



CAUSEWAY COAST AND GLENS BOROUGH COUNCIL

2020 Air Quality Progress Report

In fulfillment of Environment (Northern Ireland) Order
2002
Local Air Quality Management

March 2024

Causeway Coast and Glens Borough Council

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Executive Summary

The new Council of Causeway Coast and Glens Borough Council was formed under Local Government Reform on 1st April 2015, merging legacy Councils: Ballymoney, Coleraine, Limavady and Moyle.

Within the Borough of Causeway Coast and Glens monitoring of nitrogen dioxide (NO₂) has been undertaken since 2008. This monitoring was undertaken as a result of desktop and stage 1 assessments carried out in the preceding years. Nitrogen dioxide from traffic emissions was identified as a significant pollutant which required detailed investigation.

An Air Quality Management Area (AQMA) was declared within the legacy Limavady District Council, along Dungiven Main Street in 2009 as levels were in excess of the annual mean concentration of 40µg/m³.

A continuous automatic monitor was installed along Main Street on 4th August 2010, in order to monitor Nitrogen dioxide pollutant concentrations (see below).



Passive monitoring has been undertaken in other legacy Council locations within the Borough to ensure that levels did not increase.

This report details the air quality information/data gathered by Causeway Coast and Glens Borough Council within the year 2019 and compares it with air quality pollutant levels obtained in previous years as far back as 2015.

Causeway Coast and Glens Borough Council

The action plan derived by legacy Limavady Borough Council, now Causeway Coast and Glens Borough Council, had identified the only long-term solution to the elevated levels due to road traffic within the Dungiven AQMA as being the construction of a bypass in Dungiven.

This bypass has been alluded to for decades and up until 2018 no progress had been made. The bypass was to form part of a wider dualling scheme of the A6 from Drumahoe to Dungiven, but financial constraints up until then had meant that the project was delayed.

As of March 2023, the scheme is nearing completion, it is expected that the scheme will be completed in its entirety by early 2023, although exact dates are not known at this time.

In previous reports it was documented that most of the traffic going through Dungiven was through traffic. These vehicles did not stop in the town to access businesses or dwellings. Local traffic only accounted for a small proportion of the daily volumes.

It is envisaged that the bypass will divert through traffic, a significant percentage of which are HGV's, away from the town, and that significant improvements in air quality will be achieved.

Monitoring will continue within the existing AQMA as NO₂ levels remain high.

Passive monitoring in Legacy Council Areas of Coleraine, Moyle and Ballymoney was discontinued in 2019, following the publication of the report entitled "Passive Diffusion Monitoring of NO₂ within Causeway Coast and Glens Borough Council 2014-2018" (Appendix A).

Analysis of the NO₂ data at the passive monitoring sites throughout the Borough over the period 2014 – 2018 showed that concentrations were below the applicable annual mean objective level at the legacy monitoring locations in Ballymoney Borough Council, Moyle District Council and Coleraine Borough Council areas.

From the passive diffusion data derived, results showed the levels were below the annual mean concentration of 40µg/m³.

However, the annual mean objective level of 40µg/m³ continued to be exceeded during this period (2014-2018) at two passive monitoring sites within the Dungiven AQMA. These two sites correspond with junctions which lead onto Main Street, Dungiven.

Causeway Coast and Glens Borough Council

No further detailed assessments have been deemed necessary to evaluate air quality within the Borough. This will be reviewed in the next Progress Report, or if Council become aware of any new developments which have the potential to adversely impact air quality.

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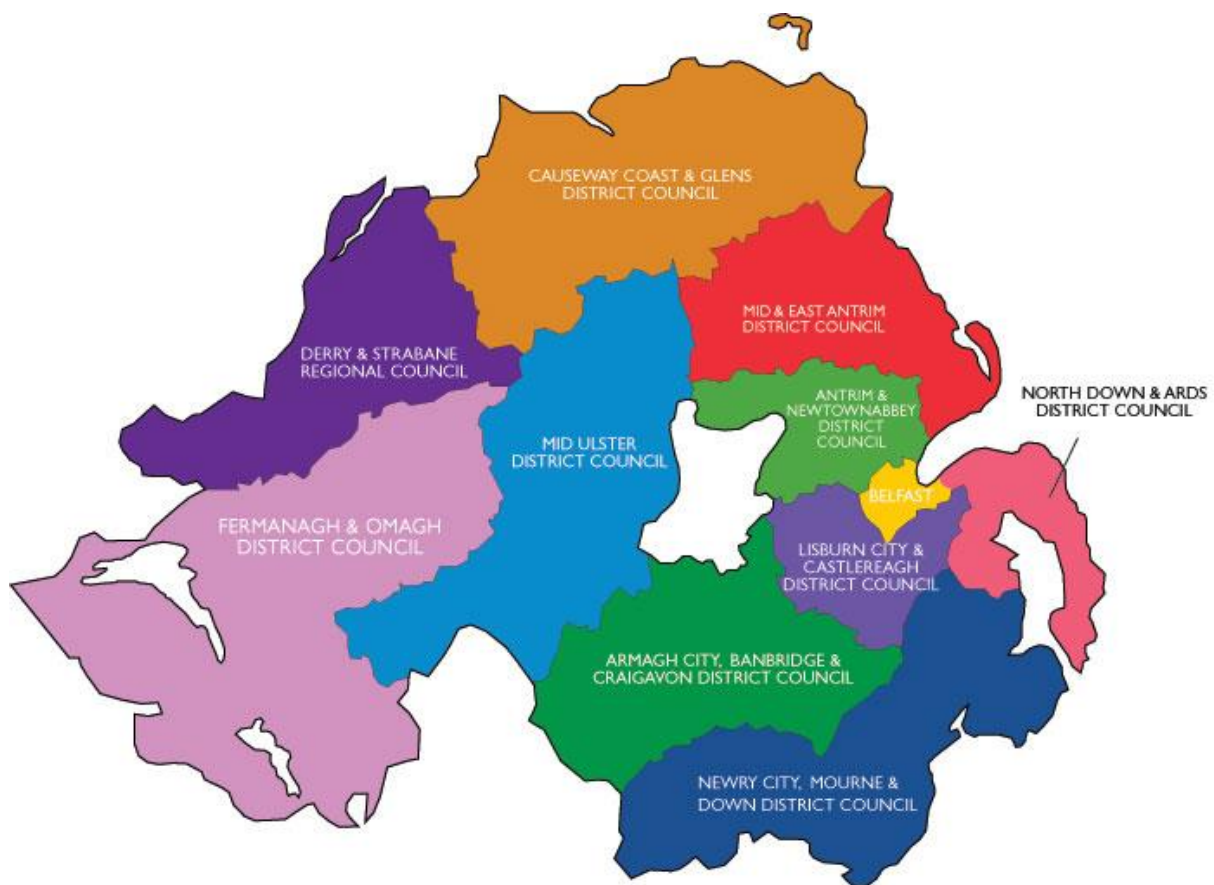
1 Introduction

1.1 Description of Local Authority Area

Causeway Coast and Glens Borough Council is located along the North and East coasts of Northern Ireland and encompasses the former Councils of Ballymoney, Coleraine, Limavady and Moyle. From the 2021 Northern Ireland Census data, it has a population of just over 141,746 residents (NISRA, 2022).

