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2023 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management, as amended by the
Environment Act 2021

Date: 30 June, 2023

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Executive Summary: Air Quality in Our Area

Air Quality in East Devon

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas^{1,2}.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

This ASR presents the monitoring results for 2022 within East Devon District Council.

East Devon is a mainly rural area with small market towns and only pockets of commercial development, mainly involving supply and distribution. Although there are some modern energy plants these are small scale and compliant with the air quality requirements of their environmental permits. This includes the recent Small Waste Incinerator Plant (SWIP) permit update and a second incinerator at a different facility both in 2021. The M5 motorway runs through the west of the district, and the area is bisected east to west by the A35 and A30 major trunk roads. Smaller main roads serving the main towns and commercial areas feed into the strategic network. East Devon is an identified area of expansion for the City of Exeter and it is likely that vehicle flows will increase as a result of this. This includes developments such as the Cranbrook Eastern Expansion.

NO₂ is the main pollutant of concern within East Devon District Council (EDDC) which predominantly is sourced from road traffic, particularly in areas with higher levels of

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

² Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Air quality appraisal: damage cost guidance, January 2023

⁴ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

congestion. As such EDDC have continued to focus on monitoring NO₂ and managing the effects. EDDC have 54 passive monitoring sites including 1 triplicate tube location. There is one Automatic Urban and Rural Network (AURN) continuous monitoring station within EDDC.

Air Quality across EDDC has continued to improve, albeit marginally, over the last year with no monitoring location exceeding the Air Quality Objective (AQO) for NO₂ of 40µg/m³. On average the changes in monitored levels of NO₂ across the district has seen a small fall of 0.74 µg/m³. There are likely to have been reductions in traffic associated with the trend of continued home-working, rising fuel prices and more generally an increase in the cost of living. There was also a fuel shortage in April 2022 which led to forecourt queues and rising prices.

The highest NO₂ annual mean concentration in 2022 was recorded at N46 (Honiton (High Street) - Windmill Court, A35) with a concentration of 32.3µg/m³ down (-2.9 µg/m³) on the previous year and still well below the annual mean AQS objective of 40µg/m³.

There are no sites where the NO₂ annual mean is greater than 60µg/m³, therefore in accordance with Defra LAQM.TG(22) there are no sites likely to be at risk of exceeding the 1-hour mean AQS objective.

East Devon District Council revoked their only Air Quality Management Area (AQMA) in April 2018 as a result of monitored improvements in air quality in the designated area, in addition to the 2017 detailed air quality report⁵, which concluded that no exceedances were likely to be observed at locations of relevant exposure within the district.

East Devon District Council have continued to work with other local authorities such as Devon District Council, Exeter City Council and Teignbridge District Council on larger schemes across the wider Devon area. These schemes the Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme⁶. Work has also started into investigating how East Devon can work with partners to encourage more children within the District to walk or cycle to school and what enablers can be put in place to make this happen.

⁵ <https://eastdevon.gov.uk/media/2266676/honiton-detailed-assessment-as-part-of-asr-defra-approved.pdf>

⁶ <https://eastdevon.gov.uk/news/2019/10/electric-car-charge-points-to-be-installed-in-east-devon-car-parks/>

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan⁷ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term PM_{2.5} targets. The National Air Quality Strategy, due to be published in 2023, will provide more information on local authorities' responsibilities to work towards these new targets and reduce PM_{2.5} in their areas. The Road to Zero⁸ details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Whilst air quality has improved significantly in recent decades and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy⁹ sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero¹⁰ sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

There are no designated AQMAs within the district; therefore, the Council has no active Air Quality Action Plans (AQAPs). The Council however continue to progress a number of measures in order to ensure that the district regularly improves on its local air quality.

⁷ Defra. Environmental Improvement Plan 2023, January 2023

⁸ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

⁹ Defra. Clean Air Strategy, 2019

¹⁰ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

The Council continue to recommend that all major new developments across the district incorporate measures to discourage car use with the provision of cycle and walking routes, subsidise new bus services, and install electric vehicle charging points across the area.

The Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme is ongoing, this programme aims to help reduce emissions with the installation of electric vehicle charging points for public use across Devon. An additional 30 public charging points have been installed bringing the total to 44 as of June 2023. A further 8 are currently planned¹¹.

EDDC is currently undertaking work with primary schools within the district to find out what the barriers are to air quality and what can be done to remove these so that less children travel to school by car.

Conclusions and Priorities

Monitoring in EDDC during 2022 showed no exceedances of the annual mean air quality objective for NO₂ (40µg/m³). It is likely that continued home-working; rising fuel prices; fuel shortages earlier in 2022; and the current cost of living crisis may all be contributing to lower than normal traffic levels.

Due to the historical exceedances and close to exceedance concentration levels for NO₂ at N71, two additional monitoring locations, N85 and N86, were deployed within Wilmington at the start of the 2020 Defra calendar year. All three monitoring locations continued to be well below the annual mean Air Quality Objective for NO₂ in 2022.

The Honiton AURN automatic urban background monitoring site continued to monitor no exceedances for both the annual mean and hourly mean objective limits in 2022, with the NO₂ annual mean concentration continuing to report significantly below the AQO (6.7µg/m³).

East Devon District Council's priorities for the coming year include;

¹¹ <https://eastdevon.gov.uk/parking/ev-electric-vehicle-charging-in-car-parks/>

- Continue to review the current NO₂ diffusion tube monitoring network, where necessary, in order to identify and mitigate any potential exceedances of the annual mean air quality objective at locations of relevant exposure;
- Progress the Devon Low-Carbon Energy & Transport Technology Innovator Programme;
- Ensure new developments meet the requirements of planning policies and guidance in relation to air quality; and
- Proceed to the 2024 Annual Status Report.

Local Engagement and How to get Involved

Local residents of East Devon can help to improve air quality in the district by using alternative methods of sustainable transport such as walking, running, cycling, public transport or replacing petrol/diesel cars with an electric vehicle. Car sharing is also a simple way to reduce private car use. Further information regarding East Devon District Council's Local Air Quality Management strategy, including access to the Council's LAQM reports, can be found on the Council's website.¹²

A recent survey carried out by EDDC revealed that currently less than 50% of the respondents' children travel to school by walking and cycling. EDDC is engaging with partners such as Active Devon to engage with primary schools and the parents of children to increase the number of children who walk to school with a further campaign planned in October to coincide with the International Walk to School Month

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Protection Team of East Devon District Council with the support and agreement of the following officers and departments:

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¹² <http://eastdevon.gov.uk/environment/air-quality/>

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1 Local Air Quality Management

This report provides an overview of air quality in East Devon District Council during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), 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 order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by East Devon District Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

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 should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained, and provide dates by which measures will be carried out.

East Devon District Council currently does not have any declared AQMAs. A local Air Quality Strategy is under development to prevent and reduce polluting activities.

2.2 Progress and Impact of Measures to address Air Quality in East Devon District Council

Defra's appraisal of last year's ASR concluded:

1. *The council is commended for their approach to further improving Air Quality in the absence of a formal AQAP. Continued engagement with local residents is highly encouraged. The council should try to identify additional means to address further air quality concerns.*
2. *Trend graphs have been provided for all monitoring data including diffusion tubes, which is commended.*
3. *It is encouraging to see the council considered the comments made during the previous appraisal and actively made an effort to address all of these actions for this year's ASR.*
4. *The council is commended for their in-depth discussion of their approach to tackling PM_{2.5} emissions. It would be helpful if they could describe their measures in further detail to illustrate how each measure will help achieve their commitment of becoming carbon neutral.*
5. *As stressed in previous appraisals, the council is recommended to continue to review their current monitoring regime, specifically the addition of several new non-automatic monitoring sites (diffusion tubes) across the region. This is important as additional sites will help to identify whether there are other key areas of relevant exposure where there may be exceedances and the appropriate measures can be adopted accordingly.*

East Devon District Council has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. East Devon District Council has taken forward a number of direct measures during both the 2020 and 2021 reporting years in pursuit of improving local air quality.

EDDC are continuing to work on the Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme, which aims to help reduce emissions with the installation of electric vehicle charging points for public use across Devon; Progress has shown that 44 EV charging points have currently been installed with more to follow.

The Environmental Protection Team at EDDC are working with partners both inside and outside the district council to help reduce the number of children who travel to school by car. The ongoing project is aiming collect data on current trends; to set up active travel champions within schools and to engage with parents and carers of children to help

reduce congestion; reduce pollution around schools; increase child activity; increase awareness of local air pollution and its effects.

EDDC are also continually reviewing the passive monitoring network and identifying any additional areas where monitoring may be required.

EDDC are committed to becoming carbon neutral by 2040, as such measures such as replacement of the fleet vehicles with electric vehicles is proposed. Additionally, EDDC continue to recommend that all major new developments across the district incorporate measures to discourage car use with the provision of cycle and walking routes, subsidies for bus services and continue to install EV charging points across the district.

East Devon District Council's priorities for the coming year include;

- Continue to review the current NO₂ diffusion tube monitoring network, where necessary, in order to identify and mitigate any potential exceedances of the annual mean air quality objective at locations of relevant exposure;
- Progress the Devon Low-Carbon Energy & Transport Technology Innovator Programme;
- Ensure new developments meet the requirements of planning policies and guidance in relation to air quality; and
- Proceed to the 2024 Annual Status Report.

East Devon District Council worked to implement these measures in partnership with the following stakeholders during 2022:

- Devon County Council
- Devon LEA
- Active Devon

2.3 PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

PM_{2.5} concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK.

- Background map concentrations provided by DEFRA suggest that the highest level for PM_{2.5} within EDDC for 2022 is 6.9µg/m³.

EDDC had previously undertaken monitoring of PM_{2.5} through the use of Zephyr® air quality sensors. Data from the sensors had become increasingly unreliable throughout 2022 and they were removed in September. For this reason and due to Zephyr® air quality sensors not being MCERTS certified, they not suitable for LAQM reporting purposes.

Current actions to reduce both NO₂ and PM₁₀ are expected to also reduce levels of PM_{2.5}, and will be published in the upcoming EDDC Air Quality Strategy and are not limited to but will include:

- Continued promotion and work along with Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme¹³ on the promotion of E-vehicles while still recognising that there are non-exhaust PM_{2.5} emissions from electric vehicles including tyre-wear
- Continued promotion of active travel to reduce vehicle journeys including surveying to find barriers to active travel.
- Home heating using coal and wood on open fires and in stoves is a major contributor to local levels of PM_{2.5}. In order to understand the contribution of this source EDDC will need to undertake a survey of the prevalence of this form of heating and ensure that effective measures are taken to ensure that wood burnt is properly seasoned and dried before use. EDDC will ensure that appropriate advice

¹³ <https://eastdevon.gov.uk/news/2019/10/electric-car-charge-points-to-be-installed-in-east-devon-car-parks/>

is available on the EDDC website to provide information to residents to ensure that appliances are operated as efficiently as possible.

- Condition planning so as to mitigate PM2.5 wherever possible including no building and demolition sites being able to burn any waste products produced in open fires.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2022 by EDDC and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

East Devon District Council do not undertake automatic (continuous) monitoring, however, there is one automatic monitoring site in East Devon (Honiton AURN). Appendix A: Monitoring Results shows the details of the site. The site monitors hourly NO₂ concentrations and is part of the Automatic, Urban and Rural Network (AURN) in the UK.

National monitoring results are available at <https://uk-air.defra.gov.uk/data/>.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

EDDC undertook non-automatic (i.e. passive) monitoring of NO₂ at 54 sites during 2020 and 2021 including one triplicate site. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO₂)

Error! Reference source not found. and Table A.3 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2022 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Error! Reference source not found. in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

3.2.2 Particulate Matter (PM_{2.5})

In the absence of MCERTS certified PM_{2.5} monitors EDDC has relied on background concentration maps as supplied by DEFRA¹⁴. The predicted highest level for PM_{2.5} within the district is 6.99µg/m³ at Clyst Works, Clyst St. George, Clyst St Mary, East Devon, Devon, England, EX3.

