

AIR QUALITY UPDATE

1. RECOMMENDATIONS

- 1.1 That Panel considers and supports the decision to revoke the Lyndhurst Air Quality Management Area (AQMA) and for the development of an 'Air Quality Strategy' for New Forest District Council.

2. INTRODUCTION

- 2.1 This report deals with the revocation of the Air Quality Management Area for Lyndhurst following extensive monitoring over the past 14 years. It is Government policy and good practice under technical guidance (LAQM PG (22) and TG (22)) for local authorities to revoke AQMA's when robust evidence demonstrates the air quality objectives are being met and will continue to do so.
- 2.2 It also proposes the development of a new Air Quality Strategy for the New Forest District area in line with the Environment Act 2021 and the revised Air Quality Strategy for England, which contain updated requirements on local authorities to deliver cleaner air. The revisions include a continuation of current requirements through the Local Air Quality Management (LAQM) regime, monitoring and annual reporting but also introduces requirements to consider additional pollutants, utilise available enforcement powers to improve local air quality and in districts with no AQMA's produce a district wide Air Quality Strategy.
- 2.3 New Forest District Council is required to revoke its only AQMA following a significant improvement in air quality and air quality objectives being met. Work will then commence on the preparation of an Air Quality Strategy for the whole of the New Forest in order to meet the new requirements and continue to monitor and improve air quality in the district.

3. BACKGROUND

- 3.1 Air pollution adversely impacts human health including the respiratory and cardiovascular systems, foetal and child development. This results in the development of life changing health conditions, decreasing life expectancies and increasing health care costs. Air pollution also threatens the environment due to a reduction in habitats and biodiversity.
- 3.2 Local authorities continue to have a statutory duty through the LAQM regime to review and assess local air quality in their district in accordance with legislation, Government policy and guidance. Air pollution is assessed against Government set objectives and should it be evidenced that an air quality objective is being, or likely to be, exceeded, an AQMA must be declared.
- 3.3 Following declaration of an AQMA, local authorities are required to produce and develop an Air Quality Action Plan in coordination with relevant stakeholders. The Plan advises of measures, which if implemented, will reduce pollutant concentrations in pursuit of the air quality objectives.

- 3.4 The AQMA would subsequently be revoked by the local authority where evidence demonstrated that measures implemented had reduced pollution levels in order that air quality objectives were being met and would continue to do so. The AQMA is revoked through the revision of the original AQMA Order and submitted to Defra.
- 3.5 NFDC (Environmental Protection) has undertaken the review and assessment of local air quality proactively since 1998 using a combination of desktop, monitoring and modelling techniques. All assessments have been submitted as required to Government and all necessary action taken.
- 3.6 Monitoring has been and continues to be undertaken at numerous locations throughout New Forest including Totton, the Waterside, Lyndhurst, Lymington, Ringwood and Fordingbridge.
- 3.7 In 2005, NFDC declared 3 AQMAs for the exceedance of air quality objectives. 2 of the AQMAs have since been revoked as detailed in Table 1.

Table 1 – AQMA’s declared in NFDC

AQMA	POLLUTANT OBJECTIVE	AQMA REVOKED
Fawley	15 min mean – Sulphur dioxide (SO ₂)	2013
Totton	Annual mean - Nitrogen dioxide (NO ₂)	2016
Lyndhurst	Annual mean - Nitrogen dioxide (NO ₂)	

4. LYNDHURST AQMA

- 4.1 The AQMA in Lyndhurst was associated with emissions from vehicles travelling in the High Street, particularly in the ‘street canyon’ part of the road network (between the school and traffic lights).
- 4.2 Monitoring of NO₂ has been undertaken in Lyndhurst since 1998 using a combination of passive diffusion tubes and an automatic analyser. The monitoring work has also been supplemented with extensive air quality modelling work.
- 4.3 The Air Quality Action Plan for Lyndhurst was originally approved in 2008 and updated in 2019. The Plan outlines measures to improve air quality if implemented including the consideration of a by-pass, traffic schemes, enforcement and behaviour changes.
- 4.4 The implementation of traffic schemes including the use of the green filter and long vehicle detection in the High Street, as well as improvements in vehicle technologies, has resulted in NO₂ concentrations reducing significantly since 2010, with no monitored exceedance of NO₂ within the Lyndhurst AQMA noted since 2014 and are detailed in Appendix 1.
- 4.5 The most recent NFDC Air Quality Annual Status Report (2022) which reports monitoring, implementation of measures and local updates to Defra stated that the Council would be considering the revocation of the Lyndhurst AQMA based on the monitoring evidence. This position was supported by Defra.
- 4.6 NFDC has recently commissioned air quality consultants Ricardo to model pollutant concentrations within Lyndhurst at all residential receptors within the AQMA. This work expands upon the NFDC monitoring undertaken to determine whether the air quality objective is being met at all relevant locations in 2023 and considers worst case scenarios: an increase of 25% on 2019 (pre-Covid) vehicle numbers accessing Lyndhurst, and reduced fleet improvements.

