



# 2018 Air Quality Annual Progress Report for **ARGYLL AND BUTE COUNCIL**

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

**June 2018**

<b>Local Authority Officer</b>	Malcolm Chattwood
<b>Department</b>	Regulatory Services
<b>Address</b>	Kilmory, Lochgilphead PA31 8RT
<b>Telephone</b>	01546 604421
<b>E-mail</b>	malcolm.chattwood@argyll-bute.gov.uk
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<b>Signature</b>	

## **Executive Summary: Air Quality in Our Area**

### **Air Quality in Argyll and Bute**

Argyll and Bute is an authority with over 75% of its area classified as remote<sup>1</sup> and a population which is widely distributed. There is only one town with a population greater than 10,000 and industries tend to be geographically diverse and related to the natural assets of the area. Forestry and agriculture are prevalent inland, whilst in coastal areas there are a number of distilleries, fish farms and fishing businesses. Large scale industry is absent and this is reflected by the low number and nature of industries regulated by SEPA under the Pollution Prevention and Control regime. Tourism makes a significant and important contribution to the Argyll and Bute economy and is responsible for higher summer-time traffic flows in some areas.

Results of modelling of sources of nitrogen dioxide and particulates are presented in Figures 8, 9 and 10 and show that background concentrations are very low. In the absence of industry hotspots the major potential source of pollution that may impact on human health is that produced by motor vehicles. However, traffic flows tend to reflect the low and dispersed population but a network of nitrogen dioxide diffusion tubes is maintained to monitor those areas in town centres deemed to be subject to higher concentrations. Reference to the measured annual trends in Figures 1 to 4 shows that nitrogen dioxide levels are well below the annual objective and trends are either level or falling at all sites where tubes have been established long enough for relationships to be plotted.

The shift to install small to medium-sized biomass boilers at commercial premises has continued although at a slower rate than recent years. Technical details supporting planning applications are subject to scrutiny and evaluation to ensure that air quality objectives should not be compromised.

### **Actions to Improve Air Quality**

Air quality in Argyll and Bute is considered to be generally very good and complies with all the air quality objectives listed in Table 1.1. The Council has not identified any areas where air quality objectives may be under threat and where specific action is required to improve air quality.

### **Local Priorities and Challenges**

Although the Council does not face any specific challenges in relation to air quality it is hampered in the case of smaller biomass boilers by the planning development system being the only effective means of applying regulatory control and then only in situations where planning permission is required. Notwithstanding this, appropriate controls are attached to planning applications, where appropriate, to protect local air quality standards and ensure that they are not adversely affected by the development.

### **How to Get Involved**

The Council publishes a report summarising the results of its air quality monitoring. Copies can be downloaded at <https://www.argyll-bute.gov.uk/planning-and-environment/air-pollution-and-local-air-quality>

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## 1. Local Air Quality Management

This report provides an overview of air quality in Argyll and Bute during 2018. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) 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 an exceedance is considered likely the local authority must 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. This Annual Progress Report (APR) summarises the work being undertaken by Argyll and Bute to improve air quality and any progress that has been made.

**Table 1.1 – Summary of Air Quality Objectives in Scotland**

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Nitrogen dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m <sup>3</sup>	Annual mean	31.12.2005
Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 µg/m <sup>3</sup>	Annual mean	31.12.2010
Particulate Matter (PM <sub>2.5</sub> )	10 µg/m <sup>3</sup>	Annual mean	31.12.2020
Sulphur dioxide (SO <sub>2</sub> )	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	3.25 µg/m <sup>3</sup>	Running annual mean	31.12.2010
1,3 Butadiene	2.25 µg/m <sup>3</sup>	Running annual mean	31.12.2003
Carbon Monoxide	10.0 mg/m <sup>3</sup>	Running 8-Hour mean	31.12.2003
Lead	0.25 µg/m <sup>3</sup>	Annual Mean	31.12.2008

## **2. Actions to Improve Air Quality**

### **2.1 Air Quality Management Areas**

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12 months, setting out measures it intends to put in place in pursuit of the objectives.

**Argyll and Bute Council currently does not have any AQMAs and this current assessment and past annual reports suggest that it will be not be necessary to declare any AQMAs in the future.**

### **2.2 Cleaner Air for Scotland**

Cleaner Air for Scotland – The Road to a Healthier Future (CAFS) is a national cross-government strategy that sets out how the Scottish Government and its partner organisations propose to reduce air pollution further to protect human health and fulfil Scotland's legal responsibilities as soon as possible. A series of actions across a range of policy areas are outlined, a summary of which is available at <http://www.gov.scot/Publications/2015/11/5671/17>. Progress by Argyll and Bute Council against relevant actions within this strategy is demonstrated below.

#### **2.2.1 Transport – Avoiding travel – T1**

All local authorities should ensure that they have a corporate travel plan (perhaps within a carbon management plan) which is consistent with any local air quality action plan. Argyll and Bute Council does not currently have a formal corporate travel plan but the widely dispersed geographical location of offices and other workplaces (including offshore) has prompted the widespread development of facilities such as video conferencing with a consequent reduction in travel. It is anticipated that increasing familiarity with the use of the technology will allow staff to continue to reduce business travel between locations within the working day. The opening of the Council's new office in Helensburgh in 2016 allowed the concentration of services from outlying premises to be consolidated on one site. The town centre site is readily accessible by train, bus and ferry and showers and lockers are provided for those staff who wish to commute by bicycle. The central location also facilitates better access for members of the public wishing to use Council services.

All of Argyll and Bute's schools have a travel plan in place. School Travel Plans identify issues relating to the school journey and set out agreed aims and packages of measures to promote more sustainable travel choices for pupils, parents, staff and visitors.

**2.2.2 Climate Change – Effective co-ordination of climate change and air quality policies to deliver co-benefits – CC2**

Scottish Government expects any Scottish local authority which has or is currently developing a Sustainable Energy Action Plan to ensure that air quality considerations are covered. With the exception of Helensburgh, Dunoon and Rothesay, Argyll and Bute is not connected to the gas national grid. There has been a limited programme of the installation of biomass boilers at schools and other Council buildings to replace other heating fuels, generally oil or electricity. Argyll and Bute Council does not have a formally adopted sustainable action energy plan but Local Development Policy LDP 6 Supporting the Sustainable Growth of Renewables requires that the Council will support renewable energy developments where these are consistent with the principles of sustainable development and it can be adequately demonstrated that there would be no unacceptable significant adverse effects, whether individual or cumulative, including on local communities. This includes air quality and installations are assessed as part of planning application and Clean Air Act requirements.

### **3. Air Quality Monitoring Data and Comparison with Air Quality Objectives**

#### **3.1 Summary of Monitoring Undertaken**

##### **3.1.1 Non-Automatic Monitoring Sites**

Argyll and Bute Council undertook non- automatic (passive) monitoring of NO<sub>2</sub> at 10 sites during 2017. Table A. in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D.

Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

#### **3.2 Individual pollutants**

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in Appendix C.

##### **3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)**

Table A. in Appendix A compares the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past 5 years with the air quality objective of 40µg/m<sup>3</sup>.