The land area is approximately 2000km².

The council area is a mix of market towns, commercial, small industrial hubs, and open countryside.



1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment (Northern Ireland) Order 2002, 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 declare 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.

For Local Authorities in Northern Ireland, Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the LAQM process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedance of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in **Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

Table 1.1 – Air Quality Objectives included in Regulations for the purpose of LAQM in Northern Ireland

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
	3.25 $\mu\text{g}/\text{m}^3$	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 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.50 $\mu\text{g}/\text{m}^3$	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
Particulate matter (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

Desktop assessments were carried out within legacy Councils (Ballymoney, Coleraine, Limavady and Moyle) to determine if the defined air quality pollutant levels were likely to exceed the National Air Quality Objective levels as set out within the Air Quality Regulations (NI) 2003.

Of particular interest for these Councils were nitrogen dioxide from traffic emissions, particulate matter (PM₁₀) and sulphur dioxide, particulate matter and sulphur dioxide emissions are associated with industrial processes and the burning of fossil fuels.

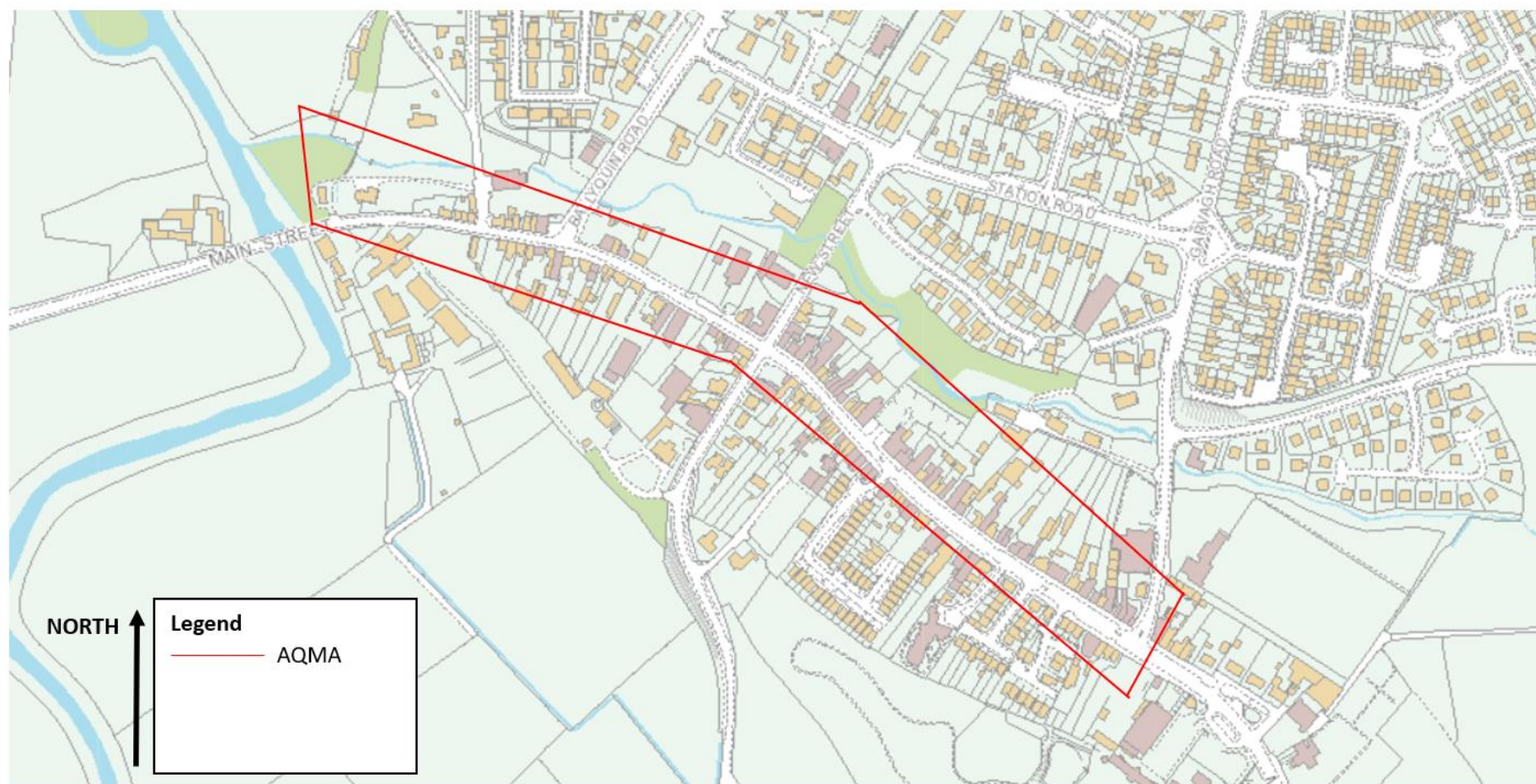
Following on from these desktop assessments further analysis of pollutants was carried out. Fuel use surveys, DMRB (design manual for roads and bridges) assessments and passive monitoring (nitrogen dioxide for road traffic emissions) were carried out to assess levels.

In terms of the legacy Councils, Air Quality Management Areas (AQMA) were declared:

- Legacy Limavady Borough Council - Main Street Dungiven for nitrogen dioxide (NO₂), road traffic pollutant emission source.
- Legacy Ballymoney Borough Council - Glebeside, Ballymoney for particulates (PM₁₀), domestic fossil fuel emission source. (The Glebeside AQMA was undeclared as houses in this estate had been converted over to gas).

The AQMA within Dungiven is the only one remaining in place.

Figure 1.1 – Map(s) of Dungiven AQMA Boundary



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Causeway Coast and Glens Borough Council has a continuous NO₂ monitor within the AQMA in Dungiven. It has been operational since 2010. The continuous NO₂ monitor was replaced in March 2017. The monitor is audited and serviced on an annual basis by contractors and the data is ratified.