- 4.7 The modelling work concluded the NO₂ annual mean objective will be met within Lyndhurst. The summary of the report is provided in Appendix 2.
- 4.8 Government policy and technical guidance (LAQM PG (22) and TG (22)) advises local authorities should revoke AQMA's when robust evidence demonstrates the air quality objectives are being met and will continue to do so. NFDC has the required evidence and support from Defra and is therefore seeking to progress the revocation of the Lyndhurst AQMA.
- 4.9 There is no requirement to consult on the Council's decision to revoke an AQMA, however all relevant stakeholders would be informed in a timely manner.
- 4.10 NFDC will continue to monitor NO₂ within Lyndhurst post revocation of the AQMA using the same monitoring equipment currently being utilised. This will ensure pollutant concentrations are continuously reviewed and reported to Defra.

5. AIR QUALITY STRATEGY

- 5.1 From 2023, The Environment Act 2021 requires local authorities with no declared AQMA's to produce an Air Quality Strategy for their district. NFDC will therefore be developing a Strategy for the District, following revocation of the Lyndhurst AQMA.
- 5.2 The Government states within their own recently published '*Air Quality Strategy for England*' and policy paper '*Air Quality Strategy: framework for local authority delivery*' (April 2023) that the purpose of the Air Quality Strategy is to enable local authorities to take preventative action to improve local air quality, rather than waiting for an air quality legal limit to be breached. Any breaches of air quality limits would continue to be dealt with through the LAQM regime and declaration of an AQMA.
- 5.3 Currently there is no Government guidance to advise on the requirements or development of an air quality strategy, however it is advised that it should be informed by the relevant local authority's own monitoring and assessments. The Strategy should also set out an enforcement strategy which prioritises the reduction of population exposure to pollutants, including areas experiencing disproportionately high levels of pollution.
- 5.4 It is intended that the Air Quality Strategy for New Forest is based on the Government's own air quality priorities which are:
- Planning reforms helping to deliver on air quality.
 - Building capacity in local councils through training, guidance and knowledge sharing.
 - Reducing emissions from industrial sources through improved enforcement of environmental permits.
 - Reducing pollution from domestic burning through smoke control areas and cleaner fuels.
 - Raising awareness within local communities of air quality impacts and how to reduce them.
 - Boosting active travel and public transport to improve air quality.
- 5.5 Current work undertaken by NFDC already includes many of the priorities listed by Government, including working with planning, improving local knowledge, environmental permitting, boosting active travel and raising awareness. It is intended that the Strategy will review the current work, improving and extending these priorities where necessary.

5.6 The Strategy will also focus on the pollutants noted by Government of particular concern:

- Fine particulate matter (PM₁₀ and PM_{2.5})
- Nitrogen oxides
- Ammonia
- Indoor air pollutants

5.7 The Government has set 2 new legally binding targets for PM_{2.5}:

- 10µgm³ annual mean by 2040 (interim target of 12µgm³ by 2028)
- 35% reduction in average population exposure by 2040 (interim target of 22% reduction by 2028)

5.8 Government note particulate matter is a regional pollutant, however local authorities do have control over some sources of the particulate matter. Therefore, local authorities are expected to use their powers to reduce PM_{2.5} emissions from sources which are within their control. If Government considers local action has not gone far enough to reduce PM_{2.5}, it should be noted they will consider introducing a statutory duty on local authorities.