For diffusion tubes, the full 2017 dataset of monthly mean values is provided in Appendix B.

The results show that for all sites the bias adjusted annual mean concentrations of NO<sub>2</sub> are all well below the annual objective. Where the run of results allows a trend to be plotted it can be seen that whilst the annual average continues downwards, the 2017 annual concentrations have shown a slight rise at the majority of sites. Until national figures for 2017 are published it is unclear whether this trend has been replicated at other sites.

##### **3.2.2 Particulate Matter (PM<sub>10</sub>)**

Argyll and Bute Council does not monitor PM<sub>10</sub>.

##### **3.2.3 Particulate Matter (PM<sub>2.5</sub>)**

Argyll and Bute Council does not monitor PM<sub>10</sub>.

##### **3.2.4 Sulphur Dioxide (SO<sub>2</sub>)**

Argyll and Bute Council does not monitor SO<sub>2</sub>.

**3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene**

Argyll and Bute Council does not monitor carbon monoxide, lead or 1,3 butadiene.

## 4. New Local Developments

Since the publication of the 2017 Annual Progress Report there have been a small number of new developments which, if approved, may affect air quality as characterised by guidance LAQM TG16. They are listed in the sections below:

### 4.1 Road Traffic Sources

Argyll and Bute Council confirms that there are no roads or features in the following list that are new or newly identified that would require further assessment:

- Narrow congested streets with residential properties close to the kerb.
- Busy streets where people may spend one hour or more close to traffic.
- Roads with a high flow of buses and/or HGVs.
- Junctions.
- New roads constructed or proposed
- Roads with significantly changed traffic flows.
- Bus or coach stations.

### 4.2 Other Transport Sources

Argyll and Bute Council confirms that there none of the following that are new or newly identified that would warrant further assessment:

- Airports.
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.
- Ports for shipping.

### 4.3 Industrial Sources

Argyll and Bute Council confirms that there none of the following that are new or newly identified that would warrant further assessment:

- Industrial installations: new or proposed installations for which an air quality assessment has been carried out.
- Industrial installations: existing installations where emissions have increased substantially or new relevant exposure has been introduced.
- Industrial installations: new or significantly changed installations with no previous air quality assessment.

- Major fuel storage depots storing petrol.
- Petrol stations.
- Poultry farms.

#### 4.4 Commercial and Domestic Sources

The biomass boilers listed in Table 4.1 were the subject of assessment at the planning stage to determine the potential impact on sensitive receptors.

**Table 4.1 Proposed Biomass Boilers >50kW**

Site	Rating kW	Stack Height m	Building Height m	Effective Stack Height m	Stack Diameter m
Portavadie Distillery	150	4.2	6.0	1.0	0.20
Ardentinny Outdoor Centre	800	12	11	1.7	0.30

Proposed Portavadie Distillery - Planning reference 17/02389/PP<sup>7</sup>.

The boilers listed in table 4.1 were assessed in accordance with the guidance contained in Box 5.8 LAQM.TG(09)<sup>4</sup>. Emission rates were estimated based on the maximum thermal capacity of the boiler and the emission factors provided for PM<sub>10</sub> and NO<sub>2</sub>. Background concentrations for 2017 were obtained from the Scottish Air Quality Archive<sup>5</sup>. A summary of the results from each site are presented in Tables 4.2, 4.3 and 4.4. It should be noted that the PM<sub>10</sub> screening assessment has been made against the more stringent annual mean objective.

**Table 4.2. Biomass boilers – assessment against annual mean PM<sub>10</sub> objective**

Site	Adjusted emission rate g/s	Threshold emission rate g/s	Progress to detailed assessment?
Portavadie Distillery	0.0002	0.0013	No
Ardentinny Outdoor Centre	0.0012	0.0022	No

**Table 4.3. Biomass boilers – assessment against annual mean NO<sub>2</sub> objective**

Site	Adjusted emission rate g/s	Threshold emission rate g/s	Progress to detailed assessment?
Portavadie Distillery	0.0004	0.0031	No
Ardentinny Outdoor Centre	0.0016	0.0022	No

**Table 4.4. Biomass boilers – assessment against 24 hour NO<sub>2</sub> objective**

Site	Adjusted emission rate g/s	Threshold emission rate g/s	Progress to detailed assessment?
Portavadie Distillery	0.0031	0.0176	No
Ardentinny Outdoor Centre	0.0125	0.0220	No

Using the guidance provided in LAQM.TG16<sup>6</sup> it has been concluded that there are no areas considered to be at risk of objectives being exceeded due to cumulative impacts of multiple biomass/domestic combustion installations.

#### 4.5 New Developments with Fugitive or Uncontrolled Sources

There is one development currently under consideration that has been assessed for its potential impact on air quality. Details are provided below. There are a number of new un-metalled access roads associated with forestry extraction or windfarm construction that are of a temporary nature and are hard surfaced with graded and rolled aggregate. These roads are invariably remote, inherently damp and do not threaten to cause breaches of PM<sub>10</sub> or PM<sub>2.5</sub> objectives. The Council does not propose to carry out individual assessments of these sources unless particular circumstances indicate that it would be appropriate.

Achnaba Quarry, Castleton, Lochgilphead. Planning reference 17/03278/MIN<sup>7</sup>.

The application is for the extension of a small hard rock quarry. There is no nearby residential property and emissions from mineral processing are regulated by a Part B Pollution Prevention and Control permit. No further assessment is required.

## **5. Planning Applications**

Planning applications for developments submitted within the period of review with a potential air quality impact are considered in Sections 4.4 and 4.5.

## **6. Conclusions and Proposed Actions**

### **6.1 Conclusions from New Monitoring Data**

The graphs in Figures 1 to 4 continue to show a long-term steady or falling trend in those areas monitored by nitrogen dioxide diffusion tubes and all sites are well below the annual mean objective. There is therefore no requirement to undertake a Detailed Assessment.

### **6.2 Conclusions relating to New Local Developments**

Local developments warranting consideration for air quality impacts have included the extension of a hard rock quarry and biomass boiler installations. The developments were screened for potential adverse air quality impact and it was concluded that air quality objectives would not be threatened and further assessment was not required.

### **6.3 Proposed Actions**

Argyll and Bute Council will continue to monitor the concentrations of nitrogen dioxide at those sites contained in this report. Exceedances or likely exceedances of objectives for any of the other pollutants have been deemed unlikely based on the previous reports completed by the Council. This continues to be the case. Monitoring of NO<sub>2</sub> by means of diffusion tubes will be continued at existing sites and results of monitoring and other air quality assessment work will be presented in the next Annual Progress Report due in June 2019.