Figure 2.1 – Map(s) of Automatic Monitoring Site in Dungiven AQMA

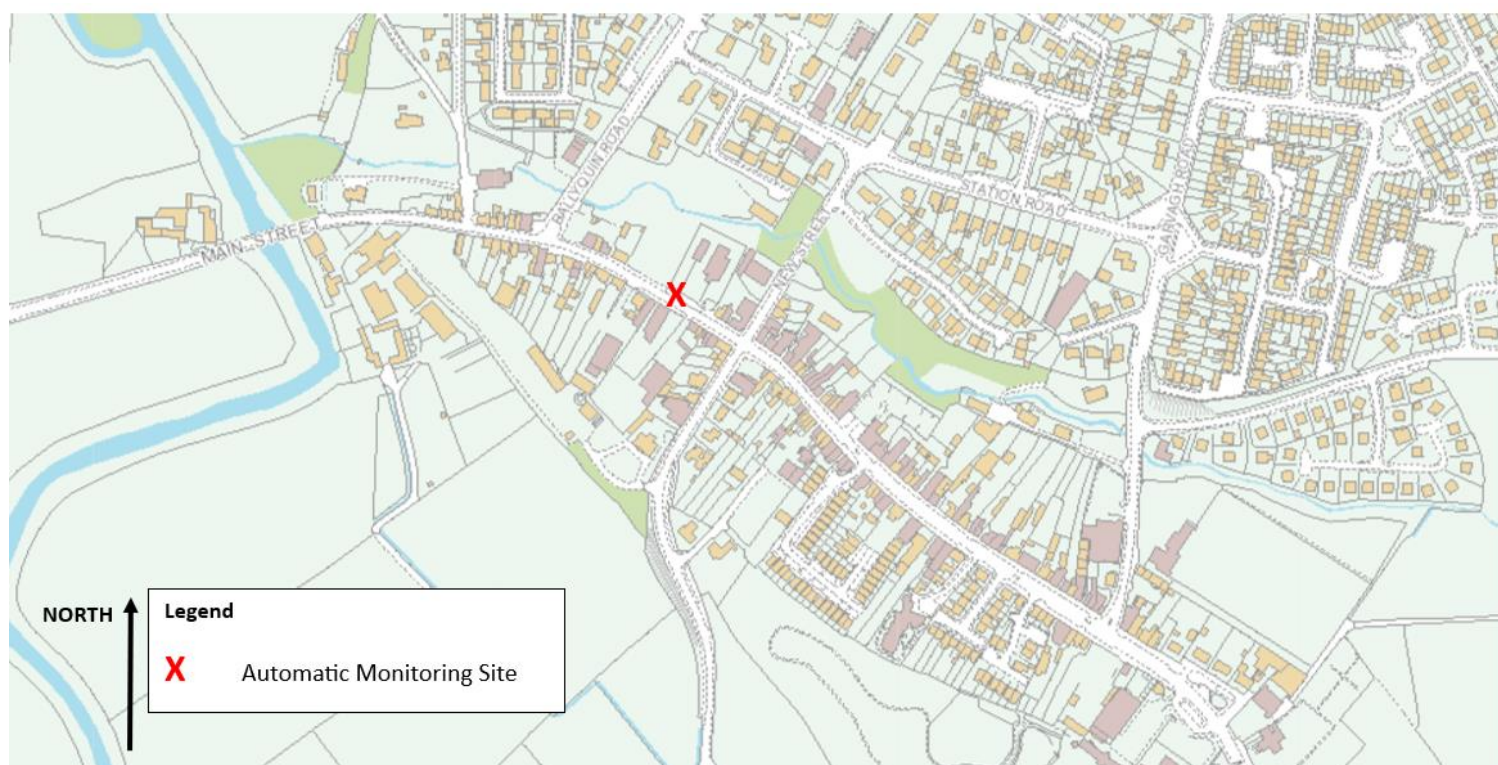


Table 2.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Inlet Height (m)	Pollutants Monitored	In AQMA?	Monitoring Technique	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
Dungiven AQMA	Main Street	Urban background	268851	409503	2.0	NO ₂	Y	Chemiluminescent	Y (1m)	1	Y

2.1.2 Non-Automatic Monitoring Sites

Nitrogen dioxide (NO₂) and nitric oxide (NO) are both oxides of nitrogen and are collectively referred to as nitrogen oxides.

All combustion processes produce nitrogen oxide emissions, largely in the form of nitric oxide, which is then converted to nitrogen dioxide mainly as a result of reactions with ozone in the atmosphere.

Exposure to high concentrations of nitrogen dioxide is reported to sensitize asthmatics to allergens, such as irritant chemicals, house dust mites and pollen. In urban areas, particularly close to major roads, motor vehicles account for the largest proportion of nitrogen oxide emissions. The contribution of road transport to nitrogen oxide emissions has declined significantly in recent years because of various national policy measures.

Diffusion tubes are a type of passive sampler; they absorb the pollutant to be monitored directly from the surrounding air. Diffusion tubes represent a simple and cost-effective method of monitoring air quality in an area, to give a good general indication of average pollution concentrations. They are particularly useful for assessment against annual mean objectives.

Monitoring sites are chosen to provide data on locations where there is relevant public exposure and where possible, are close to the nearest receptor to the busy road or road junction of interest. The sites are subject to periodic review.

Diffusion tubes are placed out in accordance with and adherence to the DEFRA – Exposure Calendar and Methodology. At the end of the monitoring period the tubes are collected, documentation completed and then sent to the appointed laboratory (Gradko Environmental) to undergo analysis.

On completion of analysis, the results are emailed to the Environmental Protection Team and are recorded for use in the results tabulation for the applicable year.

Results obtained from diffusion tube analysis require correction for possible positive bias (over-read), or negative bias (under-read). The preparation method used was an absorbent of 20% TEA (Triethanolamine) in water. The bias adjustment factor for Gradko and the technique in 2019 is 0.91. This factor is based on 31 studies and is taken from the DEFRA website at: <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>.

Passive monitoring in Legacy Council Areas of Coleraine, Moyle and Ballymoney was discontinued in 2019, following the publication of the report entitled “Passive Diffusion Monitoring of NO₂ within Causeway Coast and Glens Borough Council 2014-2018” (Appendix B).

Figure 2.2 – Map(s) of Non-Automatic Monitoring Sites



Table 2.2 – Details of Non- Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
L	Dungiven	Urban background	268957	409535	2.5	NO ₂	Y	N	Y (1m)	1	Y
L	Dungiven	Roadside	268887	409482	2.5	NO ₂	Y	N	Y (1m)	1	Y
L	Dungiven	Roadside	268852	409502	2.5	NO ₂	Y	N	Y (1m)	1	Y
L	Dungiven	Roadside	268742	409543	2.5	NO ₂	Y	N	Y (1m)	1	Y
L	Dungiven	Roadside	268981	409387	2.5	NO ₂	Y	N	Y (1m)	2	Y
L	Dungiven	Roadside	269190	409219	2.5	NO ₂	Y	N	Y (1m)	2	Y
L	Dungiven	Roadside	269051	409338	2.5	NO ₂	Y	N	Y (1m)	2	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO₂)

Automatic Monitoring Data

Due to an issue with the datalogger in the continuous NO₂ monitor in February 2019, data has been lost. Data capture does not provide a comprehensive overview of concentrations within the AQMA.

Table 2.3 – Results of Automatic Monitoring for NO₂: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2019 % ^b	Annual Mean Concentration (µg/m ³)				
					2015* ^c	2016* ^c	2017* ^c	2018* ^c	2019 ^c
Dungiven AQMA	Urban roadside	Y	Less than 75%	Less than 75%	48.1	26.3	46	51	45

In bold, exceedance of the NO₂ annual mean AQS objective of 40µg/m³

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

^c Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG16, if valid data capture is less than 75%

* Annual mean concentrations for previous years are optional

Figure 2.3 – Trends in Annual Mean NO₂ Concentrations Measured at Automatic Monitoring Sites

1. The annualised figure for Dungiven AQMA in 2019 was **45µg/m³**. This is an exceedance of the Annual Mean Objective. The Air Quality Strategy Objective (NO₂) Hourly Mean was not exceeded. Automatic Monitoring at this site has continued. The annualisation methodology is described in Appendix A.