5.9 In developing a new Air Quality Strategy, the following steps will be undertaken:-:

- Review of current pollutant monitoring and assessments
- Review how local air quality is currently addressed within NFDC including collaborative working and the availability and use of enforcement powers
- Establish working relationships with all relevant stakeholders, internal and external, in the development of the Strategy including the involvement of the Director of Public Health
- Extend monitoring and assessments to include the pollutants of concern where appropriate to determine a baseline of pollutant concentrations
- Ensure local air quality is appropriately considered in the development of Council policies, strategies and plans
- Develop a targeted Strategy to improve local air quality with achievable delivery timescales. The Strategy will prioritise those residents exposed to higher concentrations of pollutants or those at increased risks from exposure to airborne pollutants.
- Annually report progress to Defra and the Housing and Communities Overview and Scrutiny Panel.

5.10 The likely timescales for the development of the Strategy will depend upon number of factors including scoping out the necessary work with help from external consultants and ensuring engagement with relevant stakeholders, neighbouring authorities and the community. It is likely that a Strategy will take 18 months to develop and take through the Council's decision-making processes.

6. CONCLUSIONS

6.1 Following the declaration of the Lyndhurst Air Quality Management Area in 2005 for the exceedance of the annual mean objective for nitrogen dioxide, the Council has been working to improve local air quality through the implementation of measures in accordance with Government policy and guidance. This work has improved traffic flow through Lyndhurst and resulted in significant reductions in monitored nitrogen dioxide concentrations.

- 6.2 Monitoring and modelling work has shown that the air quality objective has been met since 2015 throughout the Air Quality Management Area and is likely to continue to be met even if traffic figures increase and the expected improvements in the vehicle fleet are not progressed.
- 6.3 In accordance with Government guidance the Council should revoke the Lyndhurst Air Quality Management Area, however air quality monitoring in Lyndhurst will continue, with results reported annually to Defra.
- 6.4 In accordance with Government policy, the Council must work to develop an Air Quality Strategy for the District. The Strategy will be based on the Governments own priorities for air quality and pollutants of concern, and involve the collaborative working between other Council departments, Members, external stakeholders and neighbouring authorities.
- 6.5 The plan is to take the proposals to revoke Lyndhurst AQMA and develop a district wide strategy to Cabinet.

7. FINANCIAL IMPLICATIONS

- 7.1 The current cost to monitor NO₂ in Lyndhurst using an automatic analyser and 22 passive diffusion tubes is £5,200 per year. It is recommended that the monitoring continues in Lyndhurst post formal revocation to ensure pollutant concentrations remain below the objective(s). The costs to operate the monitoring regime is currently covered by existing budgets.
- 7.2 There will be a cost to develop and implement an Air Quality Strategy. There will be a need to involve external consultants to guide the development of the Strategy as well as purchase of equipment to undertake additional monitoring and assessment of pollutants within the District. There may be opportunities to work collaboratively with neighbouring authorities to obtain funding for the development of the Strategy from Government grant funding schemes. It is likely that the cost will be in the region of £50K.

8. CRIME & DISORDER IMPLICATIONS

- 8.1 None arising from this report.

9. ENVIRONMENTAL IMPLICATIONS

- 9.1 The proposed actions have been identified based on positive improvements to air quality and the environment. Development and implementation of an Air Quality Strategy will identify actions to continue to monitor and improve air quality within the district and will support the Climate Change and Nature Emergency Strategy on the carbon reduction programme.

10. EQUALITY & DIVERSITY IMPLICATIONS

- 10.1 Whilst air pollution will impact the health of every resident, it does not affect everyone equally. It is associated with impacts on development, cancers and respiratory disease and those at greater risk are the young, elderly and those with chronic pre-existing health conditions.

- 10.2 The locations in which residents live will also influence their exposure to air pollution. Typically areas of increased deprivation will have poorer air quality due to dense housing being located close to traffic and/or industrial sources. However, studies have also shown that residents in rural areas and living in areas of least deprivation can be exposed to higher pollutant concentrations due to use of solid fuel heating, increasing exposure to indoor air pollution.
- 10.3 The Air Quality Strategy will therefore need to identify residents of increased vulnerability to air pollution and an impact assessment will be undertaken to consider potential impacts of actions and incorporate mitigation measures as necessary.