## Appendix A: Monitoring Results

Table A.1 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?
N1	George Street 1, Oban	Roadside	185921	729942	NO <sub>2</sub>	N	5	2	No
N2	George Street 2, Oban	Roadside	185870	730319	NO <sub>2</sub>	N	0	5	No
N3	George Street 3, Oban	Roadside	185880	730250	NO <sub>2</sub>	N	0	5	No
N4	Argyll Street, Dunoon	Roadside	217324	676984	NO <sub>2</sub>	N	6	3	No
N5	Main St, Campbeltown	Roadside	171918	620330	NO <sub>2</sub>	N	0	3	No
N6	Colchester Sq, Lochgilphead	Roadside	186222	687940	NO <sub>2</sub>	N	0	2	No
N7	Inverneil	Rural Background	186048	729293	NO <sub>2</sub>	N	3	N/A	No
N8	East Princes St, Helensburgh	Roadside	229919	682287	NO <sub>2</sub>	N	4	2	No

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?
N9	Main Road, Cardross	Roadside	234350	677771	NO <sub>2</sub>	N	6	2	No
N10	Sinclair Street Helensburgh	Roadside	231925	704478	NO <sub>2</sub>	N	0	3	No

## Notes

(1) 0 if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

The results for site N1 is laterally shifted from the nearest relevant exposure but at the same distance from the kerb. No correction is applied to results in Tables A1 & A2.

The results for sites N4, N8 and N9 in Table A.1 have been corrected as per the methodology in Technical Guidance (TG16)<sup>6</sup>

Figure 1. Graph of Annual NO2 trends – Oban, Lorn and Isles Area

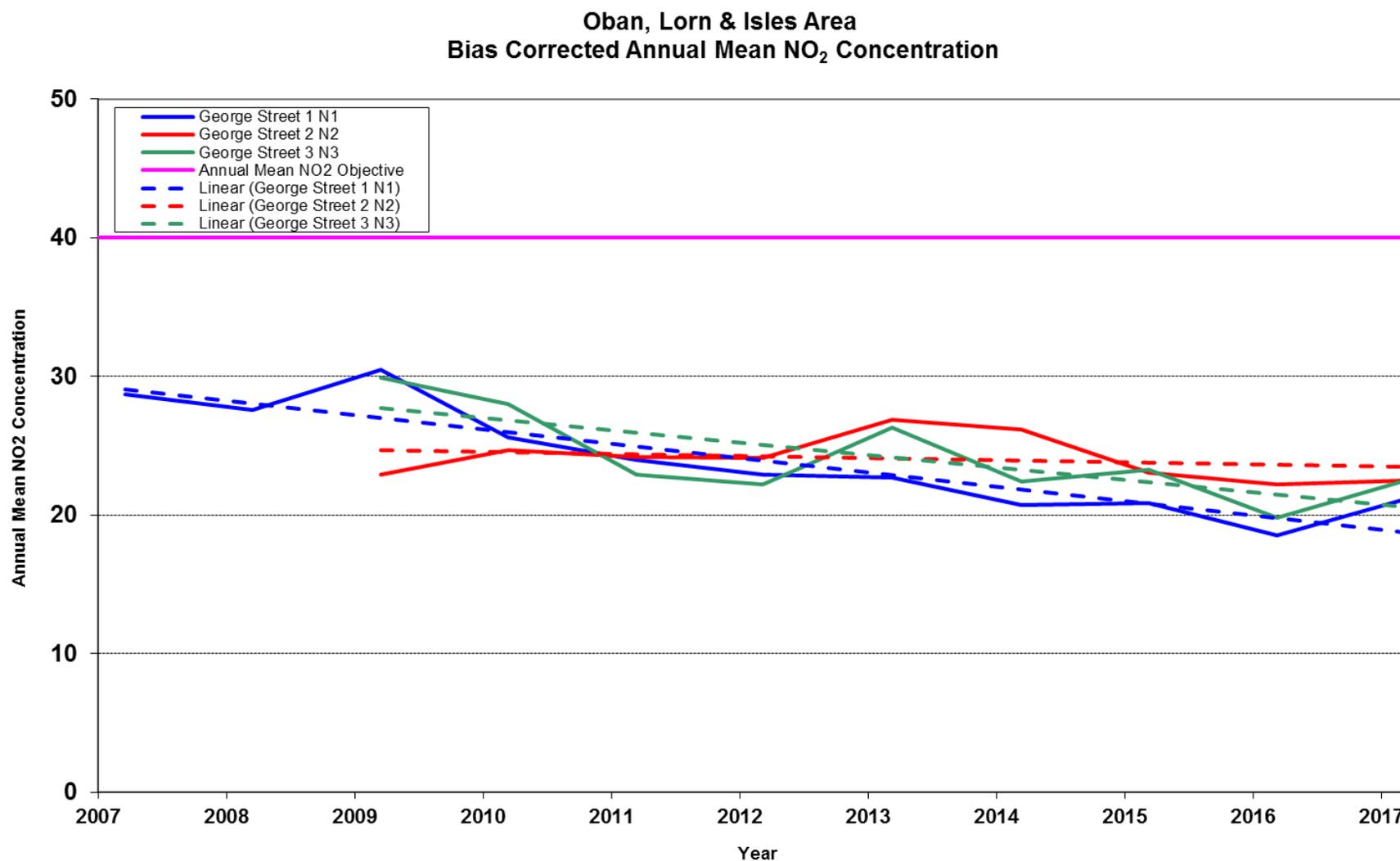


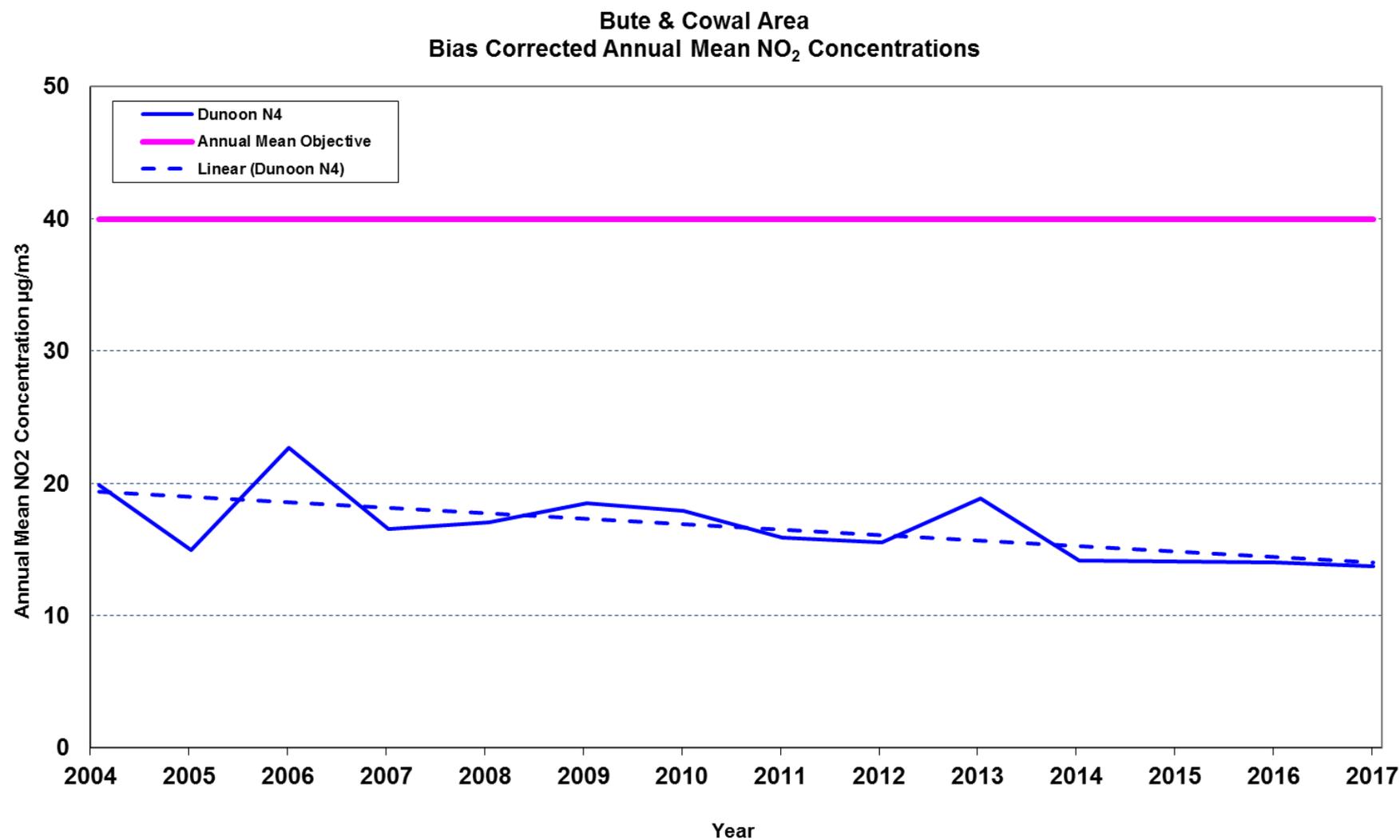
Figure 2. Graph of Annual NO<sub>2</sub> trends – Bute and Cowal area