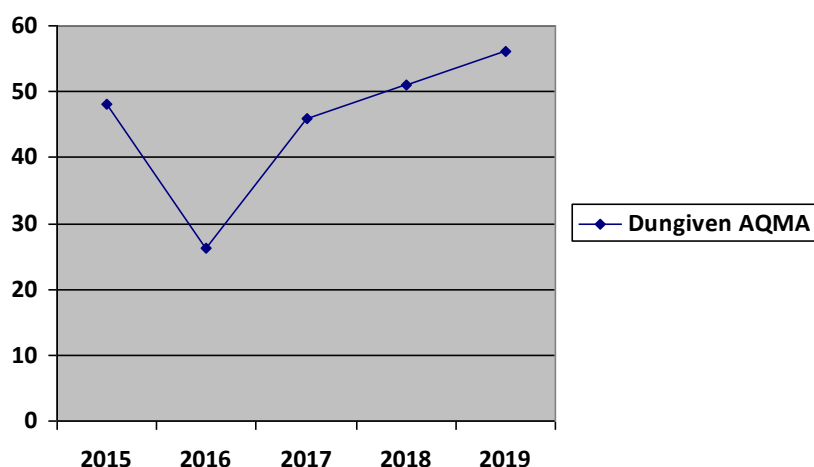


Table 2.4 – Results of Automatic Monitoring for NO₂: Comparison with 1-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2019 % ^b	Number of Hourly Means > 200µg/m ³				
					2015* ^c	2016* ^c	2017* ^c	2018* ^c	2019 ^c
Dungiven AQMA	Urban Roadside	Y	54	54	2	2	1	1	0

In bold, exceedance of the NO₂ hourly mean AQS objective (200µg/m³ – not to be exceeded more than 18 times per year)

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

^c If the data capture for full calendar year is less than 85%, include the 99.8th percentile of hourly means in brackets

* Number of exceedances for previous years is optional

Diffusion Tube Monitoring Data

Diffusion tube data for 2019 is unavailable due to an IT issue when government restrictions necessitated a change to home-based working. Due to COVID lockdown and government restrictions passive monitoring did not take place during 2020.

Table 2.5 – Results of NO₂ Diffusion Tubes 2019

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2019 (Number of Months or %) ^a	2019 Annual Mean Concentration (µg/m ³) - Bias Adjustment factor = 0.91 ^b
Dungiven	Dungiven B	Urban roadside	Y	Triplicate	Data unavailable	34.6
Dungiven	Dungiven C	Urban roadside	Y	Triplicate	Data unavailable	Data unavailable
Dungiven	Dungiven D	Urban roadside	Y	Triplicate	Data unavailable	Data unavailable
Dungiven	Dungiven E	Urban roadside	Y	Triplicate	Data unavailable	Data unavailable
Dungiven	Dungiven F	Urban roadside	Y	Triplicate	Data unavailable	Data unavailable
Dungiven	Dungiven G	Urban roadside	Y	Triplicate	Data unavailable	Data unavailable

In bold, exceedance of the NO₂ annual mean AQS objective of 40µg/m³

Underlined, annual mean > 60µg/m³, indicating a potential exceedance of the NO₂ hourly mean AQS objective

^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG16, if full calendar year data capture is less than 75%

^b If an exceedance is measured at a monitoring site not representative of public exposure, NO₂ concentration at the nearest relevant exposure should be estimated based on the [NO₂ fall-off with distance calculator](https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html) (<https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>), and results should be discussed in a specific section. The procedure is also explained in paragraphs 7.77 to 7.79 of LAQM.TG16.

Table 2.6 – Results of NO₂ Diffusion Tubes (2015 to 2019)

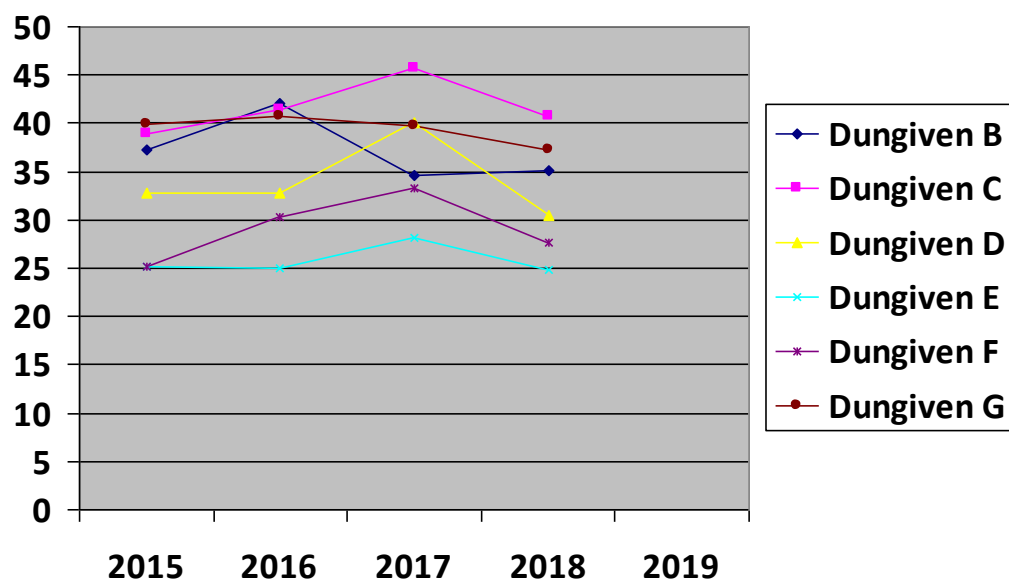
Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m ³) - Adjusted for Bias ^a				
			2015 (Bias Adjustment Factor = 0.87)	2016 (Bias Adjustment Factor = 0.92)	2017 (Bias Adjustment Factor = 0.89)	2018 (Bias Adjustment Factor = 0.92)	2019 (Bias Adjustment Factor = 0.91)
Dungiven B	Roadside	Y	37.3	42.0	34.6	35.1	Data unavailable
Dungiven C	Roadside	Y	38.9	41.4	45.7	40.8	Data unavailable
Dungiven D	Roadside	Y	32.7	32.8	40.1	30.5	Data unavailable
Dungiven E	Roadside	Y	25.1	25.0	28.2	24.8	Data unavailable
Dungiven F	Roadside	Y	25.2	30.3	33.3	27.7	Data unavailable
Dungiven G	Roadside	Y	39.9	40.8	39.8	37.3	Data unavailable

In bold, exceedance of the NO₂ annual mean AQS objective of 40µg/m³

Underlined, annual mean > 60µg/m³, indicating a potential exceedance of the NO₂ hourly mean AQS objective

^a Means should be “annualised” as in Boxes 7.9 and 7.10 of LAQM.TG16, if full calendar year data capture is less than 75%

Figure 2.4 – Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites



There were no exceedances of the national air quality objective annual mean limit of $40\mu\text{g}/\text{m}^3$ at Diffusion Tube sites in 2015.

