quality Action Plan is now complete and was submitted by NDC in March 2015.

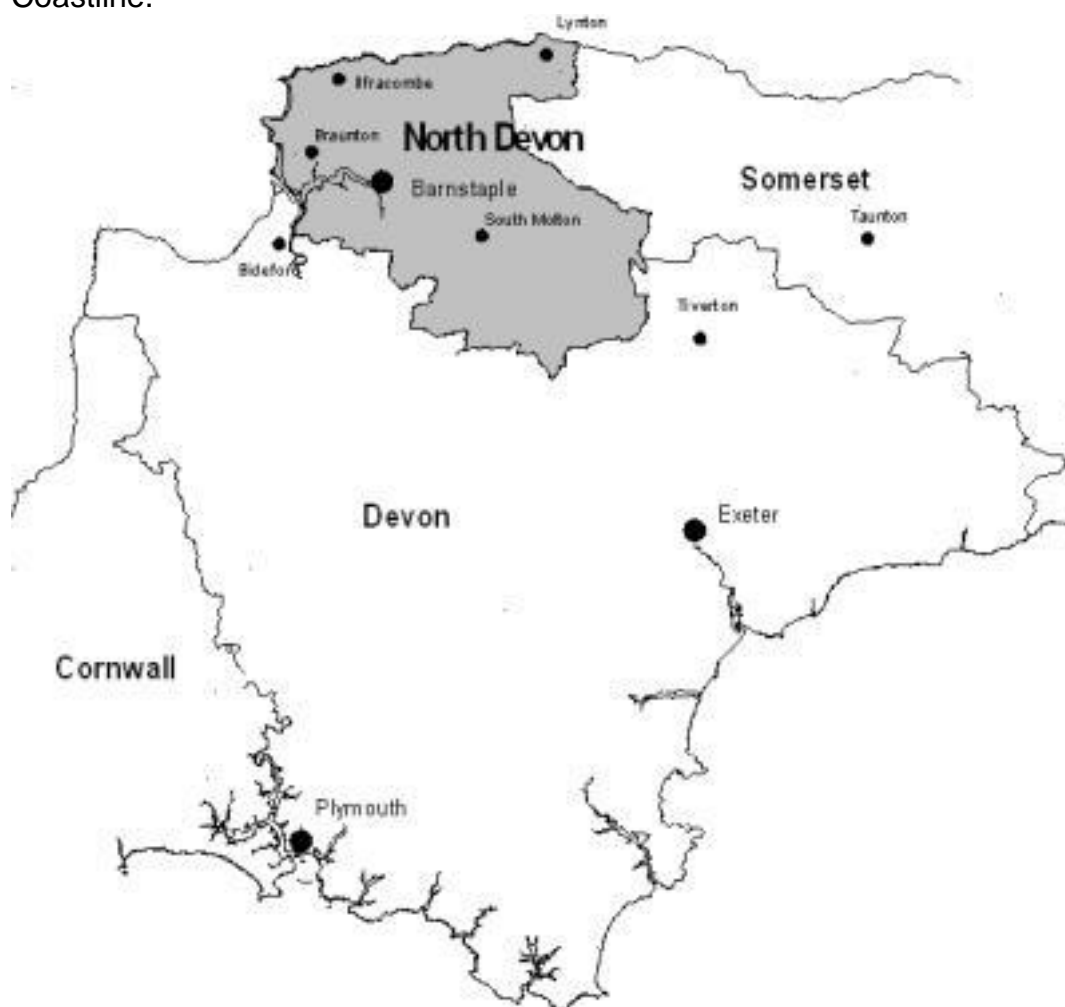
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## 1. INTRODUCTION

### 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,  $\text{mg}/\text{m}^3$  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**

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
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 $\text{mg}/\text{m}^3$	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 <sub>10</sub> ) (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 PM<sup>10</sup>.
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 PM<sup>10</sup> 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 year's 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 PM<sub>10</sub> 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 PM<sub>10</sub> remain valid.
- 2 The measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2008 was greater than the threshold of 40 µg/m<sup>3</sup> 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/m<sup>3</sup> 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 PM<sub>10</sub> 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 PM<sub>10</sub> 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.

#### **1.4.11 Updating and Screening Assessment**

The Updating and Screening Assessment (produced in 2012, reporting 2011 data) concluded 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, confirmed that an exceedance of the Air Quality Objectives for PM10 was not considered to be likely.
3. The measured bias adjusted annual means concentration for 2011 was 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 declared, 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 was 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 were in the process of 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 were currently scheduled to be submitted in 2012 and 2013 respectively.