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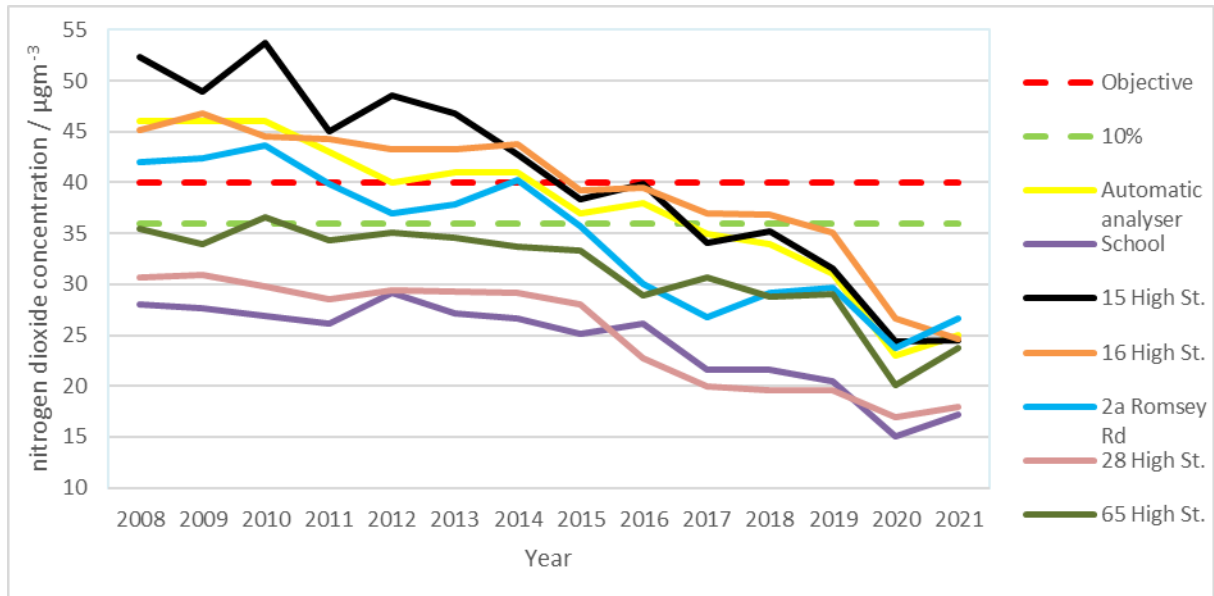
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Background Papers:

[Guidance | LAQM \(defra.gov.uk\)](https://www.defra.gov.uk/guidance/laqm/)

[Air quality strategy: framework for local authority delivery - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/air-quality-strategy-framework-for-local-authority-delivery)

Monitoring results within Lyndhurst AQMA 2008-2021



Summary conclusions from Ricardo commissioned air quality model for Lyndhurst AQMA 2023

1. CONCLUSIONS

Ricardo was commissioned to carry out a detailed assessment of NO₂ concentrations in and around the Lyndhurst AQMA to determine whether compliance with the Air Quality Objective for annual mean NO₂ concentrations is achieved across the area and to determine whether compliance will be achieved in future years. Modelling was carried out for a 2019 baseline and a 2023 projected year.

In addition, to assess model uncertainty in future years, three theoretical worst-case scenarios were tested to quantify the potential impacts of conditions where emissions from road transport would be higher than expected in 2023:

- Scenario 2: Traffic volumes across Lyndhurst growing by 25%;
- Scenario 3: Slower than expected replacement of older road vehicles as a result of economic conditions leading to a 2-year delay in fleet renewal across the area;
- Scenario 4: a combination of scenarios 1 and 2.

The model accurately predicts concentrations at monitoring stations in the Lyndhurst AQMA in 2019, demonstrating that the model is correctly representing real-world conditions, lending confidence to the predictions for future years.

The modelling undertaken through this study shows that:

- No location is predicted to exceed the Air Quality Objective for annual mean NO₂ at any location of relevant exposure in 2019;
- No location is predicted to have an annual mean NO₂ concentration within 10% of the Air Quality Objective for annual mean NO₂ at any location of relevant exposure in 2023 should changes in traffic volumes and fleet composition follow the forecasted national trends.
- Furthermore, no locations of relevant exposure are predicted to exceed the Objective in a number of theoretical scenarios where emissions would be higher than those predicted from forecasted national trends, including a 25% increase in road traffic on all roads in Lyndhurst, a 2-year delay in fleet renewal compared to national fleet projections, and a combination of increased traffic and fleet delay.

Based on the data available, the modelling suggests that provided that monitoring data for 2022 matches the trends described above, the AQMA could be revoked without risk of future exceedances.