In 2016 there were exceedances at Sites B, C and G.

In 2017 there were exceedances at sites C and D.

In 2018 there was an exceedance at Site C.

NO₂ levels for 2019 are not available.

2.2.2 Particulate Matter (PM₁₀)

Causeway Coast and Glens Borough Council do not monitor PM₁₀.

2.2.3 Sulphur Dioxide (SO₂)

Causeway Coast and Glens Borough Council do not monitor Sulphur Dioxide.

2.2.4 Benzene

Causeway Coast and Glens Borough Council do not monitor Benzene.

2.2.5 Other Pollutants Monitored

Not Applicable

2.2.6 Summary of Compliance with AQS Objectives

Causeway Coast and Glen Borough Council has examined the results from monitoring in the borough.

Concentrations within the AQMA still exceed the objective for NO₂ in the Dungiven AQMA and the AQMA should remain.

Available data (NO₂ concentrations) at monitoring locations selected outside of the AQMA up to 2019 are shown to fall below the air quality objectives, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

3.1 Road Traffic Sources

There have been no new road schemes within the Borough that would negatively impact upon air quality. No new roads have been opened since the last Updating and Screening Assessment however the construction of a bypass in Dungiven has commenced, as of September 2018. As of March 2023, the scheme is nearing completion. It is expected that the scheme will be completed in its entirety by early 2023, although exact dates are not known at this time. No busy or narrow congested streets have been identified that have not previously been considered. No roads with significantly changed traffic flows have been identified and there are no roads with high flows of buses and or HGVs. There are no new bus or coach stations.

3.2 Other Transport Sources

There have been no new/newly developed airports, diesel or steam train stations, diesel locomotives or shipping port within the Borough.

City of Derry airport partially falls within the edge of the Borough. This small regional airport is within 1000m of residential properties. The Technical Guidance indicates that assessment is required where:

- There is relevant exposure within 1000m of the airport boundary and
- the annual throughput of passengers/freight equates to 10 million passengers per year

City of Derry airport's website indicates that in 2009 350,000 passengers passed through the airport. In 2011 this increased to 405,697 passengers (UK AIP at NATS/ Statistics from UK Civil Aviation Authority). In 2015 it was reported that in the past year, numbers of passengers had fallen to 350,257 (Belfast Telegraph, 2015). In 2019 the airport's transported 203,777 passengers (City of Derry Airport, 2022); this represented a 9.7% decrease in the number of passengers from the previous year. There is currently no freight transport in or out of the airport.

3.3 Industrial Sources

This department is not aware of any new or proposed industrial sources or of any substantive changes to existing installations which would create relevant exposure. Technical guidance TG (16/22) states that the following farms should be considered for PM₁₀ if there is relevant exposure within 100m:

- Those with 400,000 birds if mechanically ventilated
- Those with 200,000 birds if naturally ventilated, and
- Those with 100,000 turkeys

A review of the DAERA Public Register (Pollution Prevention and Control (Industrial Emissions) Regulations (NI) 2013) within the Causeway Coast and Glens Borough Council area (Schedule 1 Section 6.9, Part A (a) (i) "Intensive Farming") installations concluded that there are no poultry farms within the Borough which fall into any of the above categories.

3.4 Commercial and Domestic Sources

Council is aware of a few commercial biomass boilers in the Borough. In some instances, these are currently seeking retrospective planning permission and as part of this process their air quality impacts are being assessed. Upon receipt of the information Council will consider their impacts and review our position. At present insufficient information is available to conclude that they will adversely impact air quality.

Fuel use surveys were previously carried out within the borough and aside from the issue with PM₁₀ in Glebeside Ballymoney no concerns were raised. The AQMA in Glebeside has been revoked as the domestic properties were converted over to gas. No other areas of significant domestic solid fuel burning have been identified.

3.5 New Developments with Fugitive or Uncontrolled Sources

No new landfill sites, quarries or other potential sources of fugitive particulate emissions have been identified since the last Updating and Screening Assessment.

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Causeway Coast and Glens Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Causeway Coast and Glens Borough Council confirms that all the following have been considered:

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

4 Local / Regional Air Quality Strategy

This Council has declared an AQMA with regard to nitrogen dioxide levels from traffic emissions in Main Street Dungiven. All attempts are made to ensure that pollutant levels in other areas within the Borough are maintained at either current levels or reduced as far as possible. Monitoring will continue to assess levels and consideration will be given to air quality when processing planning applications relating to domestic, commercial and industrial processes.

5 Planning Applications

Council is not aware of any approved/pending planning applications which would adversely impact upon air quality within the Borough in general.

6 Air Quality Planning Policies

Planning policy within Northern Ireland was the responsibility of DOE Planning Service. Planning Service has now been subsumed by Council. Within our role as internal consultees to Planning this department highlights any issues which would adversely impact on air quality within the Borough and would strive to control through planning conditions such impacts to ensure air quality is not compromised by development.

The Council's Planning Department has produced its Regional Development Strategy 2025 – Shaping the Future. It is a strategic and long-term perspective on future development within Northern Ireland. The content of the document is not just limited to land use planning but recognises that policies for physical development have an important bearing on other matters such as developing a strong spatially based economy, a healthy living environment and an inclusive society which tackles inequalities relating to health, education and living standards. The amendments to the RDS 2025 are the 5-year review of the existing RDS. The RDS strategy for the Borough is the improvement and the enhancement of the natural environment, the economic and social opportunities, and the encouragement of tourism to the area through improvements in the built environment and transport infrastructure and linkage to the natural gas network. The rural community has greater relevance to maintain the rural way of life whilst providing transport and economic opportunities in a sustainable way. Its overall aim is:

- “To develop an attractive and prosperous rural area, based on a balanced and integrated approach to the development of town, village and countryside, in order to sustain a strong and vibrant rural community, contributing to the overall well-being of the Region as a whole.”

Specifically, changes regarding air quality are covered in policy ENV 6.1 - improve air quality by:

- ensuring a level of ambient air quality in public places, which poses no significant risk to health or quality of life, through implementation of the National Air Quality Strategy;
- identifying and addressing air pollution problems through the implementation of the Local Air Quality Management systems (LAQM) introduced via the Environment (NI) Order 2002;

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- ensuring that industrial emissions are minimised and effectively controlled, promoting more sustainable energy sources and a diversification of fuel supplies; and changing travel patterns to reduce the growth of traffic with potential benefits for air quality

The Area Plan being produced will consider air quality impacts of planning applications and the suitability of development in areas where AQMA's have been declared or where the proposed activity may cause an impact on current pollutant levels.

7 Local Transport Plans and Strategies

Causeway Coast & Glens Borough Councils action plan with regard to Dungiven's AQMA stated that the only long-term solution to the NO₂ issue was the construction of a bypass. This bypass was proposed as part of Transport NI's Regional Development Strategy for Northern Ireland 2025. This document was revised in 2008 and was published as the RDS 2035.