¹⁴ <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
Honiton AURN (Dove Close)	Honiton	Urban Background	315749	99874	NO ₂	NO	FDMS	20	N/A	2

Notes:

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

(2) N/A if not applicable

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
Exmouth, Exton, Lypstone										
N01	N01 Exmouth - Library	Kerbside	300267	81193	NO ₂	N	N/A	2.4	No	2.5
N02	N02 Exmouth - Salterton Rd opp Tesco	Roadside	302163	81724	NO ₂	N	31.1	1.6	No	2.5
N07	N07 Exmouth - The Strand	Kerbside	300087	80955	NO ₂	N	N/A	0.7	No	2.7
N73	N73 Exmouth - 369 Exeter Road	Kerbside	300294	83265	NO ₂	N	0	1.7	No	2.4
N74	N74 Lypstone - Opposite 6 Jubilee Grove	Kerbside	299931	84157	NO ₂	N	0	1.7	No	2.4
N75	N75 Exton - Iddesleigh Terrace	Kerbside	298425	86472	NO ₂	N	0	1.7	No	2.4
Newton Pop, Sidmouth, Sidford										
N16	N16 Sidmouth - opp Travelwise	Roadside	312665	87432	NO ₂	N	N/A	4.9	No	2.5
N19	N19 Sidford - School St (opp PO)	Roadside	313403	90074	NO ₂	N	N/A	1.5	No	2.5
N72	N72 Newton Pop - Westhayes High Street	Kerbside	308004	89533	NO ₂	N	0	1.3	No	2.32
N84	Newton-Poppleford -	Roadside	308632	89742	NO ₂	N	9	1.14	No	2.38

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	School Lane junction, A3052									
Clyst St George										
N06	N06 Clyst St George - George & Dragon	Kerbside	298062	88425	NO ₂	N	1.4	6.2	No	2.5
N68	N68 Clyst St George - o/s Marsh Barton	Roadside	298079	88521	NO ₂	N	N/A	6.5	No	2.5
N59	N59 Clyst St George - o/s Clyst Dene	Roadside	298083	88337	NO ₂	N	26	1.2	No	2.5
N63_EB	N63_EB Clyst St George - speed sign – Ebford Lane	Roadside	298088	88161	NO ₂	N	0.2	2.6	No	2.5
N80	N80 Nr 21 to 23 Exmouth Rd	Roadside	297941	89437	NO ₂	N	13	2.75	No	1.85
East of Exeter - Beare, Broadclyst										
N26	N26 Little Orchard - Airport junction	Roadside	299102	93198	NO ₂	N	N/A	2.5	No	2.5
N60	N60 Sowton - Sowton Lodge (Nearest)	Roadside	297029	93140	NO ₂	N	0.1	11	No	2
N20	N20 Clyst Honiton - o/s Whimble Farm	Roadside	300345	94860	NO ₂	N	9.6	7.1	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
N22	N22 Rockbeare - Jack in the Green	Industrial	301876	95558	NO ₂	N	53.4	80	No	2.5
N76	N76 Cranbrook - St Martins School	Roadside	300283	95200	NO ₂	N	0	8.5	No	2.44
N77	N77 Cranbrook - Opposite Jn Court Royal	Roadside	301228	95665	NO ₂	N	N/A	4.9	No	2.35
N78	N78 Beare - Beare House	Industrial	299763	102177	NO ₂	N	N/A	N/A	No	2.5
Clyst St Mary, Farringdon										
N13	N13 Clyst St Mary - Opp P. O.	Roadside	297314	91056	NO ₂	N	6.7	1.9	No	2.5
N63_LODGE	N63_LO Clyst St Mary - Lodge A3052	Roadside	297633	90927	NO ₂	N	2	2.9	No	2.5
N64_GP	N64_GP Clyst St Mary - A3052 Crealy	Roadside	300259	90712	NO ₂	N	N/A	11	No	1.9
N65	N65 Clyst St Mary - A3052 Farringdon	Roadside	300735	90555	NO ₂	N	N/A	2.8	No	2.5
N66	N66 Clyst St Mary - A3052 Vineyard	Roadside	302491	90461	NO ₂	N	N/A	5.1	No	2.5
N67	N67 Clyst St Mary - B3184 Opp Perkins	Kerbside	302420	90750	NO ₂	N	N/A	0.8	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
N81	N81 rear of Lammorric	Roadside	297327	90998	NO ₂	N	9	0.34	No	2.1
N82	N82 Nr 1 Poplars Walk	Roadside	298923	90859	NO ₂	N	20	2.15	No	1.9
N83	N83 Nr 44 Sidmouth Roa	Roadside	299997	90722	NO ₂	N	66	3.8	No	1.84
Axminster										
N11	N11 Axminster - o/s Swans	Roadside	329584	98464	NO ₂	N	0.1	1.5	No	2.5
N56	N56 Axminster - Trinity Square	Kerbside	329680	98550	NO ₂	N	N/A	0.7	No	2.5
N57	N57 Axminster - George Hotel	Roadside	329765	98554	NO ₂	N	N/A	1.5	No	2.5
N58	N58 Axminster - Homelea Grand Rd	Roadside	329789	98613	NO ₂	N	N/A	1.4	No	2.5
N64_AX	N64_AX Axminster - Morgan York Victoria Pl	Kerbside	329743	98589	NO ₂	N	N/A	1	No	2.5
Ottery, Seaton										
N14	N14 Seaton - 6 Marine Crescent	Roadside	324479	89930	NO ₂	N	0.1	4.4	No	2.5
N10	N10 Ottery St Mary - Bank/Gold St	Roadside	309882	95449	NO ₂	N	1.5	1.5	No	2.5
Honiton - West (Near Turks Head Junction)										
N24	N24 opp 4 Ex Rd	Roadside	315097	100182	NO ₂	N	12.7	0.1	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
N25	N25 4 Ex Road (garden)	Roadside	315087	100165	NO ₂	N	26	0.77	No	2.3
N27	N27 Byways Ex Rd	Roadside	314875	100097	NO ₂	N	0	9	No	2.5
N29	N29 West Mede Ex Rd	Roadside	315114	100201	NO ₂	N	0	14	No	2.5
Honiton - CENTRAL & EAST HONITON (High Street)										
N09	N09 High St / Dowell St jn	Roadside	316062	100596	NO ₂	N	0.1	2.2	No	2.5
N36	N36 10 Dowell St	Kerbside	316012	100653	NO ₂	N	0.1	1.2	No	2.5
N37	N37 153 High St	Kerbside	316102	100607	NO ₂	N	3.1	0.3	No	2.5
N44	N44 9 High St	Kerbside	316629	100837	NO ₂	N	2.2	0.6	No	2.5
N45	N45 Holyshute Cottage	Kerbside	316816	100934	NO ₂	N	17.2	0.1	No	2.5
N46	N46 Windmill Ct A35	Kerbside	316796	100856	NO ₂	N	19.8	1	No	2.5
DEFRA AURN SITE – HONITON, DOVE CLOSE										
N62a,b,c	N62 Dove Close (TriPLICATE)	Urban Background	315745	99875	NO ₂	N	N/A	N/A	Yes	1.75
Wilmington										
N71	N71 Wilmington Outside Higher Gatehouse EX14 9JR	Kerbside	321135	99875	NO ₂	N	0.7	2.7	No	3
N85	Wilmington (east) - Home Farm junction	Roadside	321401	99949	NO ₂	N	24.3	2.1	No	2.10

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
N86	Wilmington (west) - White Hart Inn	Roadside	320914	99950	NO ₂	N	41.4	1.5	No	2.35

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Honiton AURN (Dove Close)	315749	99874	Urban Background	91.4	91.4	7.4	8.1	6.5	6.9	6.7
Exmouth, Exton, Lypstone										
N01	300267	81193	Kerbside	100.0	100.0	19.7	19.2	15.4	17.3	15.0
N02	302163	81724	Roadside	100.0	100.0	17.4	16.9	14.7	14.4	12.5
N07	300087	80955	Kerbside	100.0	100.0	22.8	21.3	16.0	18.1	18.1
N73	300294	83265	Kerbside	100.0	100.0	29.7	29.8	25.9	26.0	25.6
N74	299931	84157	Kerbside	100.0	100.0	27.8	25.9	19.8	20.8	20.5
N75	298425	86472	Kerbside	91.7	91.7	37.5	34.5	28.2	29.8	26.2
Newton Pop, Sidford, Sidmouth										
N16	312665	87432	Roadside	100.0	100.0	13.3	12.2	9.7	9.8	8.9
N19	313403	90074	Roadside	100.0	100.0	17.5	19.0	16.0	17.4	15.6
N72	308004	89533	Kerbside	100.0	100.0	18	18.5	14.7	15.0	15.0
N84	308632	89742	Roadside	100.0	100.0	-	19.3	16.4	16.3	16.5
Clyst St George										
N06	298062	88425	Kerbside	100.0	100.0	30.4	28.3	24.0	25.1	24.6
N68	298079	88521	Roadside	100.0	100.0	31.8	38.5	22.6	23.0	23.1
N59	298083	88337	Roadside	100.0	100.0	39.8	28.3	31.9	33.1	32.2
N63_EB	298088	88161	Roadside	100.0	100.0	32.4	31.6	26.8	26.6	24.4
N80	297941	89437	Roadside	100.0	100.0	20.3	19.5	15.2	15.7	15.2
East of Exeter - Beare, Broadclyst										
N26	299102	93198	Roadside	100.0	100.0	19.5	18.8	12.3	12.2	12.6
N60	297029	93140	Roadside	100.0	100.0	27.7	31.7	25.3	25.8	25.0
N20	300345	94860	Roadside	91.7	91.7	12.9	13.3	10.7	9.8	9.8
N22	301876	95558	Industrial	100.0	100.0	9.7	10.3	7.7	7.7	7.7
N76	300283	95200	Roadside	91.7	91.7	11.4	11.2	10.5	13.4	10.4
N77	301228	95665	Roadside	91.7	91.7	12.4	11.7	9.5	9.6	10.0

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
N78	299763	102177	Industrial	91.7	91.7	22.7	21.3	17.8	12.9	13.7
Clyst St Mary, Farringdon										
N13	297314	91056	Roadside	100.0	100.0	22.3	21.2	17.6	17.8	17.5
N63_LODGE	297633	90927	Roadside	100.0	100.0	33.8	30.9	24.9	26.5	23.0
N64_GP	300259	90712	Roadside	100.0	100.0	21	19.6	16.3	18.3	17.4
N65	300735	90555	Kerbside	100.0	100.0	31	28.0	22.9	24.1	22.6
N66	302491	90461	Roadside	100.0	100.0	14.1	12.1	10.5	10.5	9.6
N67	302420	90750	Kerbside	100.0	100.0	9.5	8.9	6.7	6.6	8.0
N81	297327	90998	Roadside	100.0	100.0	24.9	24.1	15.2	20.0	19.8
N82	298923	90859	Roadside	91.7	91.7	27.7	25.8	18.5	21.2	21.0
N83	299997	90722	Roadside	100.0	100.0	25.1	22.9	19.3	19.7	20.1
Axminster										
N11	329584	98464	Roadside	100.0	100.0	30.4	33.0	27.2	28.1	27.9
N56	329680	98550	Roadside	100.0	100.0	32.1	30.3	24.3	26.4	25.4
N57	329765	98554	Kerbside	100.0	100.0	23.5	22.2	17.7	19.2	18.4
N58	329789	98613	Roadside	100.0	100.0	31.1	31.1	26.0	28.2	26.5
N64_AX	329743	98589	Roadside	100.0	100.0	23.7	22.4	18.5	21.6	19.8
Ottery, Seaton										
N14	324479	89930	Roadside	91.7	91.7	14.3	12.4	10.8	12.5	10.4
N10	309882	95449	Roadside	100.0	100.0	22.9	23.4	19.4	19.6	18.3
Honiton - West (Near Turks Head Junction)										
N24	315097	100182	Roadside	100.0	100.0	30.6	30.1	25.1	25.3	25.9
N25	315087	100165	Roadside	100.0	100.0	31.7	29.4	24.5	26.1	24.6
N27	314875	100097	Roadside	100.0	100.0	18.6	17.3	13.3	14.6	14.3
N29	315114	100201	Roadside	100.0	100.0	21.3	18.0	14.7	15.7	15.3
Honiton - CENTRAL & EAST HONITON (High Street)										
N09	316062	100596	Kerbside	100.0	100.0	25.4	29.2	23.7	23.4	23.8
N36	316012	100653	Kerbside	100.0	100.0	30.3	31.4	24.3	25.4	25.9
N37	316102	100607	Kerbside	100.0	100.0	35.3	34.7	29.4	32.2	29.4
N44	316629	100837	Kerbside	100.0	100.0	25.9	26.4	22.1	21.7	22.9

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
N45	316816	100934	Kerbside	100.0	100.0	34.7	33.1	26.4	26.5	27.8
N46	316796	100856	Kerbside	100.0	100.0	42.7	41.5	33.3	35.2	32.3
DEFRA AURN SITE - HONITON, DOVE CLOSE										
N62a,b,c	315745	99875	Urban Background	97.2	97.2	9.4	8.1	6.6	7.0	6.4
Wilmington										
N71	321135	99875	Kerbside	100.0	100.0	40.9	38.6	27.9	29.8	28.3
N85	321401	99949	Roadside	100.0	100.0	-	-	22.1	23.0	22.5
N86	320914	99950	Roadside	100.0	100.0	-	-	20.5	22.0	21.5

☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

☒ Diffusion tube data has been bias adjusted.

☒ Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

Exceedances of the NO₂ annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO₂ annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(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%).