#### **1.4.12 Further Assessment**

The Further Assessment, in relation to the AQMA, was produced in 2012. The report concluded that:

1. The findings of the Detailed Assessment undertaken in 2009 were correct.
2. The declaration of AQMA #1 was correct.
3. 91 % of total NO<sub>x</sub> present at the worst case site in the AQMA (site 12) is attributable to road sources – i.e. traffic.
4. An estimated 22% reduction in Road NO<sub>x</sub> would be required to achieve the AQ Objective for N02

#### **1.4.13 Progress Report**

The Progress Report (produced in 2013, reporting 2012 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 measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2012 is below the threshold limit value, except for site 13.
3. The measured bias adjusted annual means concentration for 2011 was greater than the threshold limit value for Nitrogen Dioxide at site 3. There was no exceedance of Nitrogen Dioxide in 2012 therefore a further detailed assessment or re-consideration of declaring an AQMA for this area will not be necessary.

### **1.4.14 Progress Report**

The Progress Report (produced in 2014, reporting 2013 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 PM<sub>10</sub> remain valid.
2. The measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2013 is below the threshold limit for all sites, except for site 13 – and close to the threshold at site 12. These sites are located in a recently declared Air Quality Management Area (AQMA).
3. The extensive consultation exercise which has been undertaken in relation to the draft Air Quality Action Plan is now complete. NDC hope to submit the final document in early 2015.

## **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 declared AQMA in Braunton. The results of the additional monitoring associated with this AQMA are not reported in this report, but shall be reported in subsequent Action Plan Progress Reports.

**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 <sub>2</sub>	N	Y (1m)	0.5m	Y
2	Kerbside	SS 55533 BNG 33615	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
3	Kerbside	SS 55421 BNG 33652	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
4	Kerbside	SS 55658 BNG 32828	NO <sub>2</sub>	N	Y (10m)	0.5m	Y
5	Urban Background	SS 54230 BNG 32526	NO <sub>2</sub>	N	Y (1m)	N/A	Y
6	Kerbside	SS 53936 BNG 32409	NO <sub>2</sub>	N	N(100m)	0.5m	Y
7	Kerbside	SS 56716 BNG 32203	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
8	Kerbside	SS 56671 BNG 32088	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
9	Kerbside	SS 55559 BNG 33298	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
10	Kerbside	SS 56130 BNG 33181	NO <sub>2</sub>	N	Y (3m)	0.5m	Y
11	Kerbside	SS 55764 BNG 33702	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
12	Kerbside	SS 48896 BNG 36714	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
13	Kerbside	SS 48731 BNG 36642	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
14	Kerbside	SS 51544 BNG 47330	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
15	Kerbside	SS 55704 BNG 33169	NO <sub>2</sub>	N	Y (1m)	0.5m	Y
16	Kerbside	SS 71426 BNG 25877	NO <sub>2</sub>	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 2014 are shown in table 3. Nitrogen Dioxide is also currently measured by diffusion tube at an additional 11 locations surrounding the declared AQMA in Braunton. The results of the additional monitoring associated with this AQMA are not reported in this report, but shall be reported in subsequent Action Plan Progress Reports.

The bias adjustment factor applied to the annual mean concentration was 0.91. This was calculated using the spreadsheet at:-

[http://laqm.defra.gov.uk/documents/Database\\_Diffusion\\_Tube\\_Bias\\_Factors-v03\\_15-Final.xls](http://laqm.defra.gov.uk/documents/Database_Diffusion_Tube_Bias_Factors-v03_15-Final.xls)

This spreadsheet was accessed on 30<sup>th</sup> March 2015, inputting “Gradko” as the analysing laboratory, “20% TEA in water” for the preparation, on line 12 and 2014 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 µg/m<sup>3</sup> – in accordance with advice received from the LAQM helpdesk. The calculations associated with this annualisation are included as Appendix B to this report.

Diffusion tubes were removed from Site 12 - The Square, Braunton, due to on-going road works for the year. The tube will be re-instated in the near future.

Exposure times for two months of the annual monthly exposures were lengthened from the recommended five weeks to nine and eight weeks respectively. Advice was sought from the LAQM helpdesk about how to proceed and it was decided to cautiously include the results as a single monthly result. This was due to the fact that the results obtained from these tubes were not significantly different to preceding and subsequent months readings. Also data capture for the programme is not high, so it would prudent not to discount these results.