The Regional Transportation Strategy (RTS) supports the RDS and makes a significant contribution towards achieving the longer-term visions of the RDS. The Londonderry to Dungiven road scheme is seen as one of the key transport corridor improvements within the RTS, the Regional Strategic Transport Network Transport Plan (RSTN-TP) and Sub-Regional Transport Plan (SRTP).

Dungiven Bypass

The Regional Strategic Transport Network Plan 2015 included proposals for a single carriageway bypass of Dungiven.

As highlighted within the action plan Transport NI would in order to progress the bypass have to undertake a series of key steps to see the project through to fruition. In September 2012 a public inquiry was held.

The document entitled "A6 Londonderry to Dungiven – About the scheme" sets out Transport NI's proposed dualling scheme between Londonderry and Dungiven. It does however point out that "the Northern Ireland Executive budget 2011-2015 sets out the spending plans for the four-year period from April 2011- March 2015. Given the two-fifths reduction in the Executives overall capital funding the funds currently allocated to the Department for Regional Development would not allow construction of the Londonderry to Dungiven dual carriageway to commence before 2014-2015 at the earliest."

More recently the budget statement of 17 December 2015 set out the Executive's plans to invest £258m in improving the A6 route between Londonderry and Belfast over the 5-year period between 2016/17 and 2020/21. This funding will facilitate the construction of elements of the A6 Londonderry to Dungiven dualling scheme, including a bypass of Dungiven.

Council input

Council has continued to monitor pollution levels within the AQMA both continuously and passively. All monitoring data from the continuous monitor can be viewed online by interested parties. Discussions have been held at a local level with Transport NI to keep the Department updated and to explore what options are available.

As the relevant authority, it will be Transport NI who will be responsible for improving the road infrastructure around Dungiven. Initial works have commenced on the A6 Dualling Scheme, and it is envisaged that works will proceed without delay. Phase 1 of the scheme, the Dungiven bypass has been prioritised and clearance work is has commenced in the Foreglen/Feeny Road areas. It is envisaged that the scheme in its entirety will be completed by Early 2023.

8 Implementation of Action Plans

It is accepted that the only viable solution to the NO₂ issue within Dungiven is the construction of a bypass to take through traffic away from the Main Street area. The provision of such a bypass falls within the remit of Transport NI. The budget statement of 17 December 2015 set out the Executive's plans to invest £258m in improving the A6 route between Londonderry and Belfast over the 5-year period between 2016/17 and 2020/21. This funding will facilitate the construction of elements of the A6 Londonderry to Dungiven dualling scheme, including a bypass of Dungiven.

Table 8.1 – Action Plan Progress

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Measure emission levels within AQMA	Evaluate NO ₂ levels	Causeway Coast and Glens Borough Council	Completed	Ongoing			Ongoing	ongoing	ongoing	
2	Vehicle emissions testing	Assess feasibility of testing vehicle emissions when routine servicing carried out/compliance with MOT emissions criteria	Causeway Coast and Glens Borough Council	Completed	Ongoing	Reduce no: of highly polluting vehicles on the road		Ongoing	ongoing	ongoing	Identification of highly polluting vehicles in fleet and reduction in emissions of NO ₂
3	Cleaning up Council vehicles	Fitting pollution abatement equipment to older HGV's depending on EURO classification	Causeway Coast and Glens Borough Council	Completed	ongoing	Reduction in pollution emissions from Council vehicles		Abatement not fitted – rolling programme of EURO compliant replacement vehicles	Rolling programme of EURO compliant replacement vehicles	ongoing	
4	Vehicle upgrading programme to comply with EURO emission standards	Replacement programme for council vehicles	Causeway Coast and Glens Borough Council	completed	ongoing	Reduction in pollution emissions from Council vehicles		Purchase vehicles that comply with prevailing EURO standards – rolling programme	ongoing	ongoing	

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Within the Dungiven AQMA levels of NO₂ remain above the annual mean objective levels of 40µg/m³. Monitoring, both passive and continuous, will continue within the AQMA. Construction of the Dungiven bypass has commenced and it is envisaged that once opened this new stretch of road will significantly reduce traffic volumes within Dungiven Main Street and hence pollutant levels will fall significantly. The majority of traffic passing through Dungiven at the minute is through traffic as opposed to local traffic. Congestion would be a feature of current traffic movements especially at peak times such as school times and rush hours. The bypass will once completed take a significant number of vehicles away from relevant locations. It is envisaged that the bypass will be completed by early 2023.

9.2 Conclusions relating to New Local Developments

On the basis of this assessment, no new local developments are likely to adversely impact on air quality within Causeway Coast and Glens Borough Council.

9.3 Other Conclusions

It has been accepted since the action plans were drawn up that the only solution to the NO₂ issue within Dungiven was the construction of a bypass. The ongoing work of the dualling scheme between Drumahoe and Dungiven is well advanced and will contribute significantly to improving air quality within the Dungiven area.

9.4 Proposed Actions

On the basis of the data collected to date no new or additional monitoring is required. Similarly, no additional detailed no further assessments are required. Monitoring will continue as is within the existing Dungiven AQMA. This will be reviewed in the next report and may be scaled back depending on the levels obtained.

10 References

- Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
- Defra (2016) Review & Assessment: Technical Guidance LAQM.TG16, Defra.
- Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users, Report to Defra and the Devolved Administrations, Feb 2008
- EU Emissions Trading Scheme Charging Scheme Northern Ireland. Department for the Environment, November 2009
- Local Air Quality Management Policy Guidance LAQM.PG (09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Local Air Quality Management Technical Guidance LAQM.TG (09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Preparing for Climate Change in Northern Ireland. DoE/ Scotland and Northern Ireland Forum for Environmental Research, 2007.
- Shaping Our Future: Adjustments to the Regional Development Strategy (RDS) 2025. Department for Regional Development, June 2008
- Sub-Regional Transport Plan 2015. Department for Regional Development, March 2007.
- The Environment (Northern Ireland) Order 2002, Statutory Instrument 3153 (2002), The Northern Ireland Climate Change Partnership.
- <http://www.sniffer.org.uk/ourwork/climate-change/niccip.asp>

Appendices

Appendix A: Annualisation Methodology

For Causeway Coast and Glens Borough Council, it has only been possible to carry out a monitoring survey at Dungiven site between January and April & August and November 2019. The measured mean concentration M for this period is $56\mu\text{g}/\text{m}^3$ (54% data capture).

As per LAQM.TG (22), this Department has identified Derry Rosemount AURN Urban Background, which had 98% Valid Data capture for this period, and Ballymena Ballykeel Urban Background AURN, which had 96% Valid Data capture for this period.

The 2019 annual mean, A_m , for Derry Rosemount was $11\text{ mg}/\text{m}^3$
The 2019 annual mean, A_m , for Ballymena Ballykeel was $14\text{ mg}/\text{m}^3$

The period mean is $13\mu\text{g}/\text{m}^3$ for Derry Rosemount and $17\mu\text{g}/\text{m}^3$ for Ballymena Ballykeel.