Figure A.1 – Trends in Annual Mean NO₂ Concentrations - Exmouth, Exton, Lypstone

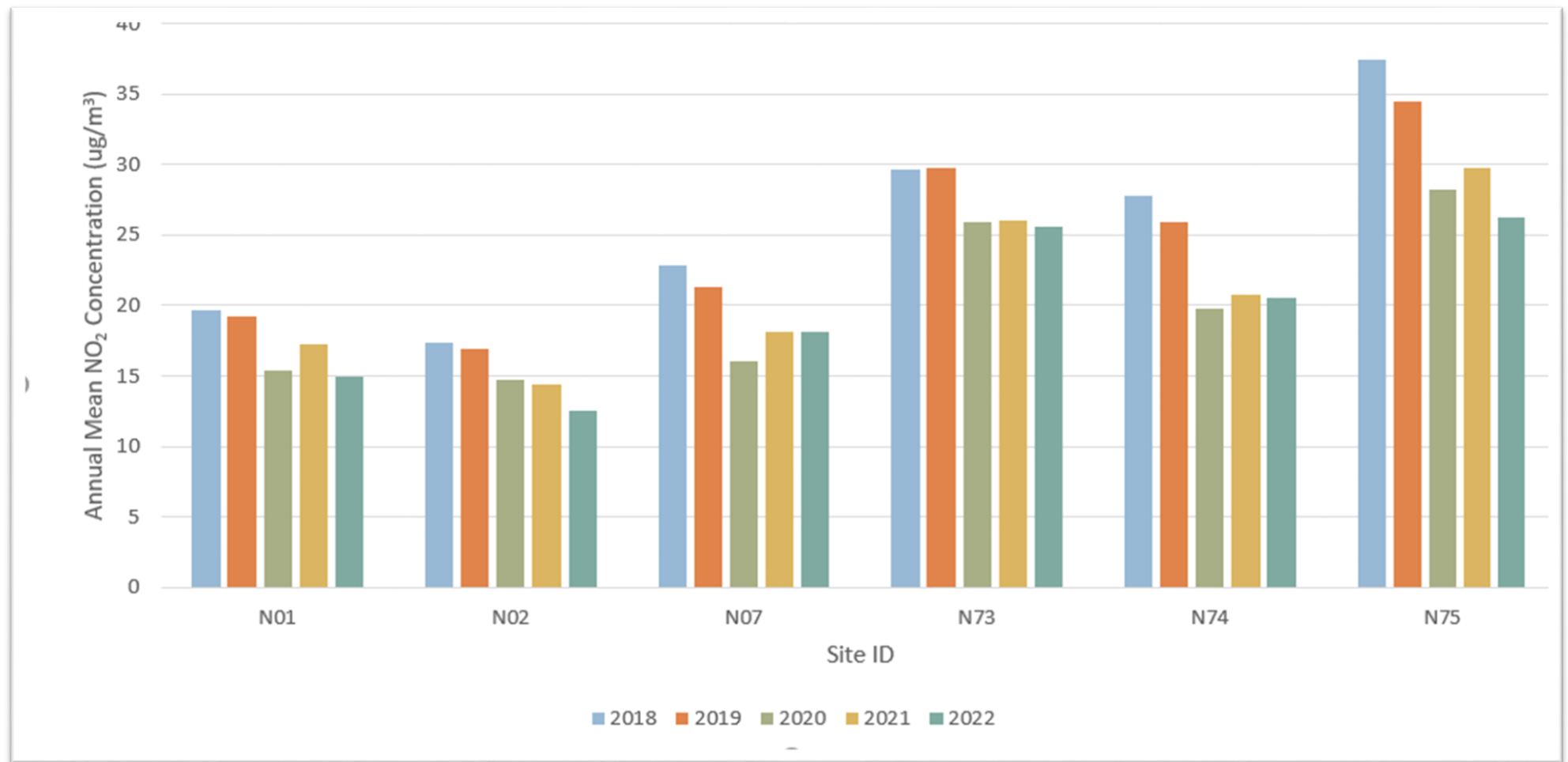


Figure A.2 – Trends in Annual Mean NO₂ Concentrations – Newton Poppleford, Sidord and Sidmouth

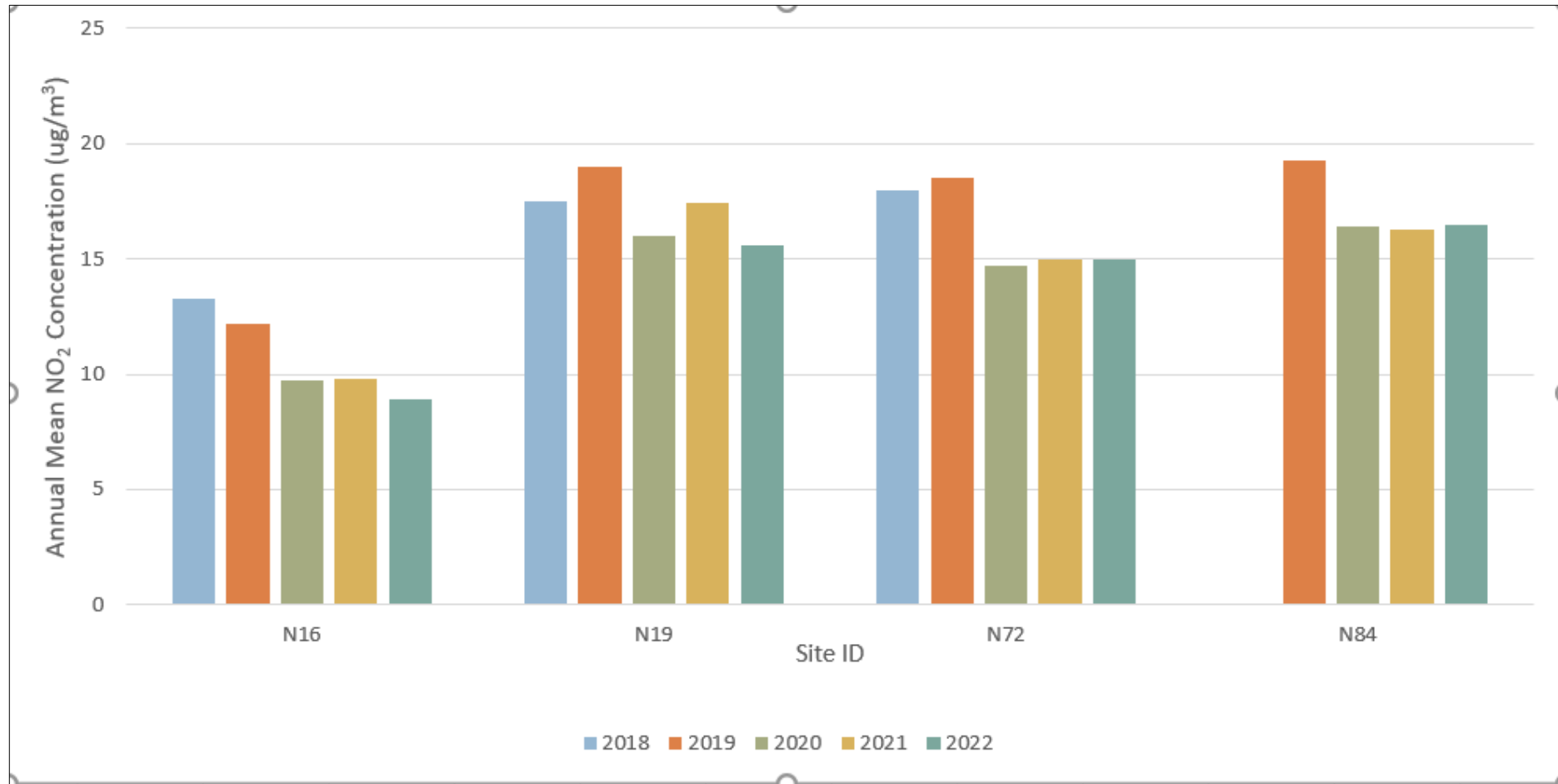


Figure A.3 – Trends in Annual Mean NO₂ Concentrations – Clyst St. George

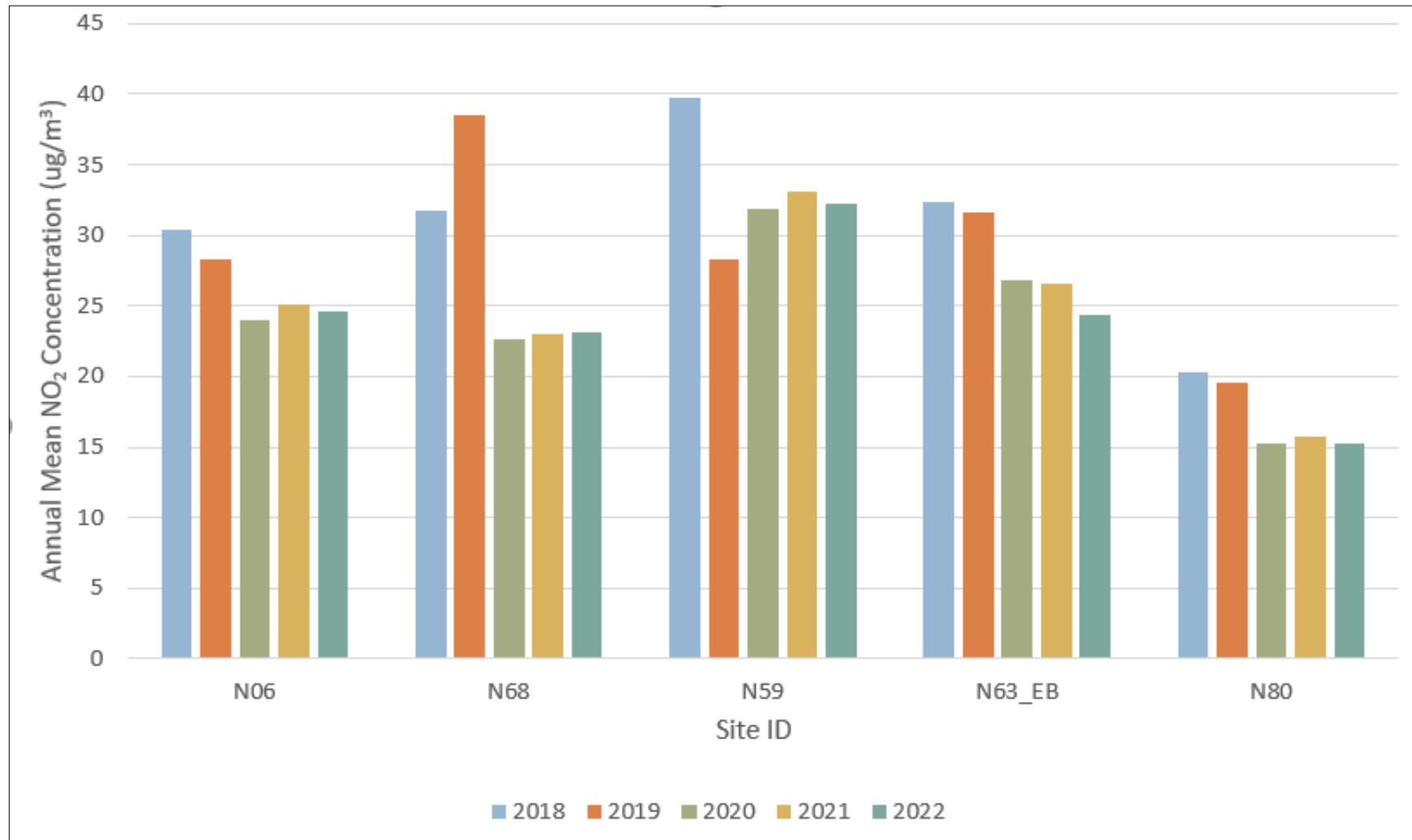


Figure A.4 – Trends in Annual Mean NO₂ Concentrations – East of Exeter, Beare and Broadclyst

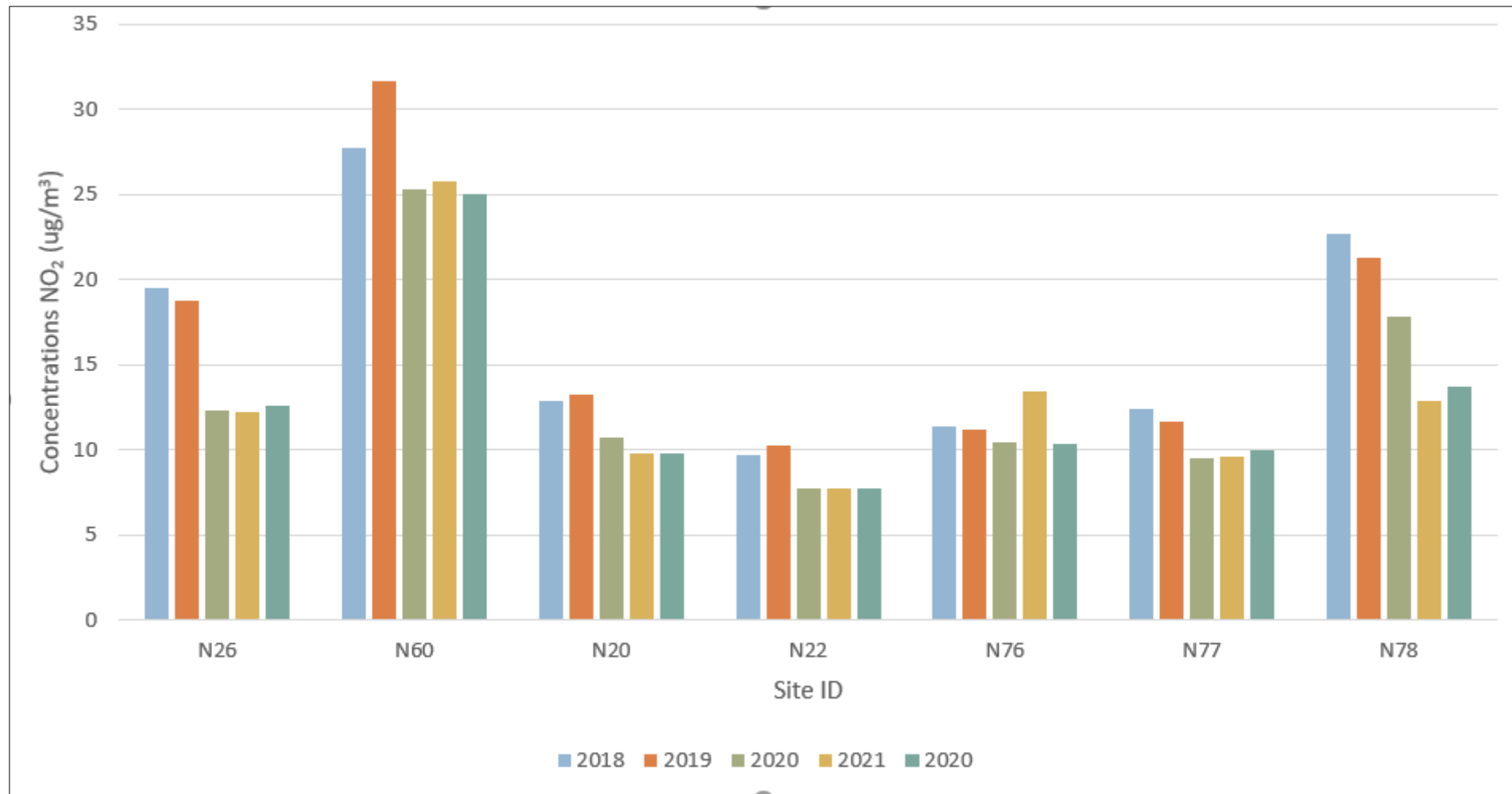


Figure A.5 – Trends in Annual Mean NO₂ Concentrations – Clyst St. Mary, Farringdon