Figure 3. Graph of Annual NO2 trends – Mid-Argyll, Kintyre and Islay Area

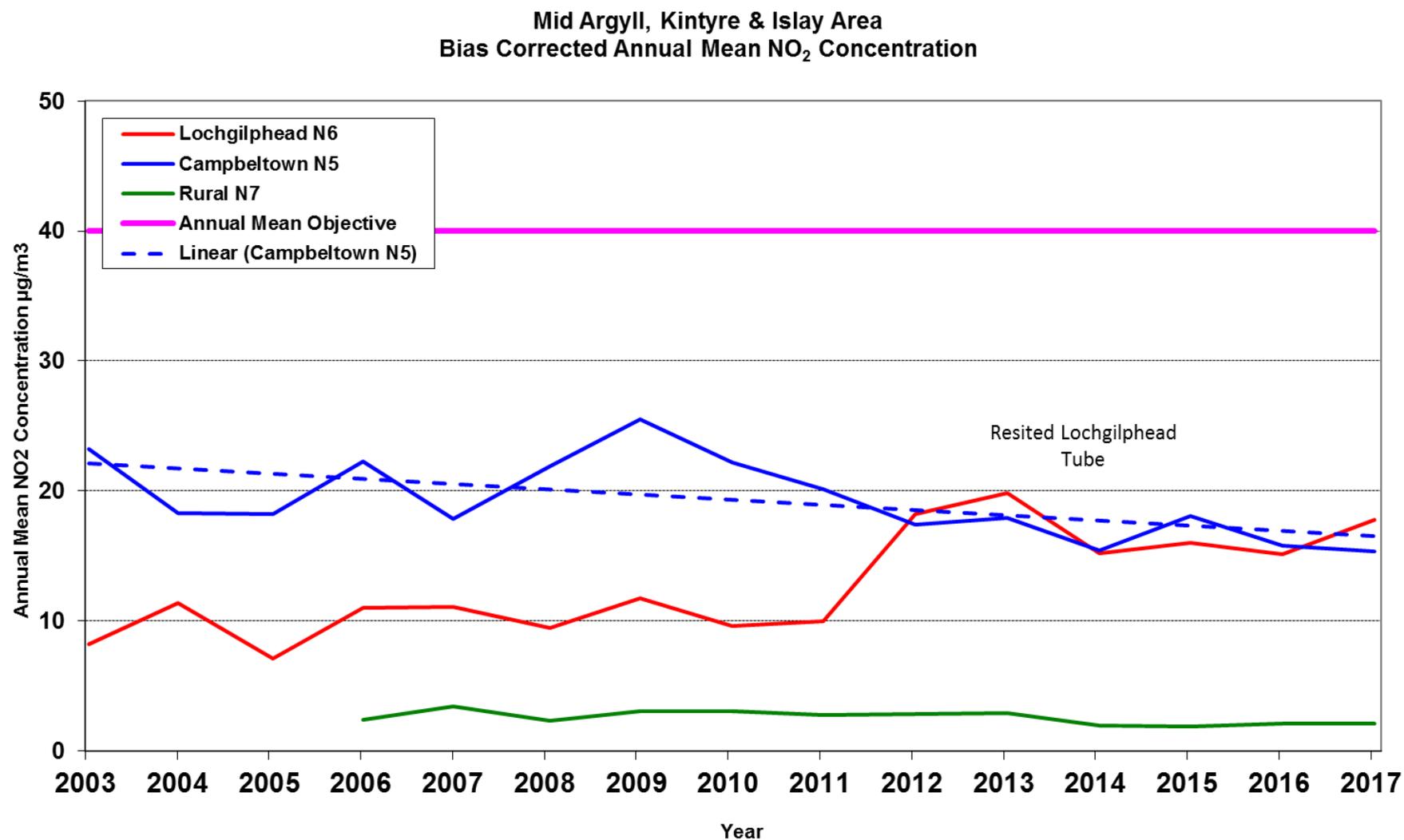


Figure 4 Graph of Annual NO<sub>2</sub> trends –Helensburgh and Lomond Area

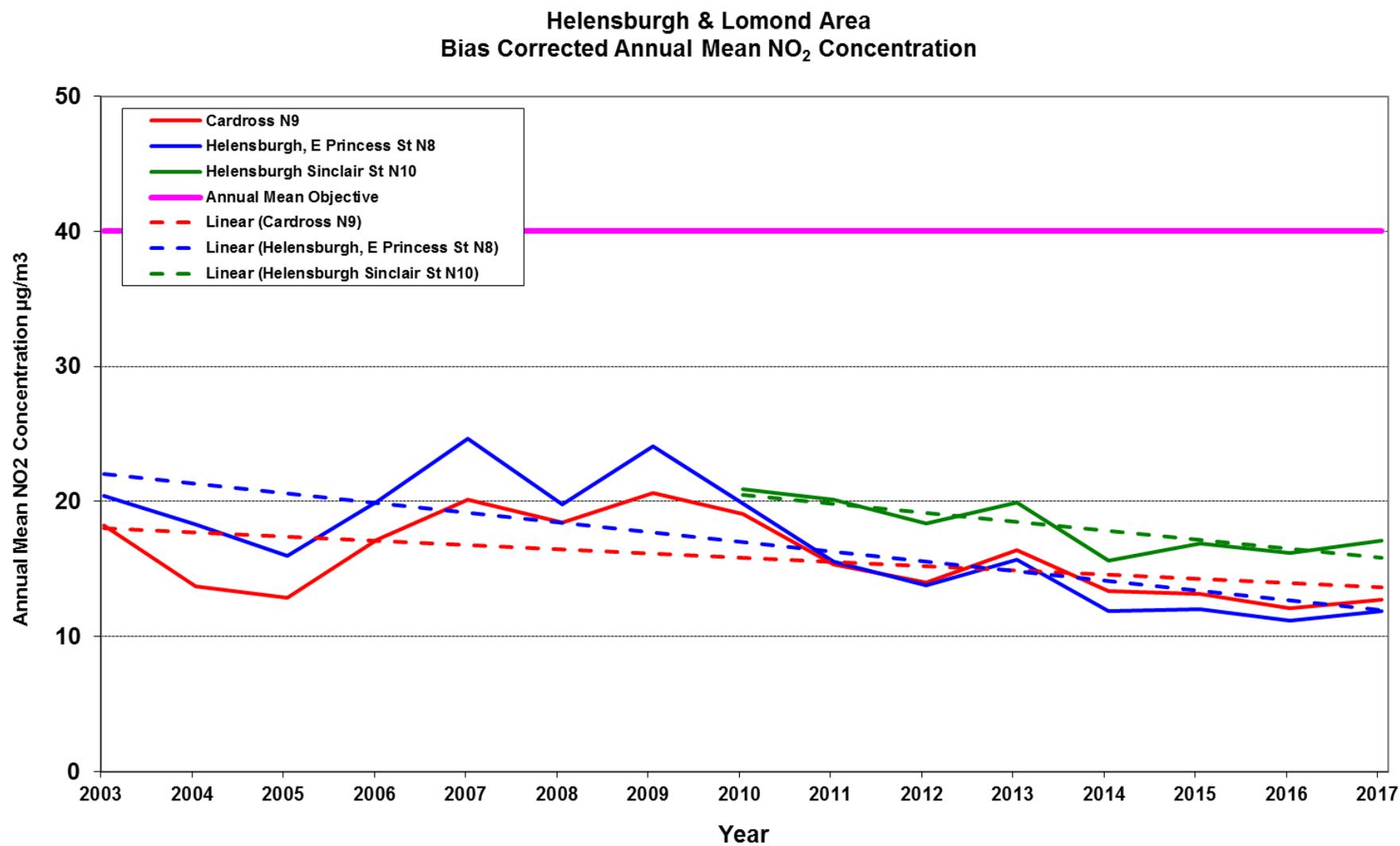


Table A.2 – Annual Mean NO<sub>2</sub> Monitoring Results for 2017 at Nearest Receptor

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2017 (%) <sup>(2)</sup>	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> ) <sup>(3)</sup>				
					2013	2014	2015	2016	2017
N1	Roadside	Diffusion Tube	100	100	22.7	20.7	20.8	18.5	21.1
N2	Roadside	Diffusion Tube	100	100	26.9	26.2	23.0	22.2	22.5
N3	Roadside	Diffusion Tube	100	100	26.3	22.4	23.3	21.3	22.5
N4 <sup>(4)</sup>	Roadside	Diffusion Tube	100	100	15.9	12.9	12.5	12.4	12.1
N5	Roadside	Diffusion Tube	100	100	16.5	14.5	16.0	15.8	15.4
N6	Roadside	Diffusion Tube	100	92	19.5	14.7	18.1	15.1	17.8
N7	Rural B'ground	Diffusion Tube	100	100	2.9	1.8	1.9	2.1	2.1
N8 <sup>(4)</sup>	Roadside	Diffusion Tube	100	100	12.8	11.2	10.9	10.2	10.8
N9 <sup>(4)</sup>	Roadside	Diffusion Tube	100	100	13.2	11.0	11.1	10.3	10.7
N10	Roadside	Diffusion Tube	100	100	19.7	14.9	16.9	16.2	17.1

Notes: Exceedences of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedence of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

(1) data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG(16) if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(4) The annual results for sites N4, N8 and N9 have been amended using the appropriate distance correction as per the methodology in Technical Guidance TG16

## Appendix B: Full Monthly Diffusion Tube Results for 2017

Table B.1 – NO<sub>2</sub> Monthly Diffusion Tube Results for 2017 at Monitoring Point

Site ID	NO <sub>2</sub> Mean Concentrations (µg/m <sup>3</sup> )													Annual Mean	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted <sup>(1)</sup>	
	N1	23.9	21.9	28.6	8.2	25.0	19.0	17.3	23.7	19.5	19.0	22.2			50.5
N2	26.9	25.9	32.0	2.1	35.4	23.1	21.3	28.6	16.9	22.3	29.1	32.7	24.4	22.5	