The measured bias adjusted annual mean concentration for 2015 is greater than 40 µg/m<sup>3</sup> at 1 site, site number 13. This site is located within the AQMA referred to in this report.

The Order and associated map of the AQMA are included as Appendix D to this report.



The Further Assessment in relation to the AQMA has been completed, and the draft Air Quality Action Plan has been the subject of an extensive consultation exercise, which is now complete and was submitted by NDC in March 2015.

## Diffusion Tube Monitoring Data

Table 3 Results of Nitrogen Dioxide Diffusion Tubes – 2014

Site ID	Location	Within AQMA ?	Data Capture 2014 %	Annual mean concentrations
				2014 ( $\mu\text{g}/\text{m}^3$ ) Adjusted for bias
1	Pilton Causeway, Barnstaple	N	75	28.39
2	Rolle Street 1, Barnstaple	N	83	27.65
3	Rolle Street 2, Barnstaple	N	67	31.09
4	Lower Sticklepath Roundabout, Barnstaple	N	58	19.93
5	Sticklepath School, Barnstaple	N	75	23.31
6	Cedars Roundabout, Barnstaple	N	42	17.30
7	Newport Road, Barnstaple	N	83	27.56
8	South Street, Newport, Barnstaple	N	83	24.26
9	Castle Street, Barnstaple	N	83	15.81
10	Alexandra Road, Barnstaple	N	83	27.32
11	Belle Meadow Road, Barnstaple	N	83	24.08
12	The Square, Braunton	Y		See comments made in 2.2.1
13	The London Inn, Braunton	Y	75	<b>40.53</b>
14	Church Street, Ilfracombe	N	75	21.89
15	High Street, Ilfracombe	N	75	18.43
16	Broad Street, South Molton	N	75	22.41

**Table 4 Results of Nitrogen Dioxide Diffusion Tubes – 2010 to 2013**

Site ID	Location	Within AQMA?	Annual Mean Concentrations ( $\mu\text{g}/\text{m}^3$ ) Adjusted for Bias			
			2010	2011	2012	2013
1	Pilton Causeway, Barnstaple	N	35.07	30.47	26.35	32.11
2	Rolle Street 1, Barnstaple	N	36.94	30.46	27.93	29.21
3	Rolle Street 2, Barnstaple	N	35.99	40.28	34.88	33.91
4	Lower Sticklepath Roundabout, Barnstaple	N	23.52	23.89	21.85	21.77
5	Sticklepath School, Barnstaple	N	9.89	8.47	7.70	22.15
6	Cedars Restaurant, Barnstaple	N	20.28	24.21	18.33	18.75
7	Newport Road, Barnstaple	N	35.39	30.43	27.68	27.80
8	South Street, Newport, Barnstaple	N	29.53	25.22	23.94	24.73
9	Castle Street, Barnstaple	N	19.66	17.35	15.28	16.12
10	Alexandra Road, Barnstaple	N	32.11	29.97	27.37	27.70
11	Belle Meadow Road, Barnstaple	N	29.12	27.23	25.02	26.57
12	The Square, Braunton	Y	46.48	44.35	38.84	38.87
13	The London Inn, Braunton	Y	36.20	41.57	42.32	40.70
14	Church Street, Ilfracombe	N	22.30	24.72	20.97	20.18
15	High Street, Ilfracombe	N	21.04	20.89	18.70	17.62
16	Broad Street, South Molton	N	25.84	28.85	22.65	24.51

### **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 confirms that no new roads have been constructed or proposed since the last round of Review and Assessment.

#### **3.6 Roads with Significantly Changed Traffic Flows**

NDC confirms that no new roads with significantly changed traffic flows have been identified since the last round of Review and 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 confirms that there are no new or significantly changed installations without an air quality assessment, since the last round or Review and 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 PM<sub>10</sub> 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. PLANNING APPLICATIONS**

All planning applications, which have been received with the potential for an impact on air quality have had a condition applied to assess air quality by means of an Air Quality Impact Assessment. These have been submitted, and all have been accepted.

## **9. CONCLUSIONS AND PROPOSED ACTIONS**

### **9.1 Conclusions from New Monitoring Data**

The results of the “routine” diffusion tube monitoring undertaken at 16 sites in 2014 are shown in table 3.

The measured bias adjusted annual mean concentration for 2014 is greater than 40 µg/m<sup>3</sup> at only 1 site – site 13.