The ratio of the annual mean to the period mean (A_m/P_m) for each of the sites is:

- Derry Rosemount = 0.8
- Ballymena Ballykeel = 0.8

The average of these ratios, R_a , is 0.8, which is the annualisation factor.
Having then multiplied the measured period mean concentration, $56\mu\text{g}/\text{m}^3$, by this annualisation factor, 0.8, the estimate of the annual mean for Dungiven 2019 is $45\mu\text{g}/\text{m}^3$.

Background Site	Annual mean 2019 (A_m)	Period Mean 2019 (P_m)	Ratio (A_m/P_m)
Derry Rosemount	11	13	0.8
Ballymena Ballykeel	14	17	0.8
	Average (R_a)		0.8

The LAQM Helpdesk Team has provided advice and guidance in relation to annualisation following feedback from the Appraisal Report.

Diffusion Tube Bias Adjustment Factors

Gradko International Ltd, St Martins House, 77 Wales Street, Winchester, Hampshire

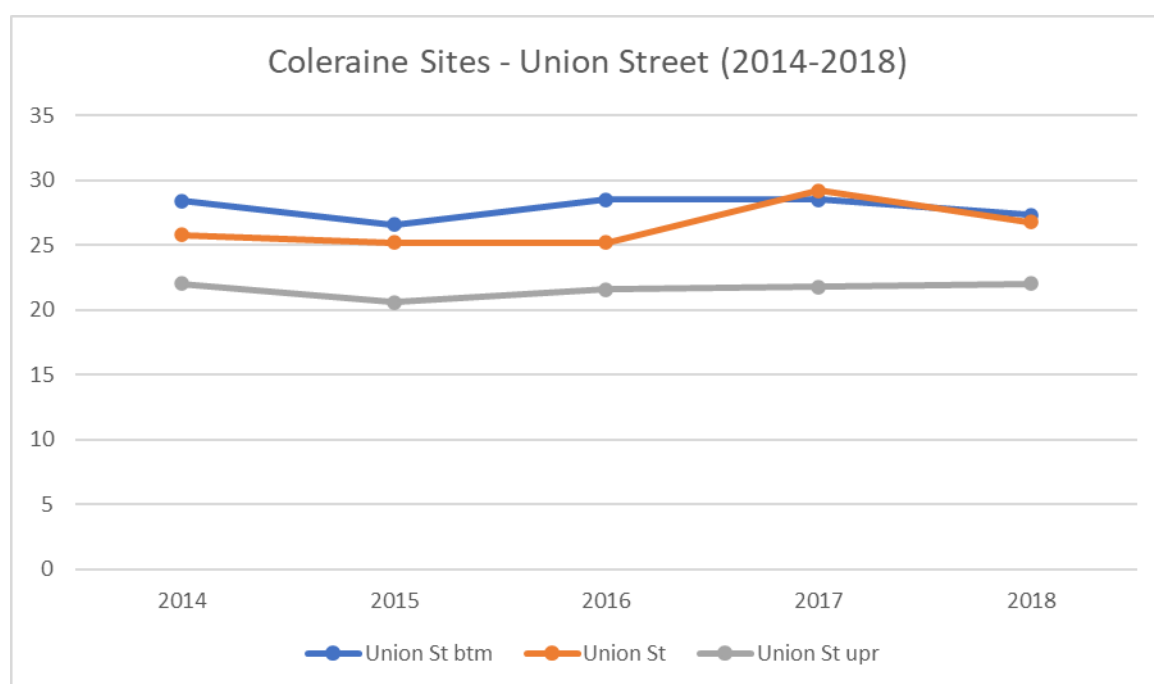
20%TEA in water

2019 Bias Adjustment factor = 0.92

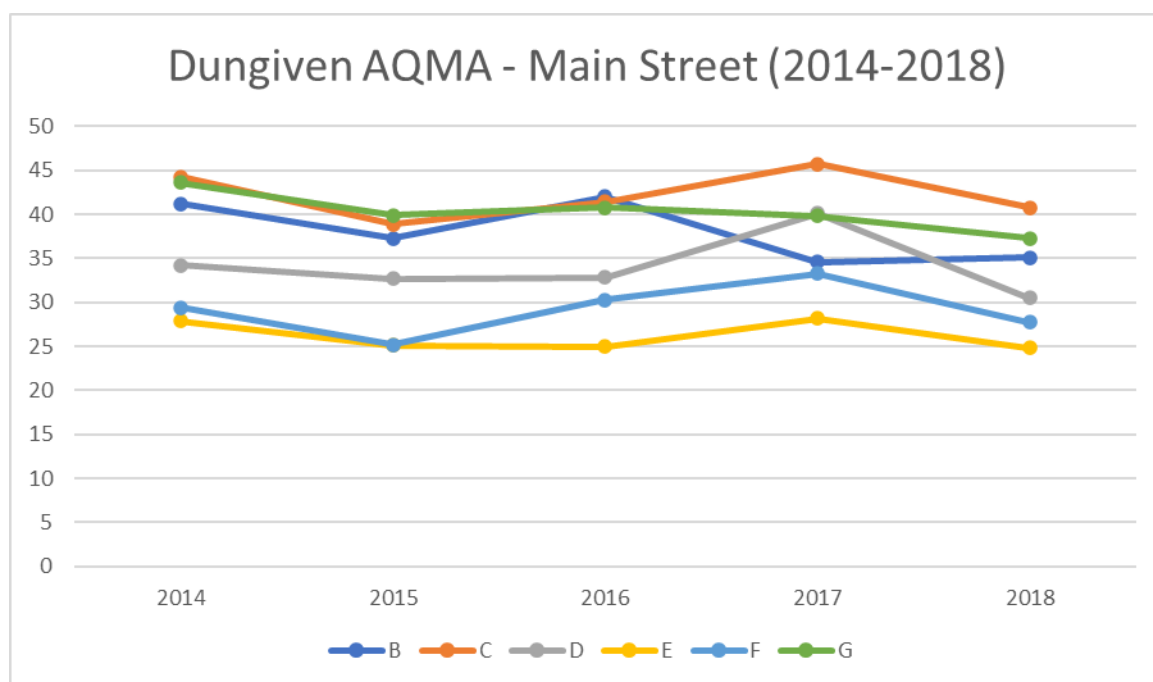
Appendix B: Cessation of passive diffusion monitoring of NO₂ within Causeway Coast and Glens Borough Council 2014-2018

Analysis of passive NO₂ monitoring data throughout the Borough has shown that since 2014 pollutant levels in the legacy Coleraine, Ballymoney and Moyle areas have remained below the annual mean concentration of 40µg/m³. The annual mean objective level continues to be exceeded within the AQMA in Dungiven (please refer to graphs below). Based on these findings, it is proposed to continue monitoring within the AQMA only.