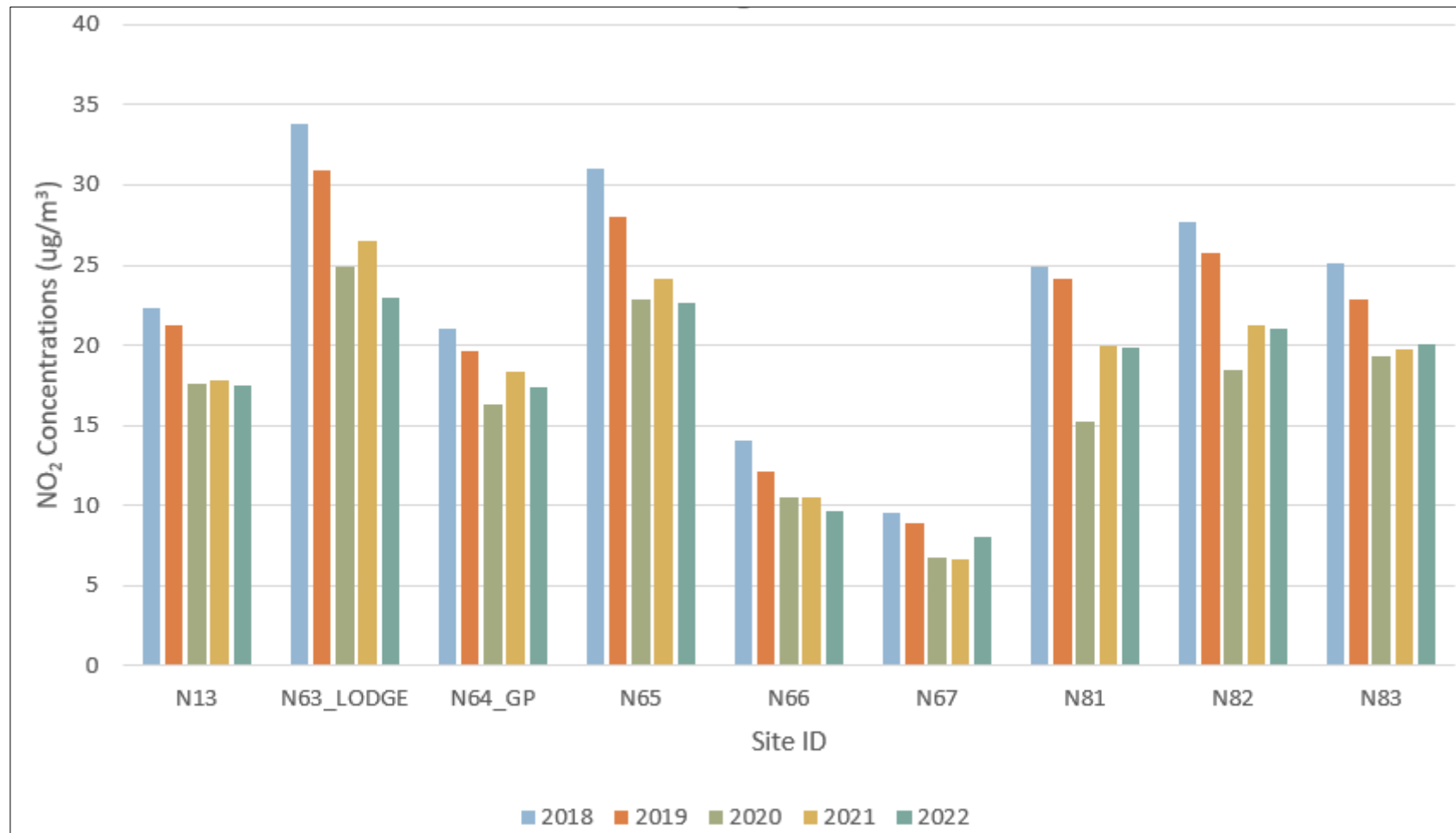


Figure A.6 – Trends in Annual Mean NO₂ Concentrations – Axminster

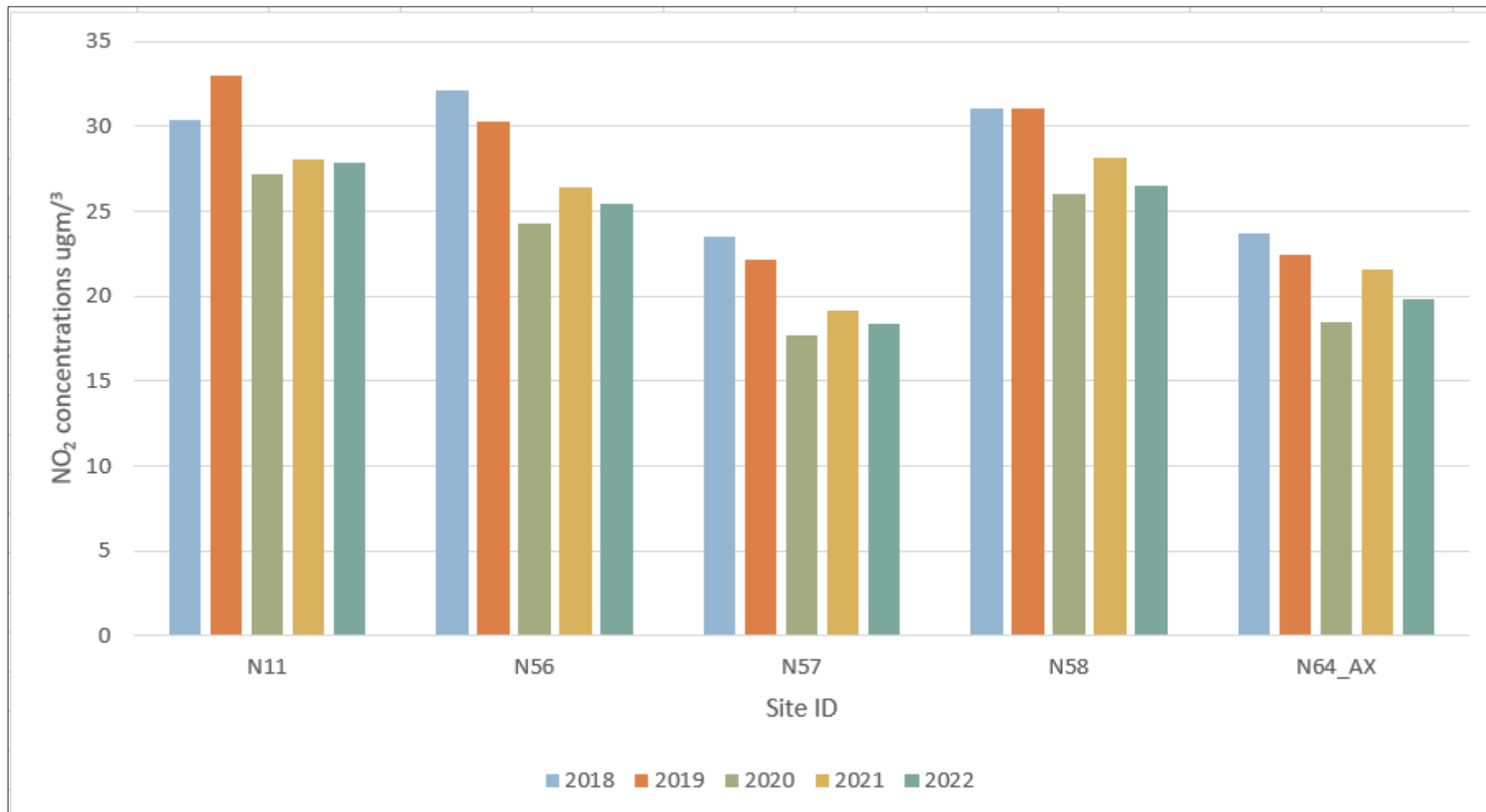


Figure A.7 – Trends in Annual Mean NO₂ Concentrations – Ottery, Seaton

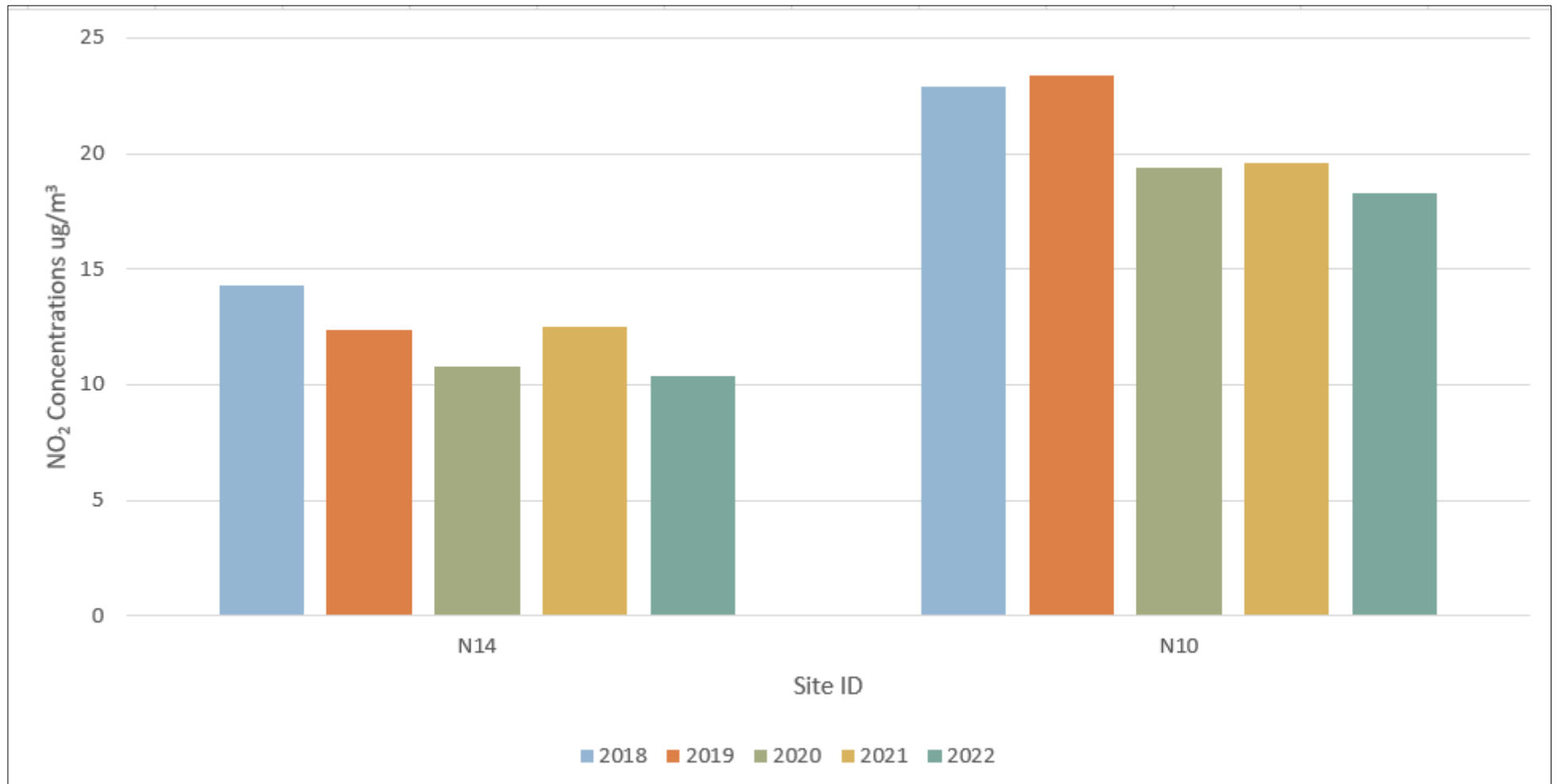


Figure A.8 – Trends in Annual Mean NO₂ Concentrations – Honiton - West (Near Turks Head Junction)