Site 13 is located in the declared AQMA.

As the Local Air Quality Action Plan was submitted by NDC in March 2015, the results of the additional monitoring associated specifically with the AQMA are not presented in this report - but shall be reported in subsequent Action Plan Progress Reports.

### **9.2 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.

### **9.3 Proposed Actions**

This report confirms that there are no other exceedances identified, other than those which exist in the declared AQMA - specifically, at site 13.

Routine monitoring shall continue to be undertaken across the District and reported accordingly.

In relation specifically to the AQMA, the Local Air Quality Action Plan has been submitted, and NDC shall proceed as per the content of that report, once approved by DEFRA.



## 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: AQMA Order

Appendix E: 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 0.91.

This was calculated using the spreadsheet at:-

[http://laqm.defra.gov.uk/documents/Database\\_Diffusion\\_Tube\\_Bias\\_Factors-v03\\_15-Final.xls](http://laqm.defra.gov.uk/documents/Database_Diffusion_Tube_Bias_Factors-v03_15-Final.xls)

This spreadsheet was accessed on 30<sup>th</sup> March 2015, inputting “Gradko” as the analysing laboratory, “20% TEA in water” for the preparation, and 2014 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 NO<sub>2</sub> 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 NO<sub>2</sub> passive diffusion tubes.

**Appendix B**

**Short term to Long term Data adjustment**

**SITE 3 - Rolle Street 2, Barnstaple**

Monthly Mean NO <sub>2</sub> 2013																	
Site Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units	Annual Average	Period Mean	Correction Factor	
Bournmout	13.52	7.10	16.14	13.33	9.90	8.41	6.82		14.17	9.55	18.80	17.50	µgm-3	12.29	12.71	0.97	
Bristol St. Paul's	30.20	23.90	32.71	29.43	22.90	18.43	22.71	23.00	32.38	26.25	38.66	36.16	µgm-3	28.06	27.65	1.01	
														<b>Average Correction Factor</b>	<b>0.99</b>		

**SITE 4 - Lower Sticklepath Roundabout, Barnstaple**

Monthly Mean NO <sub>2</sub> 2013																	
Site Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units	Annual Average	Period Mean	Correction Factor	
Bournmout	13.52	7.10	16.14	13.33	9.90	8.41	6.82		14.17	9.55	18.80	17.50	µgm-3	12.29	13.24	0.93	
Bristol St. Paul's	30.20	23.90	32.71	29.43	22.90	18.43	22.71	23.00	32.38	26.25	38.66	36.16	µgm-3	28.06	27.85	1.01	
														<b>Average Correction Factor</b>	<b>0.97</b>		