Coleraine

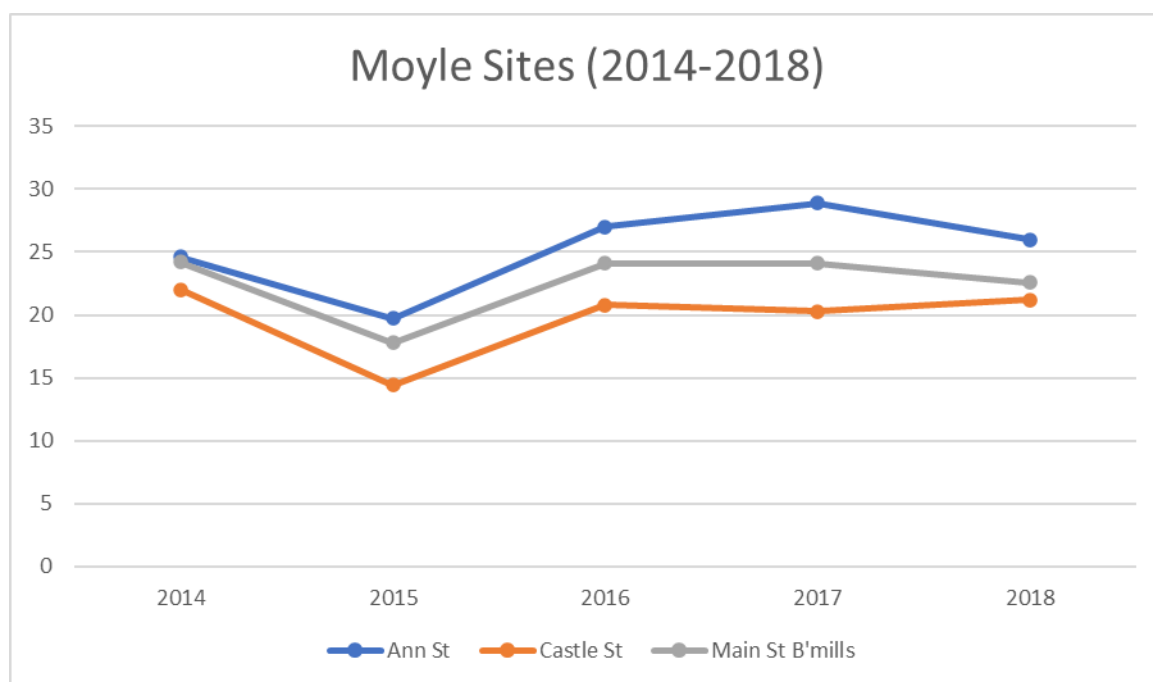


Levels of NO₂ in the Union Street area of Coleraine have been relatively constant over the past 5 years. The annual mean concentration has not been exceeded at any of the sites.

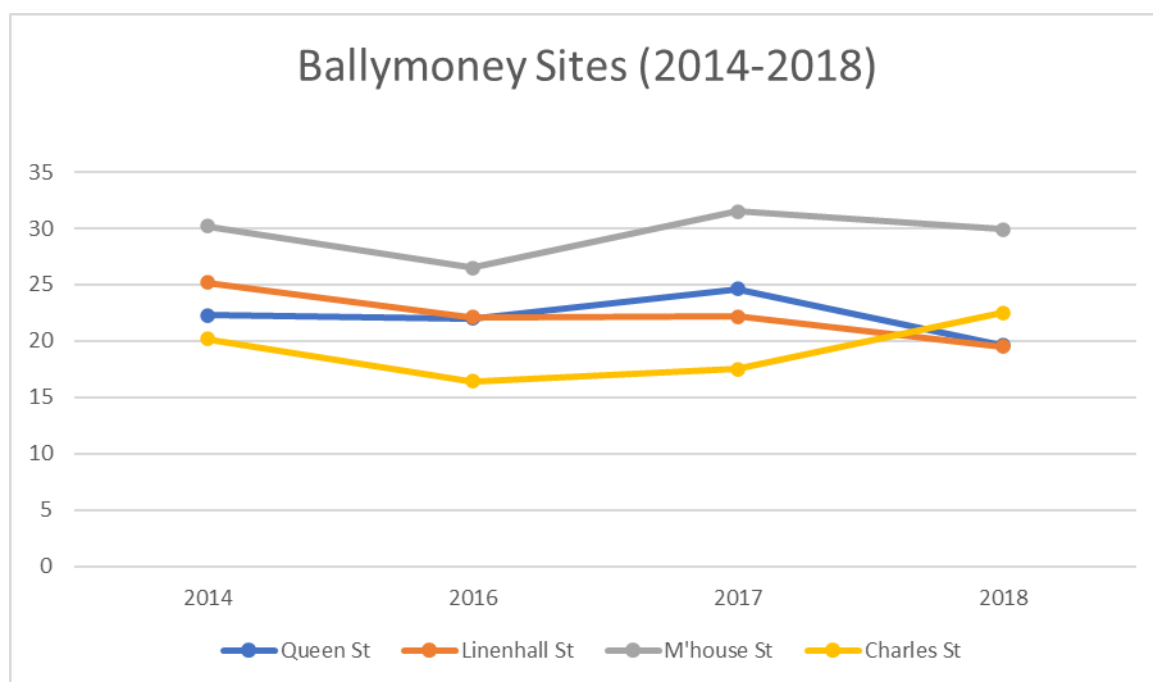
Dungiven AQMA Main Street

The annual mean objective level of $40\mu\text{g}/\text{m}^3$ continues to be exceeded at two monitoring sites within the Dungiven AQMA. These two sites, C & G, correspond with two junctions which lead onto Main Street. Location C where the Ballyquin Road meets Main Street is often where traffic builds up when traffic on Main Street is attempting to turn right onto the Ballyquin Road. Similarly, traffic builds up close location G in periods of high traffic flow and when traffic is attempting to make a right turn off Main Street onto New Street.

Moyle



NO₂ objective levels are not exceeded at any of the Moyle sites. Levels within Ann Street and Castle Street in Ballycastle and Main Street Bushmills do not exceed 30µg/m³.

Ballymoney

NO₂ levels at the monitoring sites within Ballymoney have all been below the annual mean concentration of 40µg/m³ over the past 5 years.

It had been suggested that additional NO₂ monitoring should be carried out within the one-way system in Coleraine town centre (Brook St/Long Commons/Tesco/Hanover Place). Previous reports compiled by the legacy Coleraine office state that the Environmental Health Department had previously conducted monitoring in these streets. Monitoring was carried out in Long Commons as far back as 2002 when levels were measured at 23.4µg/m³ (Stage 2 Review & Assessment 2002). Within the USA published in 2012 Table 2.4 lists monitoring data collected for these areas. This is summarised below.

Street Name	2009 (µg/m ³)	2010 (µg/m ³)	2011 (µg/m ³)
Brook Street	33.14	29.65	27.21
Long Commons	20.36	24.66	19.47
Tesco	22.86	27.23	20.91
Hanover Place	23.84	25.72	21.92

The data clearly shows that levels were significantly lower than the annual mean objective level. These areas were screened out at this time as needing no further attention. This data, and the fact that automotive technologies have improved since this monitoring was undertaken demonstrates that there is no relevant exposure to high concentrations of NO₂ within these locations.

Recommendation

As limits are not exceeded at any of these passive monitoring sites, we will discontinue use as of 31 March 2020. Passive monitoring will continue within the AQMA in Dungiven.