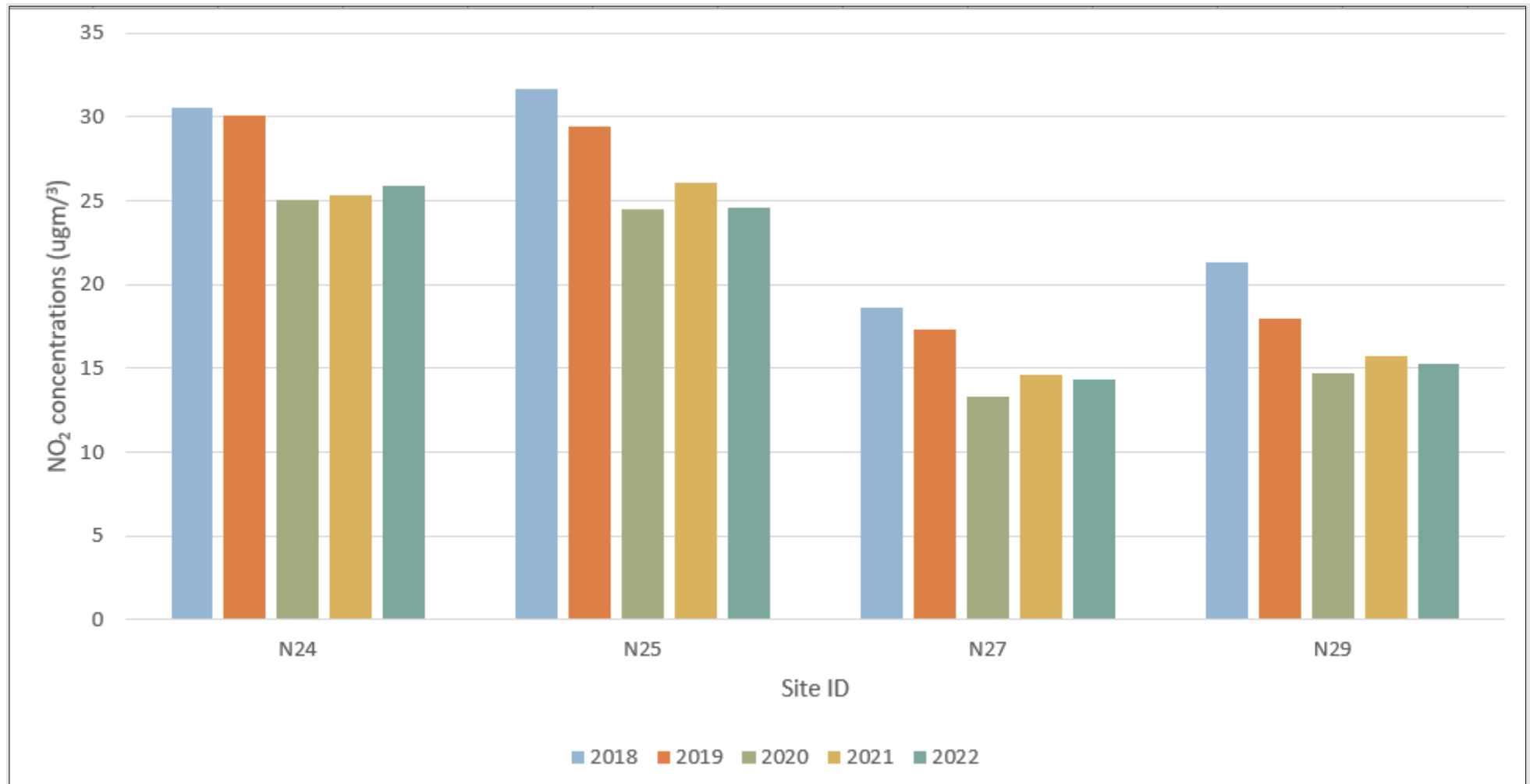


Figure A.9 – Trends in Annual Mean NO₂ Concentrations – Central and East Honiton (High Street)

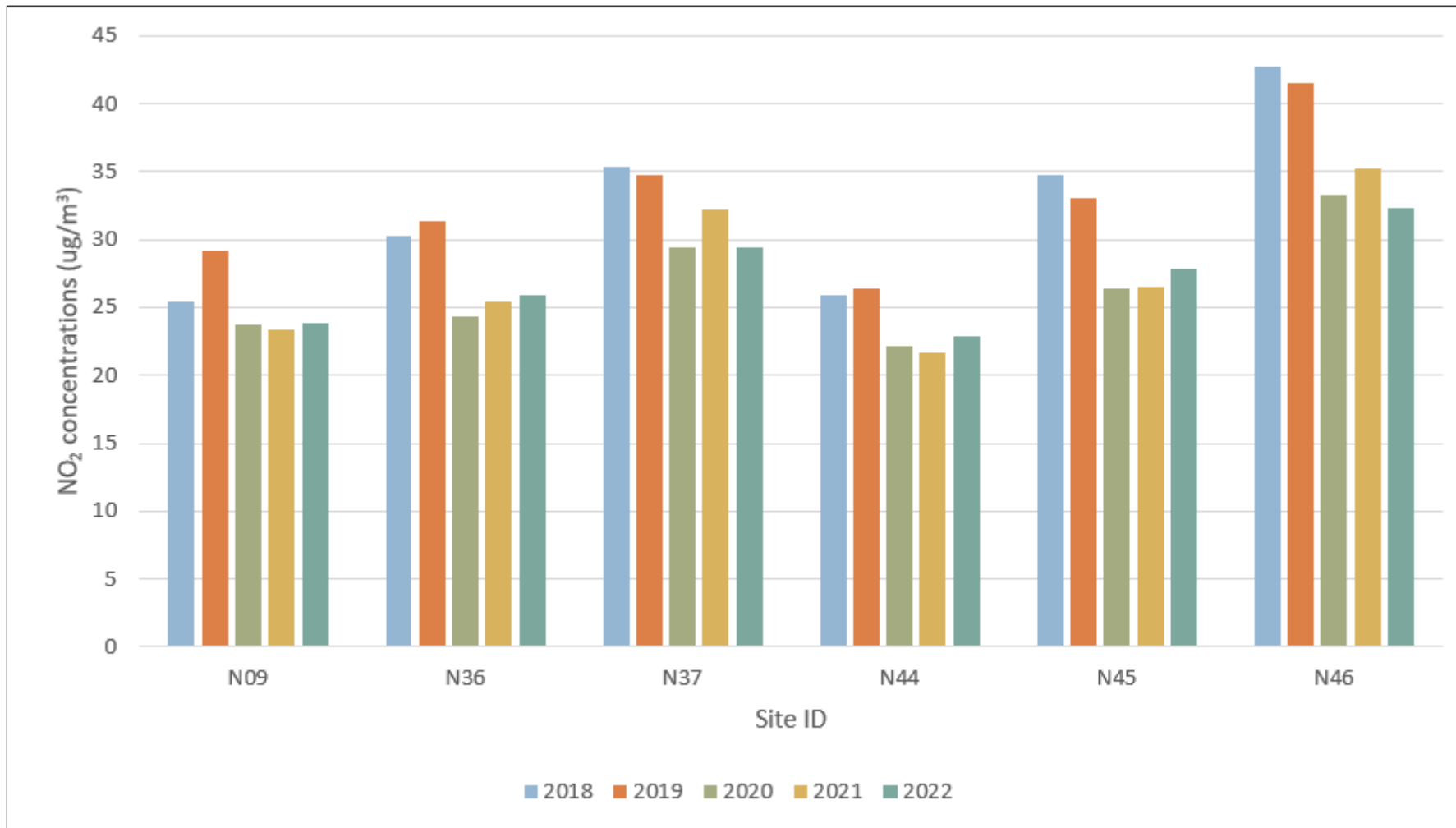


Figure A.10 – Trends in Annual Mean NO₂ Concentrations – DEFRA AURN Site: Honiton, Dove Close

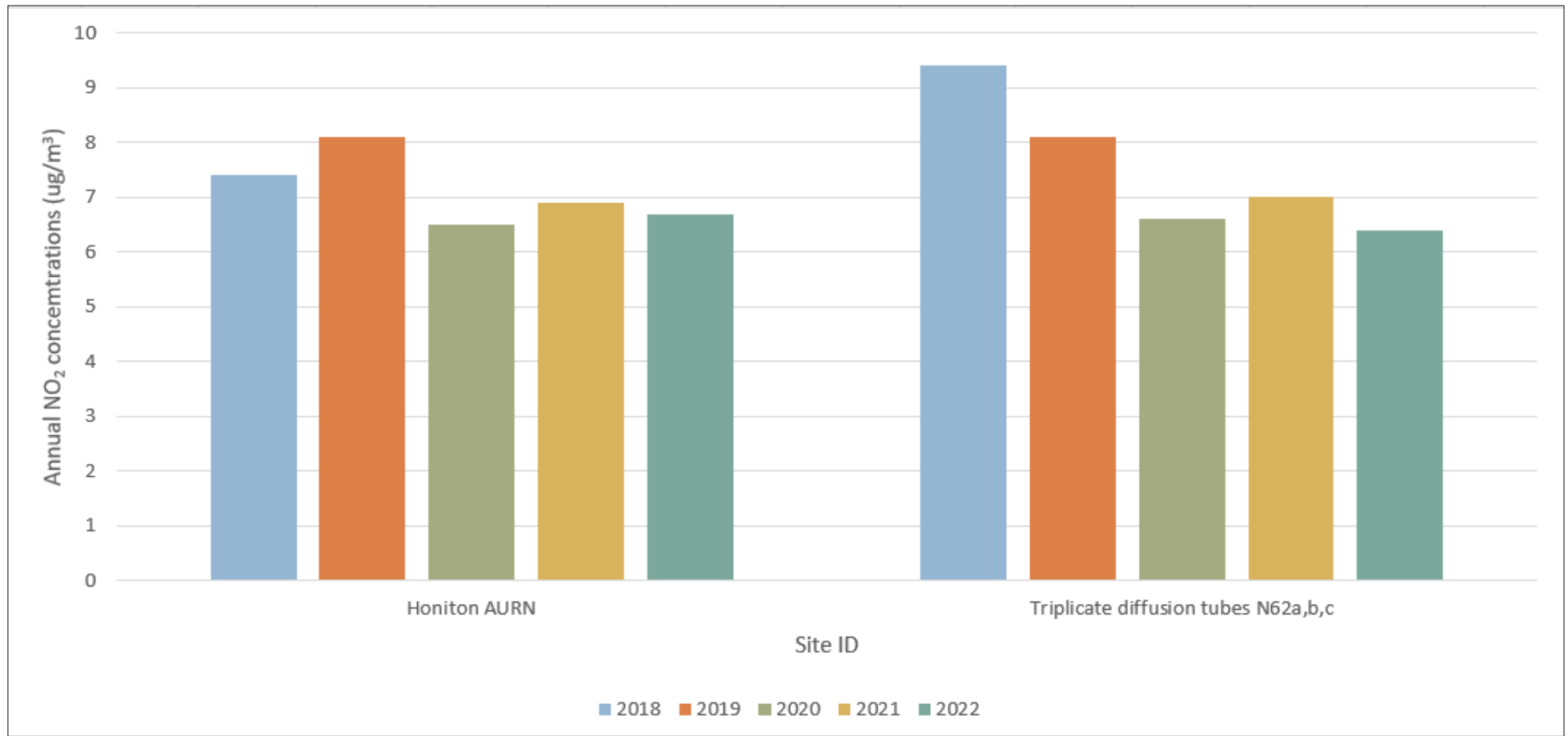
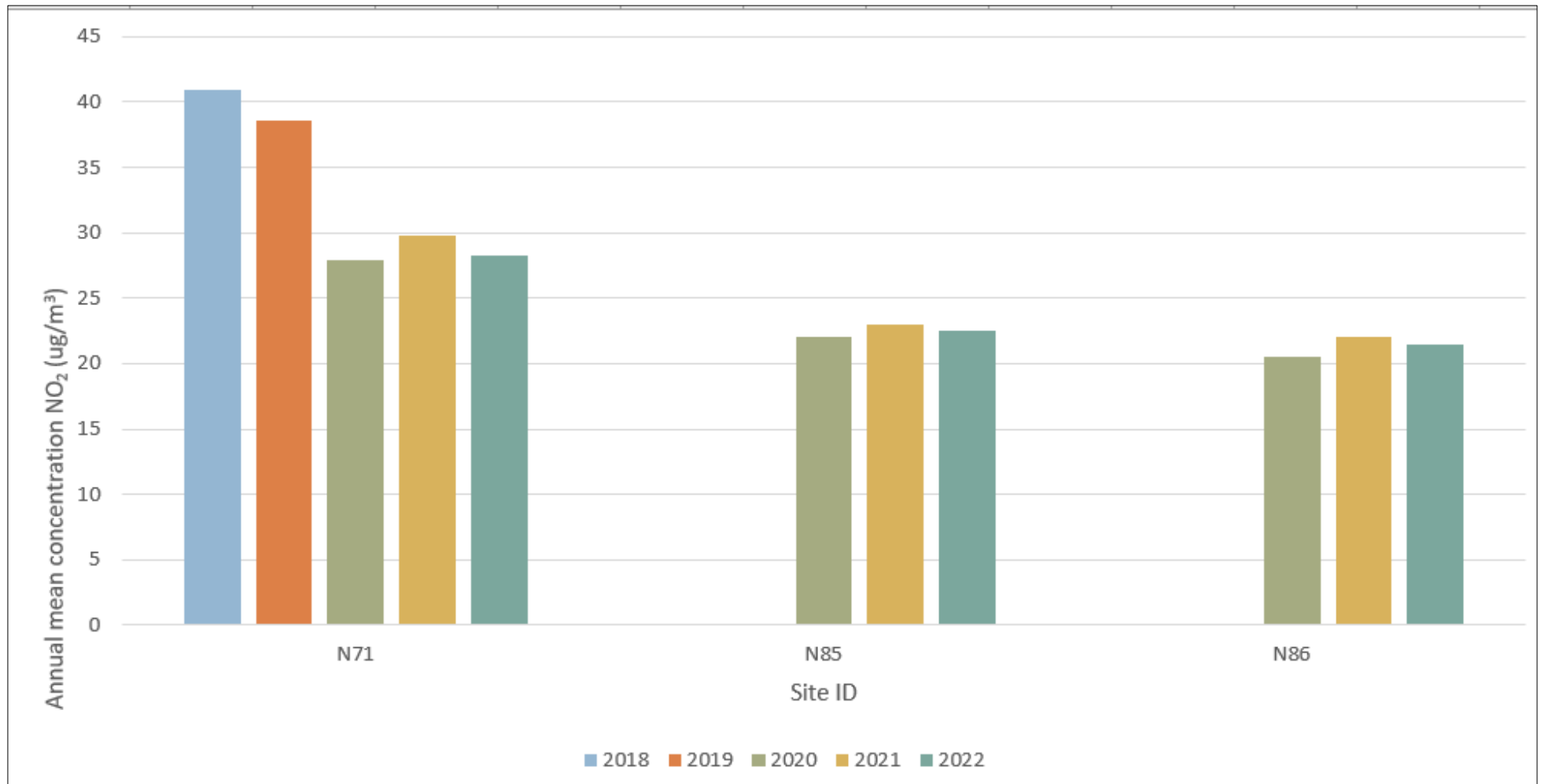