**SITE 6 - Cedars Roundabout, Barnstaple**

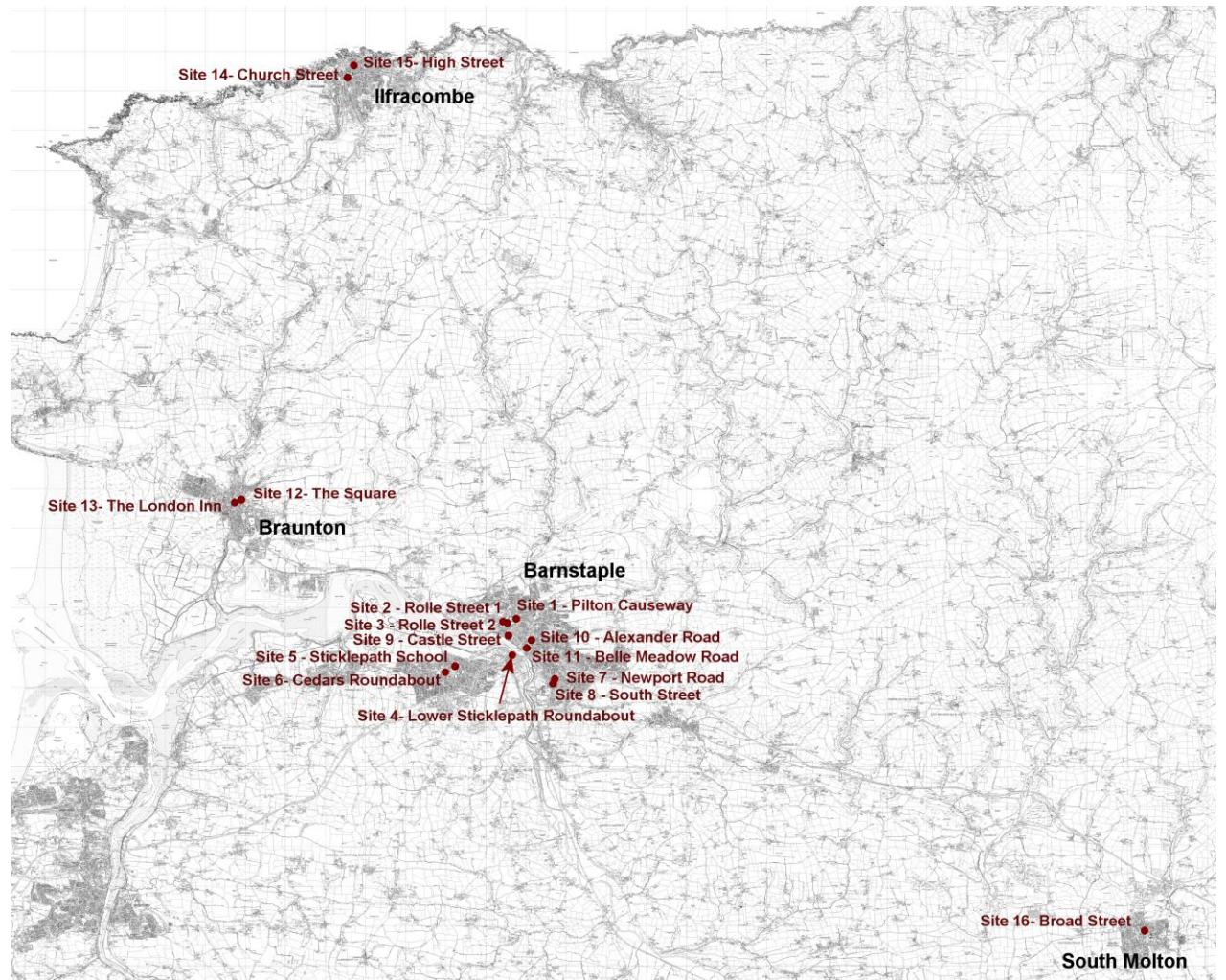
Monthly Mean NO <sub>2</sub> 2013																	
Site Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units	Annual Average	Period Mean	Correction Factor	
Bournmout	13.52	7.10	16.14	13.33	9.90	8.41	6.82		14.17	9.55	18.80	17.50	µgm-3	12.29	12.96	0.95	
Bristol St. Paul's	30.20	23.90	32.71	29.43	22.90	18.43	22.71	23.00	32.38	26.25	38.66	36.16	µgm-3	28.06	28.50	0.98	
														<b>Average Correction Factor</b>	<b>0.96</b>		

**SITE 13 - London Inn, Braunton**

Monthly Mean NO <sub>2</sub> 2013																	
Site Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Units	Annual Average	Period Mean	Correction Factor	
Bournmout	13.52	7.10	16.14	13.33	9.90	8.41	6.82		14.17	9.55	18.80	17.50	µgm-3	12.29	12.18	1.01	
Bristol St. Paul's	30.20	23.90	32.71	29.43	22.90	18.43	22.71	23.00	32.38	26.25	38.66	36.16	µgm-3	28.06	27.54	1.02	
														<b>Average Correction Factor</b>	<b>1.01</b>		

## **Appendix C**

### **Map showing approximate diffusion tube locations**





## **Appendix D**

### **AQMA Order and Map**



#### **Air Quality Management Area Order**

#### **Environment Act 1995 Part IV Section 83(1) North Devon Council AQMA Order**

North Devon Council, in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order:

This Order may be cited/referred to as the North Devon Council Air Quality Management Area No.1 and shall come into effect on 11<sup>th</sup> July 2011.

The area shown on the attached map in red is to be designated as an air quality management area (the designated area).

The designated area incorporates the area encompassing the B3231 in Braunton, in between the junction known as "The Square" in the middle of the village, and the Village Green.

The map may also be viewed at the Council Offices.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations 2000.

This Order shall remain in force until it is varied or revoked by a subsequent order.

The Common Seal of North Devon Council was hereto affixed on 11<sup>th</sup> July 2011 and signed by:

A handwritten signature in dark ink, appearing to read "J. Mann", written over a dotted line.

**Jeremy Mann**  
**Head of Environmental Health and Housing Services**  
**North Devon Council.**

**Appendix E**

**Map showing AQMA Boundary in Braunton**