N3	30.7	24.1	30.8	8.6	27.9	20.6	21.3	27.7	24.3	21.4	25.3	33.4	24.7	22.5	
N4	20.9	20.6	18.9	5.7	17.1	12.6	8.3	11.5	14.6	12.4	15.9	22.1	15.1	13.7	
N5	26.3	24.6	17.4	8.4	20.7	11.7	13.7	14.4	17.2	12.2	16.7	19.6	16.9	15.4	
N6	22.9	22.7	17.6		16.0	13.8	14.3	15.8	16.5	16.4	33.4	25.2	19.5	17.8	
N7	5.9	2.7	2.2	2.0	1.7	1.9	1.7	2.0	1.7	2.1	1.6	1.9	2.3	2.1	
N8	21.9	17.3	17.4	3.5	9.4	8.5	8.3	8.4	12.9	12.2	13.9	22.6	13.0	11.9	
N9	26.6	13.0	14.8	2.7	11.2	10.1	10.1	10.4	14.8	14.0	17.3	23.0	14.0	12.7	
N10	28.5	17.9	22.2	5.1	13.4	13.3	12.7	16.7	17.6	17.1	27.8	33.4	18.8	17.1	

(1) See Appendix C for details on bias adjustment

## **Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC**

### **Diffusion Tube Bias Adjustment Factors**

Nitrogen dioxide diffusion tubes are supplied and analysed by Glasgow Scientific Services. The laboratory scored 100%, 50%, 0% and 100% in the 4 rounds of the WASP assessment covering the period of the reported sampling results. The performance of the laboratory in the periods commencing April and July 2017 and return to 100% in September 2017 is noted and will be kept under review. The preparation method used is 20% TEA in water and the 2017 bias adjustment factor of 0.91 was obtained from Spreadsheet Version Database\_Diffusion\_Tube\_Bias\_Factors\_v03\_18 FINAL<sup>3</sup>. No local co-location studies were available to produce bias adjustment factors.

### **QA/QC of diffusion tube monitoring**

The NO<sub>2</sub> diffusion tubes are supplied and analysed by Glasgow Scientific Services and prepared by using 20% TEA in water. The duration of exposure is normally the 4/5 week period suggested by the calendar provided by Defra. Glasgow Scientific Services have adopted the procedures for preparation and analysis contained in the document "Diffusion Tubes for Ambient NO<sub>2</sub> Monitoring:- Practical Guidance." Section 3 of this document also provides the basis for the operation of the Council's diffusion tube network.