Figure A.11 – Trends in Annual Mean NO₂ Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.83)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
Exmouth, Exton, Lypstone																		
N01	300267	81193	13.8	16.9	20.6	18.7	15.4	14.7	16.8	19.7	19.5	18.6	18.1	23.3	18.0	15.0	-	
N02	302163	81724	25.7	17.3	15.0	5.3	12.5	11.6	12.8	12.8	17.5	12.3	15.8	21.5	15.0	12.5		
N07	300087	80955	25.3	17.1	28.0	21.2	18.6	19.2	20.6	24.7	23.5	20.8	17.8	24.5	21.8	18.1		
N73	300294	83265	40.1	25.9	30.0	30.6	36.5	26.4	28.8	31.1	32.0	29.7	28.6	29.8	30.8	25.6		
N74	299931	84157	27.9	23.8	26.7	26.1	10.7	24.7	26.2	29.0	25.8	25.6	27.1	23.2	24.7	20.5		
N75	298425	86472	41.9	30.4	35.2	36.7	9.8	31.9	38.0	42.4	37.5		18.0	26.0	31.6	26.2		
Newton Pop, Sidford, Sidmouth																		
N16	312665	87432	15.2	9.0	10.1	9.5	9.5	8.5	10.0	10.7	10.7	8.2	11.4	15.4	10.7	8.9		
N19	313403	90074	25.9	17.6	16.7	18.0	16.6	16.5	16.9	18.3	15.7	18.1	22.0	22.5	18.7	15.6		
N72	308004	89533	23.4	18.3	18.6	15.4	26.5	12.7	12.3	16.0	16.0	19.1	19.8	18.9	18.1	15.0		
N84	308632	89742	25.2	17.8	18.7	24.8	20.7	15.1	15.9	17.8	19.4	18.2	23.2	21.8	19.9	16.5		
Clyst St George																		
N06	298062	88425	41.9	26.0	29.0	31.2	23.6	26.3	27.7	33.4	34.3	25.9	26.3	29.6	29.6	24.6		
N59	298083	88337	43.7	33.7	32.5	28.3	36.6	39.8	41.3	50.9	43.4	42.6	37.3	35.8	38.8	32.2		
N68	298079	88521	30.1	20.8	29.1	37.9	31.4	23.8	25.6	32.6	28.1	25.8	24.5	24.2	27.8	23.1		
N63_EB	298088	88161	41.1	26.8	27.5	26.6	23.8	24.1	26.9	31.0	34.5	25.5	32.0	33.1	29.4	24.4		
N80	297941	89437	25.2	16.6	17.1	15.1	16.8	14.8	17.3	19.2	18.7	19.9	19.3	20.1	18.3	15.2		
East of Exeter - Beare, Broadclyst																		
N26	299102	93198	20.0	14.7	15.3	13.1	12.6	12.9	12.1	15.0	15.8	16.1	17.4	17.8	15.2	12.6		
N60	297029	93140	39.8	28.3	31.4	30.6	23.1	24.2	27.2	33.0	33.1	27.9	29.1	33.3	30.1	25.0		
N20	300345	94860	17.7	13.0	14.2	8.8	8.2	7.2	6.5	12.1	10.5	14.4		17.2	11.8	9.8		
N22	301876	95558	14.5	8.7	9.9	8.2	6.5	6.1	6.1	9.2	8.7	9.0	10.7	13.2	9.2	7.7		
N76	300283	95200	17.8	12.2		10.3	13.0	10.3	9.6	11.8	10.4	12.0	12.9	16.9	12.5	10.4		
N77	301228	95665	16.1		12.0	10.4	15.8	8.6	8.1	10.5	9.1	12.7	14.3	15.5	12.1	10.0		
N78	299763	102177	21.8	15.3	13.1	12.9	26.6	13.0	15.7	12.8	19.1		14.8	16.9	16.5	13.7		
Clyst St Mary, Farringdon																		
N13	297314	91056	24.6	20.9	20.1	18.0	19.2	17.2	17.7	23.1	19.1	24.6	26.6	22.0	21.1	17.5		

N63_LODGE	297633	90927	40.3	29.4	28.5	26.4	18.1	22.9	25.2	27.9	31.1	24.7	29.0	29.6	27.8	23.0		
N64_GP	300259	90712	28.1	18.2	20.5	22.9	18.1	17.9	21.0	23.8	23.9	16.2		19.7	20.9	17.4		
N65	300735	90555	38.8	27.4	28.3	29.9	9.1	26.4	26.8	31.0	28.6	27.0	29.0	24.1	27.2	22.6		
N66	302491	90461	19.5	11.4	10.9	11.4	6.0	9.8	10.8	11.6	13.7	8.5	9.9	14.7	11.5	9.6		
N67	302420	90750	12.1	7.1	9.0	8.0	24.5	6.7	7.0	7.9	7.8	7.6	7.4	10.7	9.7	8.0		
N81	297327	90998	27.3	25.0	25.0	18.8	22.2	18.7	19.2	27.5	21.4	27.9	28.5	24.9	23.9	19.8		
N82	298923	90859	33.3	24.8	25.9	23.9	22.8		22.8	27.1	23.0	24.6	27.2	23.0	25.3	21.0		
N83	299997	90722	28.2	21.7	27.0	16.3	21.1	23.5	23.7	29.0	21.6	29.2	29.3	20.7	24.3	20.1		
Axminster																		
N11	329584	98464	38.0	29.6	30.7	32.8	30.6	30.2	33.9	38.1	34.9	33.0	36.6	35.6	33.7	27.9		
N56	329680	98550	41.6	28.4	28.5	27.1	27.6	26.2	31.3	31.3	35.2	27.1	32.7	30.6	30.6	25.4		
N57	329765	98554	30.7	21.4	21.4	19.9	19.9	18.6	20.1	22.0	21.4	22.8	24.1	23.1	22.1	18.4		
N58	329789	98613	41.7	26.8	32.2	30.6	28.2	29.5	32.2	33.1	34.7	29.0	32.4	32.3	31.9	26.5		
N64_AX	329743	98589	32.0	19.3	26.5	24.0	22.4	19.1	22.3	25.2	23.6	22.1	24.0	26.5	23.9	19.8		
Ottery, Seaton																		
N10	309882	95449	27.5	19.7	21.4	20.9	19.5	19.4	19.8	22.3	20.8	22.1	26.0	25.0	22.0	18.3		
N14	324479	89930	19.3	11.9	13.0	13.2	11.2	9.1	10.7	11.8		10.5	10.6	16.5	12.5	10.4		
Honiton - CENTRAL & EAST HONITON (High Street)																		
N09	316062	100596	35.1	31.0	27.0	24.7	27.6	27.1	27.3	28.7	29.8	27.5	33.0	25.7	28.7	23.8		
N36	316012	100653	39.4	31.2	29.2	28.2	29.4	28.3	28.8	32.8	31.6	29.4	36.9	30.0	31.3	25.9		
N37	316102	100607	50.0	34.0	34.1	33.5	26.5	34.1	37.7	38.7	42.5	30.2	32.8	30.5	35.4	29.4		
N44	316629	100837	39.4	24.0	22.9	50.4	19.9	21.6	23.2	26.2	28.8	21.0	27.2	26.9	27.6	22.9		
N45	316816	100934	42.2	31.6	31.7	30.5	30.7	27.6	30.1	36.2	34.4	34.5	40.0	32.7	33.5	27.8		
N46	316796	100856	44.5	36.3	36.9	38.3	26.4	35.7	39.1	47.3	39.8	44.1	43.9	35.4	39.0	32.3		
Honiton - West (Near Turks Head Junction)																		
N24	315097	100182	32.7	27.2	32.9	28.1	28.3	26.4	27.9	37.6	27.7	34.4	38.6	31.9	31.2	25.9		
N25	315087	100165	41.8	28.1	27.8	31.1	24.9	27.0	30.3	27.2	31.9	23.2	29.7	32.4	29.6	24.6		
N27	314875	100097	23.6	16.4	17.8	15.5	14.3	13.7	15.4	17.2	18.2	16.7	18.7	19.7	17.3	14.3		
N29	315114	100201	25.6	15.4	17.4	15.6	15.4	13.8	15.9	19.1	19.0	19.9	21.7	22.2	18.4	15.3		
DEFRA AURN SITE - HONITON, DOVE CLOSE																		
N62a	315745	99875	12.0	7.2	8.1	7.4	5.7	5.6	6.3	7.1	8.0	7.1	8.5	10.7	7.8	6.5		
N62b	315745	99875	13.5	7.7	7.8	6.5	5.9	5.8	6.1	7.3	8.5	7.0	8.2	10.6	7.9	6.6		
N62c	315745	99875	11.4	7.5	7.7	7.2	5.7	5.6	6.0	6.7	7.9	6.9	9.7		7.5	6.2		
Wilmington																		
N71	321135	99875	40.5	32.4	34.0	36.9	14.8	30.7	38.7	42.4	35.9	36.6	33.5	32.7	34.1	28.3		
N85	321401	99949	23.4	18.3	18.6	15.4	26.5	12.7	12.3	16.0	16.0	19.1	19.8	18.9	18.1	15.0		
N86	320914	99950	33.5	22.5	25.0	23.2	25.4	20.6	26.6	28.7	29.5	24.3	26.1	25.5	25.9	21.5		

☒ All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1.

- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.
- EDDC confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within East Devon District Council During 2023

EEDD has not identified any new emission sources of significance in 2022

Additional Air Quality Works Undertaken by East Devon District Council During 2022

East Devon District Council has not completed any additional works within the reporting year of 2022.

QA/QC of Diffusion Tube Monitoring

Gradko International Ltd is a UKAS accredited laboratory and participates in laboratory performance and proficiency testing schemes. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre. The laboratory follows the procedures set out in the Harmonisation Practical Guidance and participates in the AIR proficiency-testing (AIR-PT) scheme. Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR-PT scheme. Laboratory performance in the AIR-PT is also assessed by the National Physical Laboratory (NPL), alongside laboratory data from the monthly NPL Field Inter-Comparison Exercise.

The method of preparation of the diffusion tubes within EDDC was 20% TEA in water; for both 2022. Throughout both years the diffusion tube calendar was adhered to.

Diffusion Tube Annualisation

It was not necessary to carry out annualisation of any of the monitored data in 2022 with no sites having less than 91.7% data capture against a minimum of 75%

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

EDDC have applied a national bias adjustment factor of 0.83 to the 2022 monitoring data. A summary of bias adjustment factors used by EDDC over the past five years is presented in Table C.1.

National Diffusion Tube Bias Adjustment Factor Spreadsheet							Spreadsheet Version Number: 03/23			
Follow the steps below in the correct order to show the results of relevant co-location studies							This spreadsheet will be updated at the end of June 2023 LAQM Helpdesk Website			
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods										
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet										
This spreadsheet will be updated every few months; the factors may therefore be subject to change. This should not discourage their immediate use.										
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECDM and the National Physical Laboratory.							Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.			
Step 1:		Step 2:	Step 3:	Step 4:						
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ³ shown in blue at the foot of the final column.						
If a laboratory is not chosen, we have no data for this laboratory.		If preparation method is not chosen, we have no data for this method at this laboratory.	If year is not chosen, we have no data	If you have your own co-location study then see footnote ¹ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953						
Analysed By ¹	Method ² <small>To add your preparation, choose (M) from the drop-down list</small>	Year ³ <small>To add your installation, choose (M)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automated Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁴	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in Water	2022	R	Lisburn & Castlereagh City Council	12	24	19	23.7%	G	0.81
Gradko	20% TEA in Water	2022	R	Monmouthshire County Council	12	35	28	23.8%	G	0.81
Gradko	20% TEA in water	2022	KS	Marylebone Road Intercomparison	12	52	42	22.8%	G	0.81
Gradko	20% TEA in Water	2022	UB	Plymouth City Council	12	18	18	3.2%	G	0.97
Gradko	20% TEA in water	2022	UC	Belfast City Council	12	26	20	30.7%	G	0.76
Gradko	20% TEA in water	2022	R	Belfast City Council	12	47	36	28.1%	G	0.78
Gradko	20% TEA in water	2022	R	Belfast City Council	12	25	22	14.0%	G	0.88
Gradko	20% TEA in water	2022	R	Belfast City Council	12	36	28	23.0%	G	0.78
Gradko	20% TEA in water	2022	R	Brighton & Hove City Council	10	37	23	62.8%	G	0.61
Gradko	20% TEA in water	2022	UB	Hertsmere Borough Council	12	16	15	7.1%	G	0.93
Gradko	20% TEA in water	2022	R	Southampton City Council	12	36	28	30.6%	G	0.77
Gradko	20% TEA in water	2022	UC	Southampton City Council	12	28	24	15.4%	G	0.87
Gradko	20% TEA in water	2022	R	Southampton City Council	12	34	31	8.4%	G	0.92
Gradko	20% TEA in water	2022	R	Worcestershire	11	13	12	4.2%	G	0.96
Gradko	20% TEA in water	2022	R	Lancaster City Council	13	34	27	25.8%	G	0.79
Gradko	20% TEA in water	2022	R	Lancaster City Council	12	28	24	15.2%	G	0.87
Gradko	20% TEA in water	2022		Overall Factor³ (27 studies)				Use		0.83

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
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2022	National	03/23	0.83
2021	National	04/22	0.84
2020	Local	-	0.84
2019	National	06/18	1.05
2018	National	09/17	1.08

NO₂ Fall-off with Distance from the Road

No diffusion tube NO₂ monitoring locations within East Devon District Council required distance correction during 2022

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

Appendix D: Maps of Monitoring Locations

Figure D.1 – 2023 NO2 Monitoring Locations - Exmouth, Exton and Lymstone

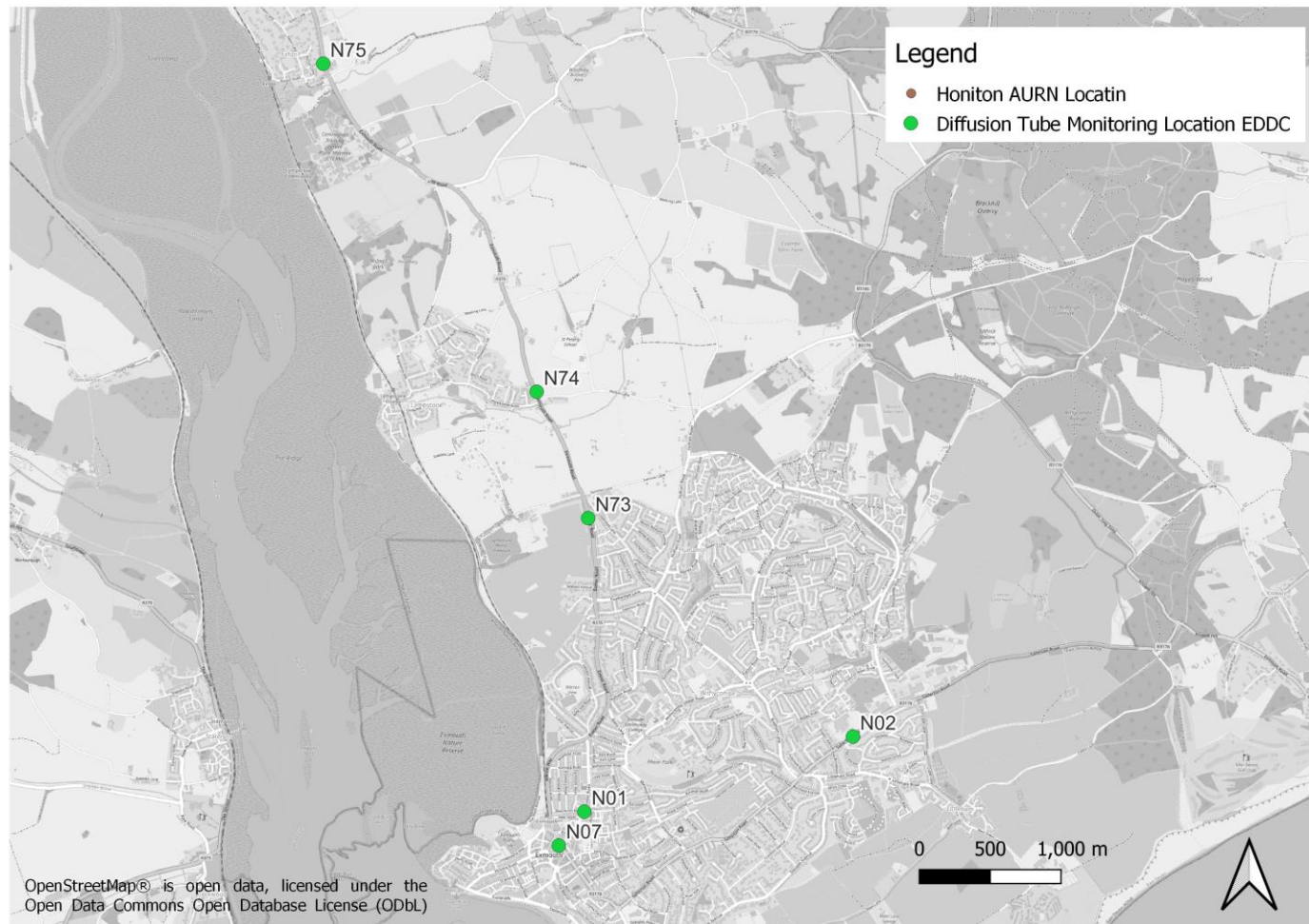


Figure D.2 – 2020/2021 NO₂ Monitoring Locations - Newton Pop, Sidford. Sidmouth

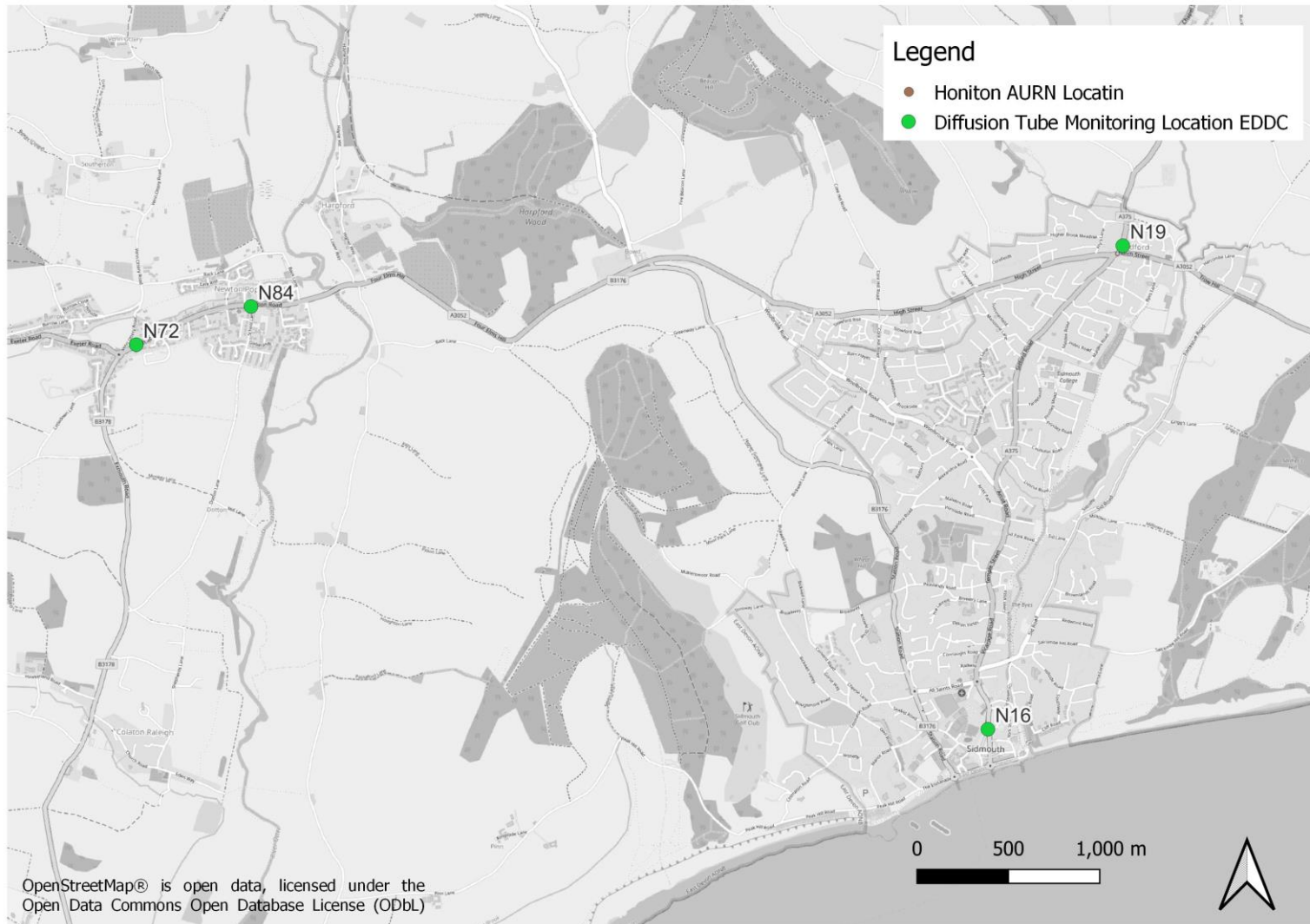


Figure D.3 – 2020/2021 NO₂ Monitoring Locations - Clyst St George



Figure D.4 – 2020/2021 NO₂ Monitoring Locations - East of Exeter, Beare, Broadclyst