A bias adjustment factor was applied to the annual mean NO<sub>2</sub> concentrations for 2018. The factor of 0.91 was obtained from Spreadsheet Version Number Database\_Diffusion\_Tube\_Bias\_Factors\_v03\_18 FINAL downloaded from <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>

## Appendix D: Maps

Figure 5 Map of Population Distribution & A Roads

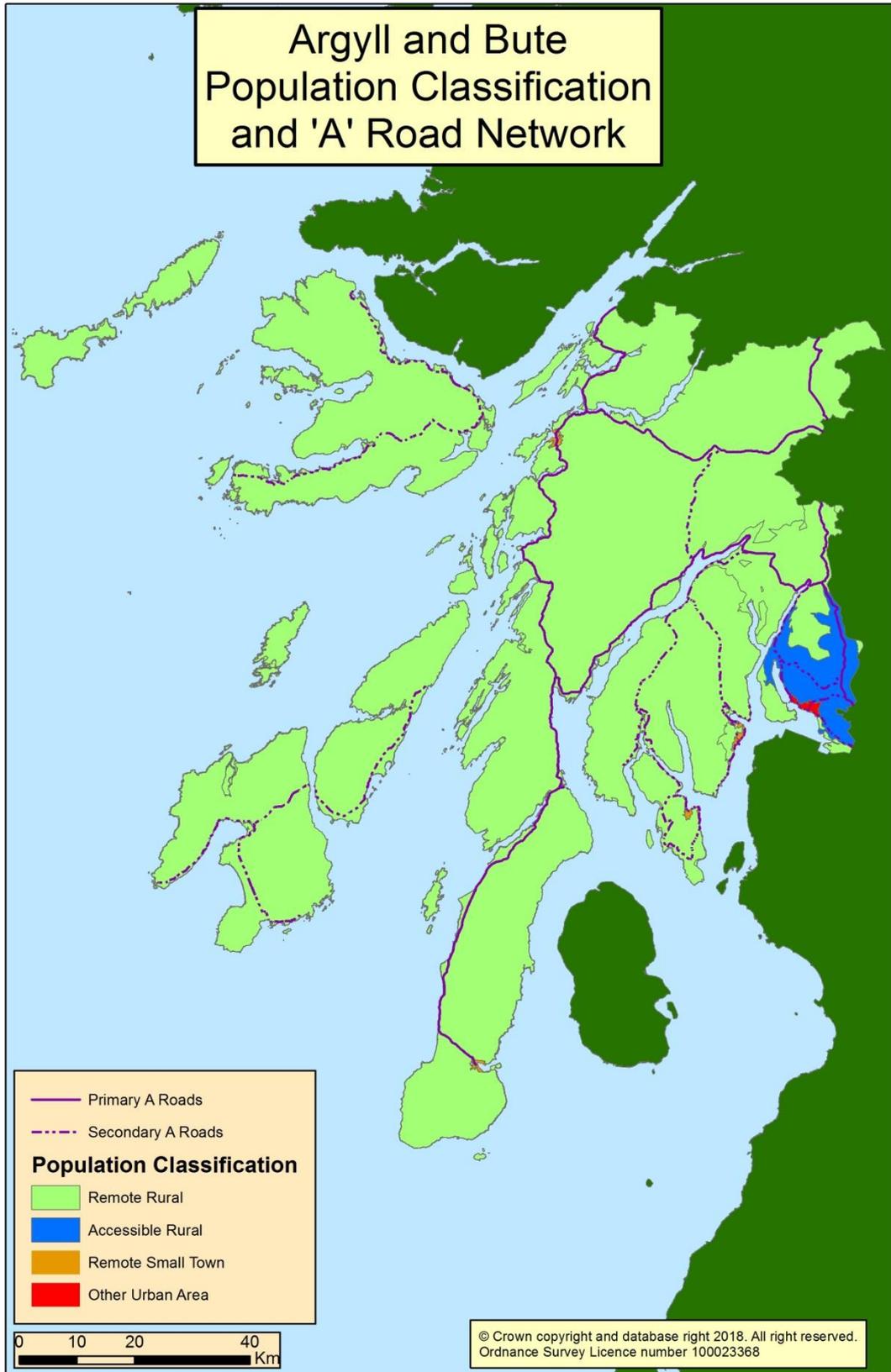


Figure 6 Map of Major Settlements and Population



Figure 7 Map of Transport Routes



Figure 8 Map of Modelled Background NO<sub>2</sub> Annual Mean Concentration

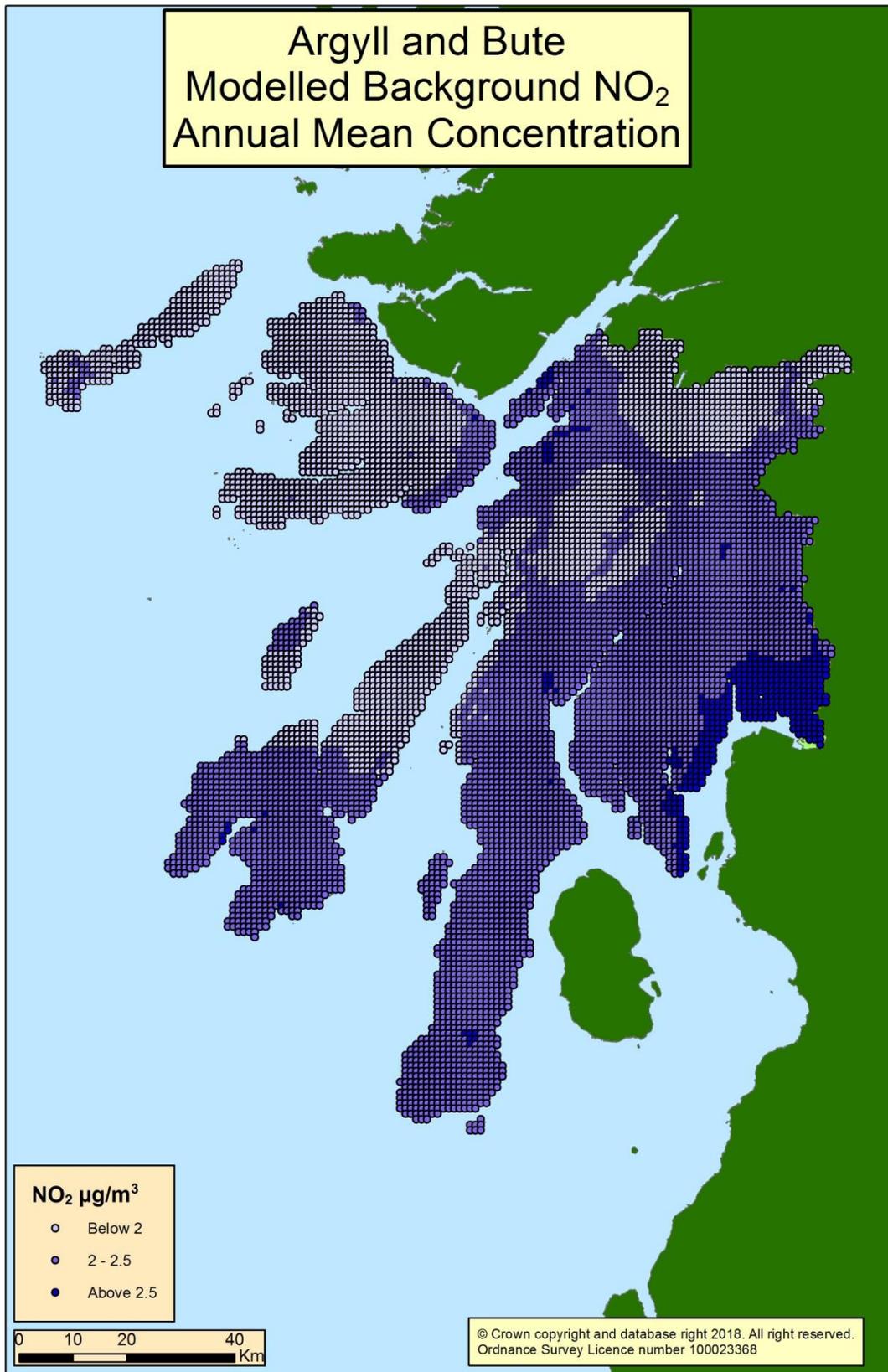