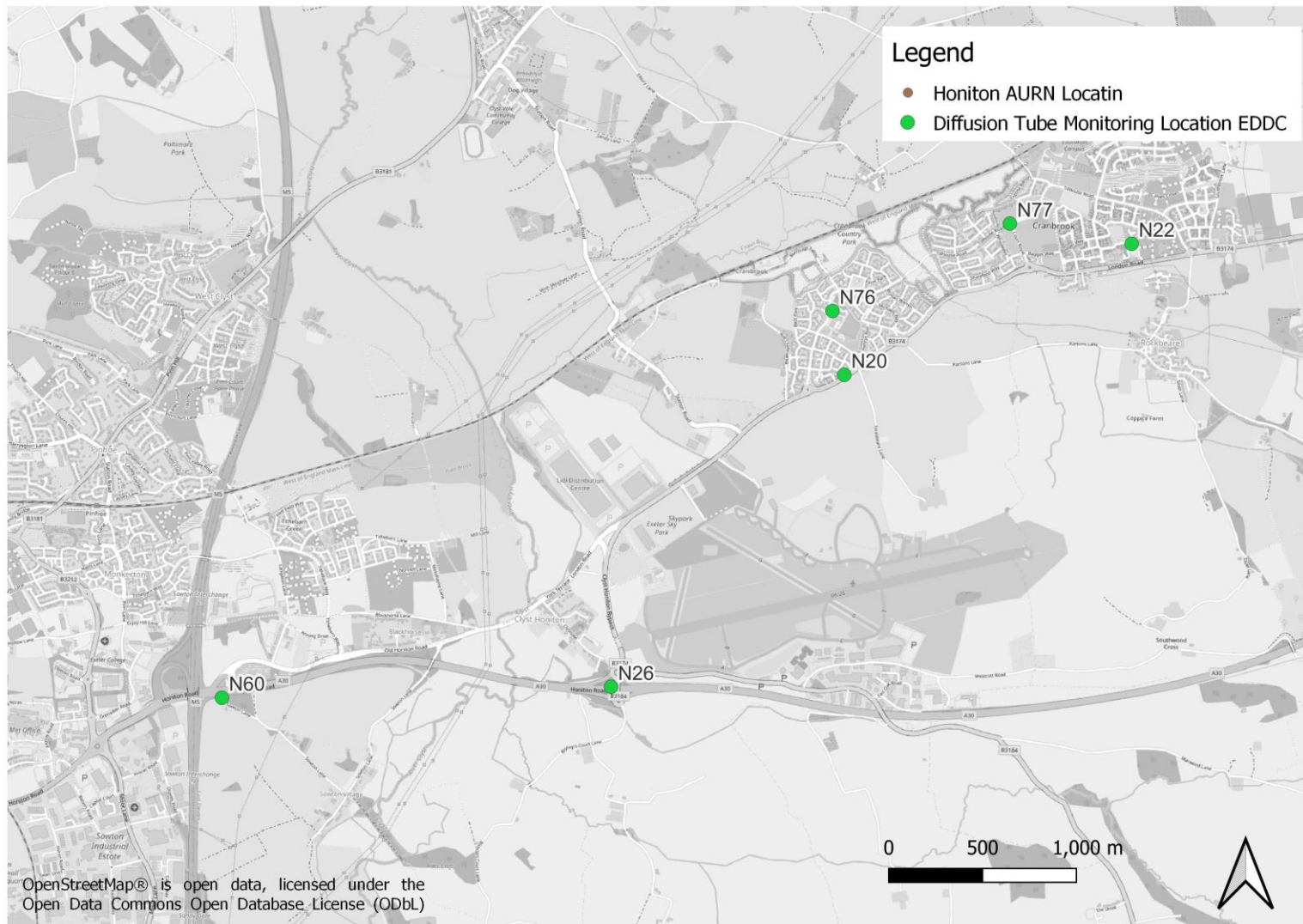


Figure D.5 – 2020/2021 NO₂ Monitoring Locations - Clyst St Mary, Farringdon



Figure D.6 – 2020/2021 NO₂ Monitoring Locations – Axminster



Figure D.7 – 2020/2021 NO₂ Monitoring Locations – Seaton



Figure D.8 – 2020/2021 NO₂ Monitoring Locations – Ottery

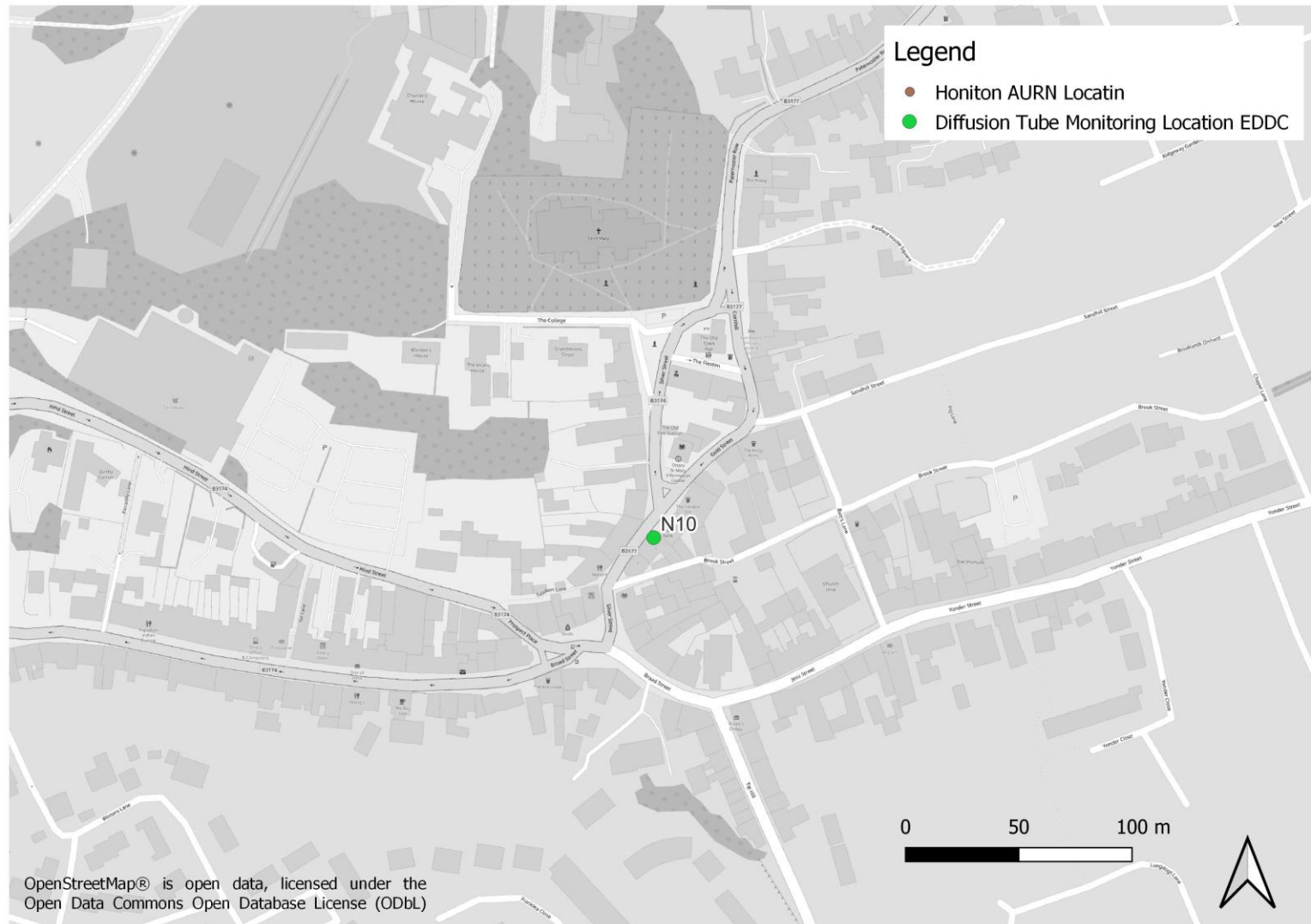


Figure D.9 – 2020/2021 NO₂ Monitoring Locations – Honiton

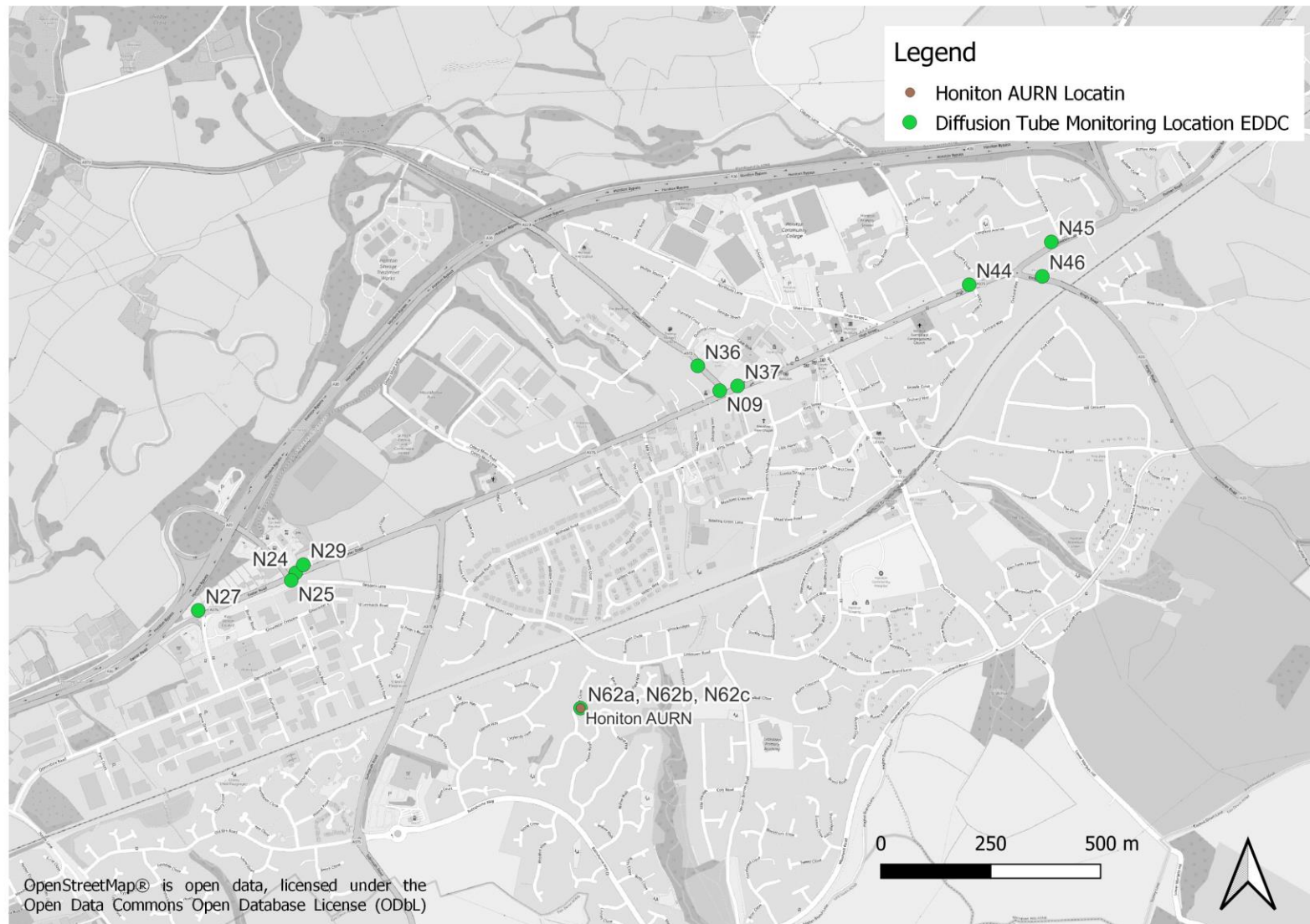
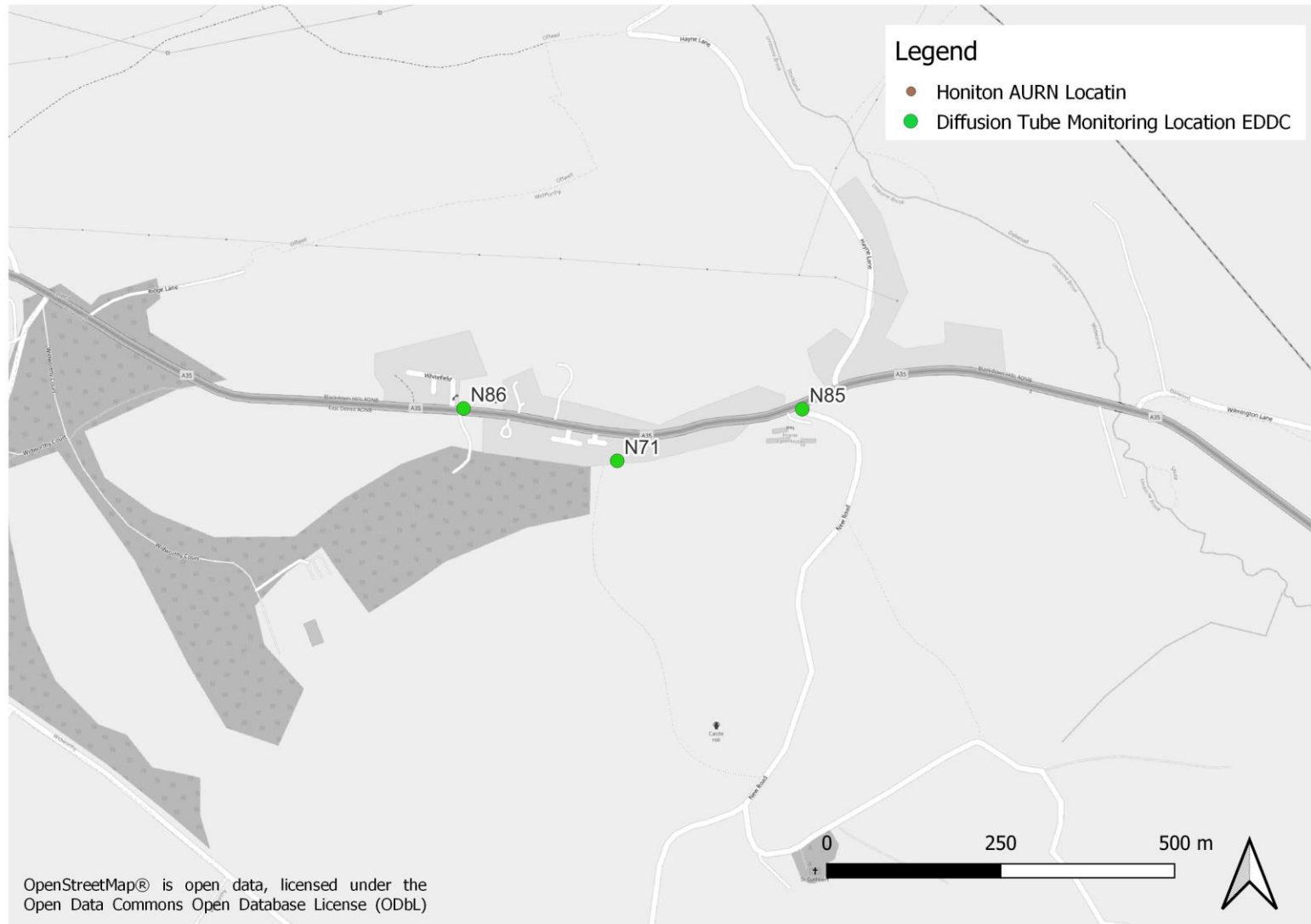


Figure D.10 – 2020/2021 NO₂ Monitoring Locations – Wilmington



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England¹⁵

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO ₂)	200µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO ₂)	40µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM ₁₀)	40µg/m ³	Annual mean
Sulphur Dioxide (SO ₂)	350µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO ₂)	125µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO ₂)	266µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean

¹⁵ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority 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
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- East Devon 2020 & 2021 ASR
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- East Devon 2018 ASR
- Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017
- Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006
- Defra. Air quality appraisal: damage cost guidance, July 2021
- Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018
- Defra. Clean Air Strategy, 2019
- DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018
- <https://www.earthsense.co.uk/zephyr>
- Devon Wide Personal Exposure Reduction Project Report - <https://committees.exeter.gov.uk/documents/s52642/AirQualityMonitoringReport.pdf>
- The Devon Low-Carbon Energy & Transport Technology Innovator (DELETTI) programme
- [EV \(Electric Vehicle\) Charging in Car Parks - East Devon](#)