Figure 9 Map of Modelled Background PM<sub>10</sub> Annual Mean Concentration

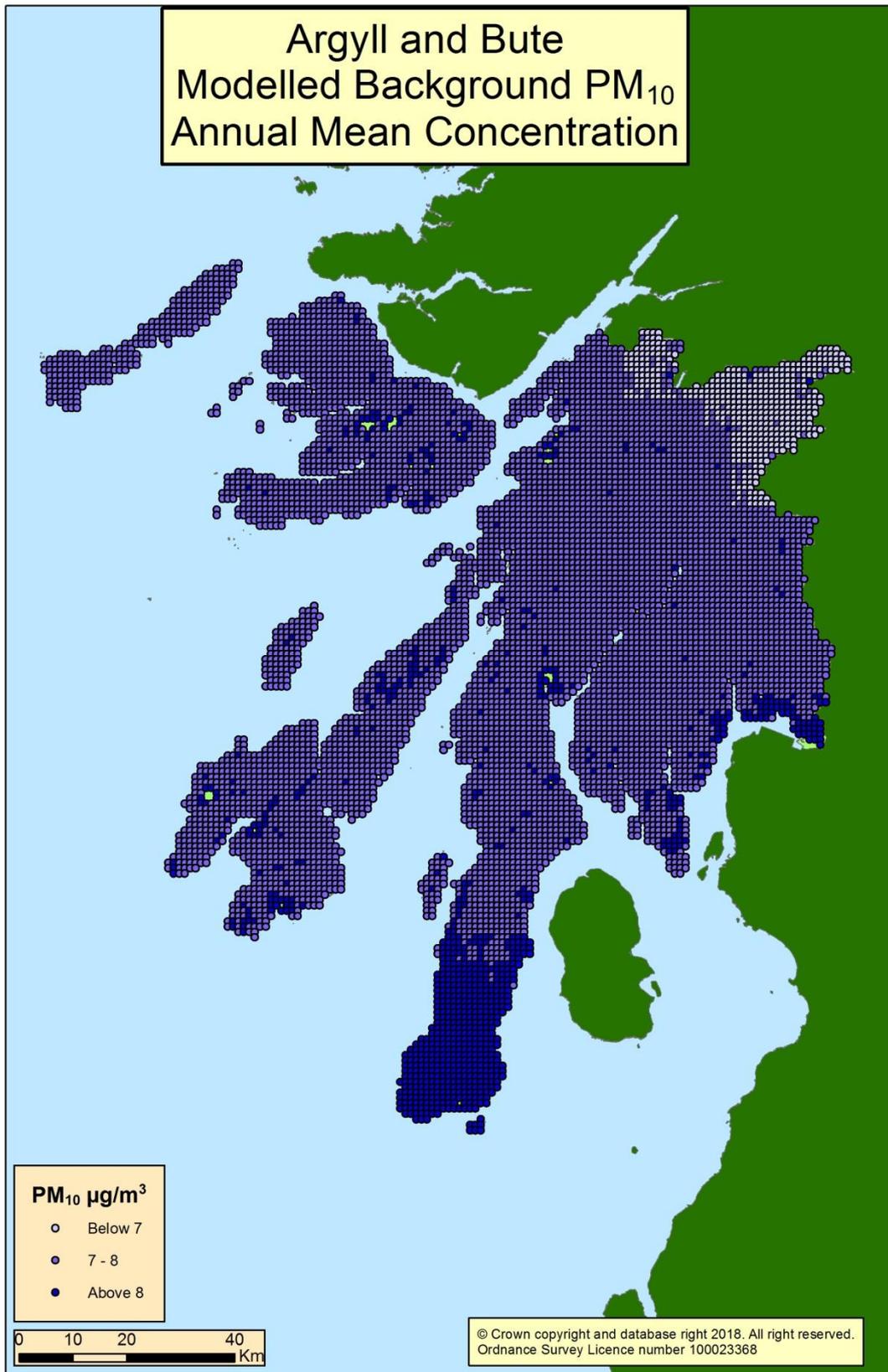


Figure 10 Map of Modelled Background PM<sub>2.5</sub> Annual Mean Concentration

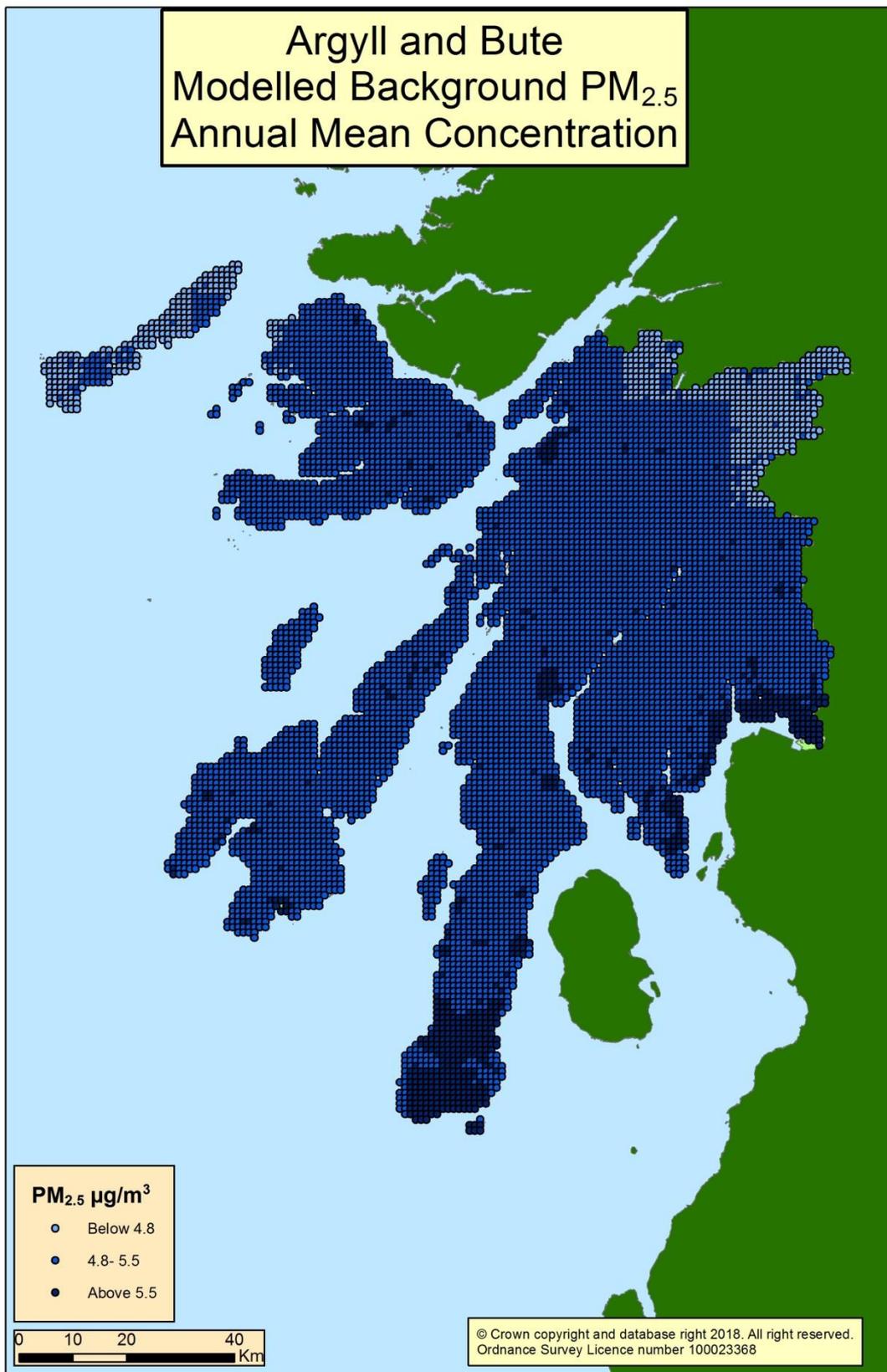


Figure 11 Map of Monitoring Locations

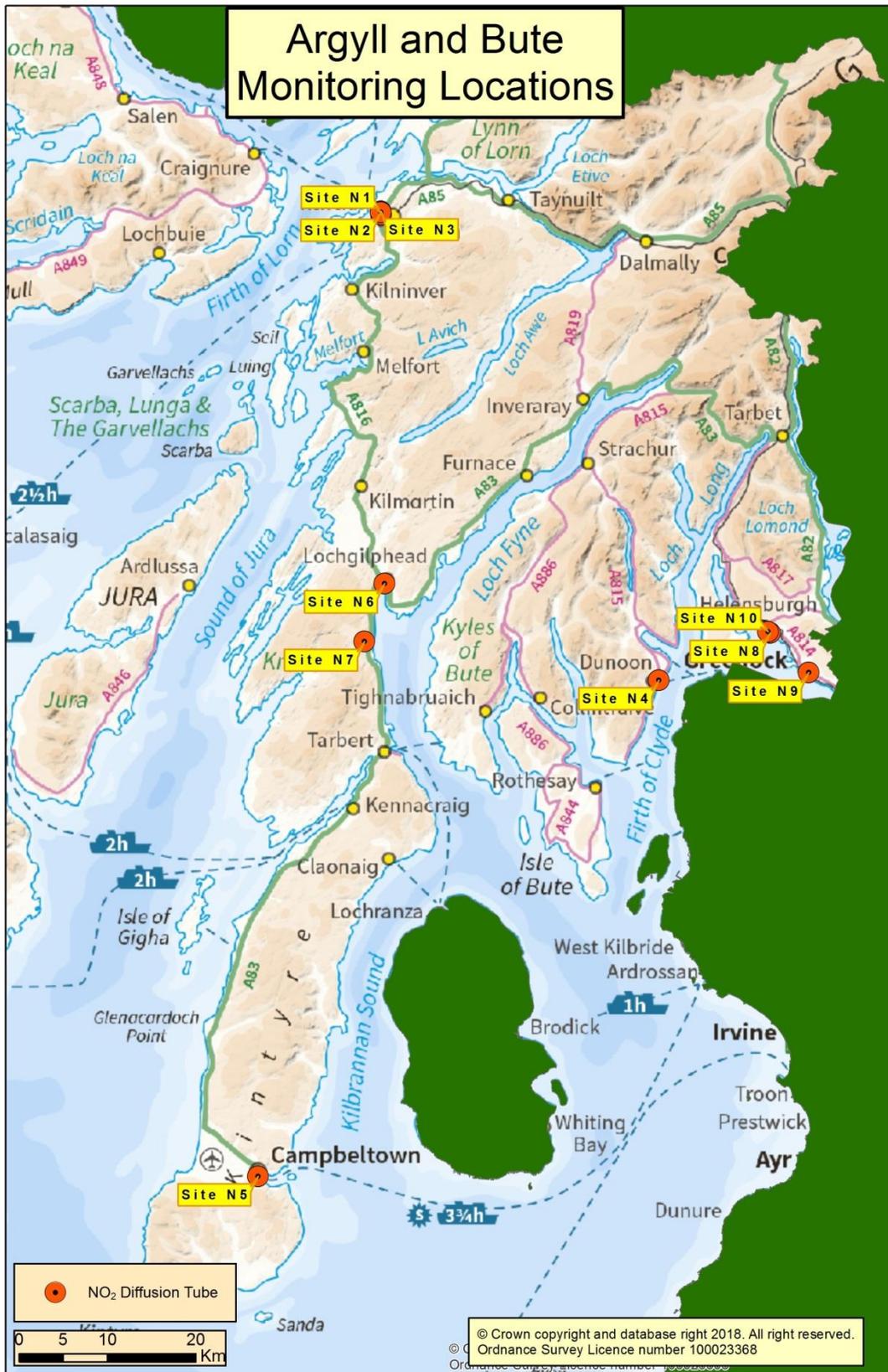


Figure 12 Map of Diffusion Tube Sites, Oban Town Centre



Figure 13 Map of Diffusion Tube Sites, Helensburgh Town Centre



Figure 14 Map of SEPA Permitted Process Sites



## Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
APR	Air quality Annual Progress Report
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

- (1) <http://www.scotland.gov.uk/Topics/Statistics/About/Methodology/UrbanRuralClassification>
- (2) Argyll and Bute Council, 2017 Air Quality Annual Progress Report, June 2017
- (3) <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>
- (4) Defra in partnership with the devolved administrations, Technical Guidance LAQM.TG(09), February 2009
- (5) <http://www.scottishairquality.co.uk/data/mapping?view=data>
- (6) Defra in partnership with the devolved administrations, Technical Guidance LAQM.TG(16), April 2016
- (7) Argyll and Bute Council. Online access to planning applications is available at <http://publicaccess.argyll-bute.gov.uk/online-applications/>