

Cairngorms National Park Partnership Plan, SEA scoping

Baseline information

Topic 2 – Air

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Questions for consultation authorities

1. Is there anything missing from the Topic baseline?
2. Are there any errors in what is presented?
3. Are there any new initiatives, research projects, plans, programmes or strategies or other things that will be reporting / implemented over the next 12-18 months that are relevant to the Topic, which may need to be included as the SEA progresses?

Context

Air pollution results from the introduction of a range of substances into the atmosphere from a wide variety of sources, including industry, transport and power generation. Domestic activities such as driving, heating and cooking also contribute, as do natural sources like sea salt, wildfires, volcanic activity, soil erosion and farming.

Poor air quality can have both short term and long term effects on human health. In general, healthy people may not suffer from any serious ill effects; however people with pre-existing health conditions such as heart disease, lung conditions and asthma may be adversely affected by day to day changes in air pollution levels. The Royal College of Physicians estimated that in 2015, particulate matter in the air (PM₁₀ and PM_{2.5}) could have caused the deaths of 2,500 - 3,500 people in Scotland (<https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution>).

Air pollution can also damage the wider environment, causing the acidification of soils and water or the deposition of nutrients, negatively affecting plant and animal life. Air pollution can also damage the fabric of buildings and historic monuments.

Air pollution in the Park

The air quality objectives for Scotland are set out in the Air Quality (Scotland) Regulations 2000 (as amended). The main pollutants of concern are:

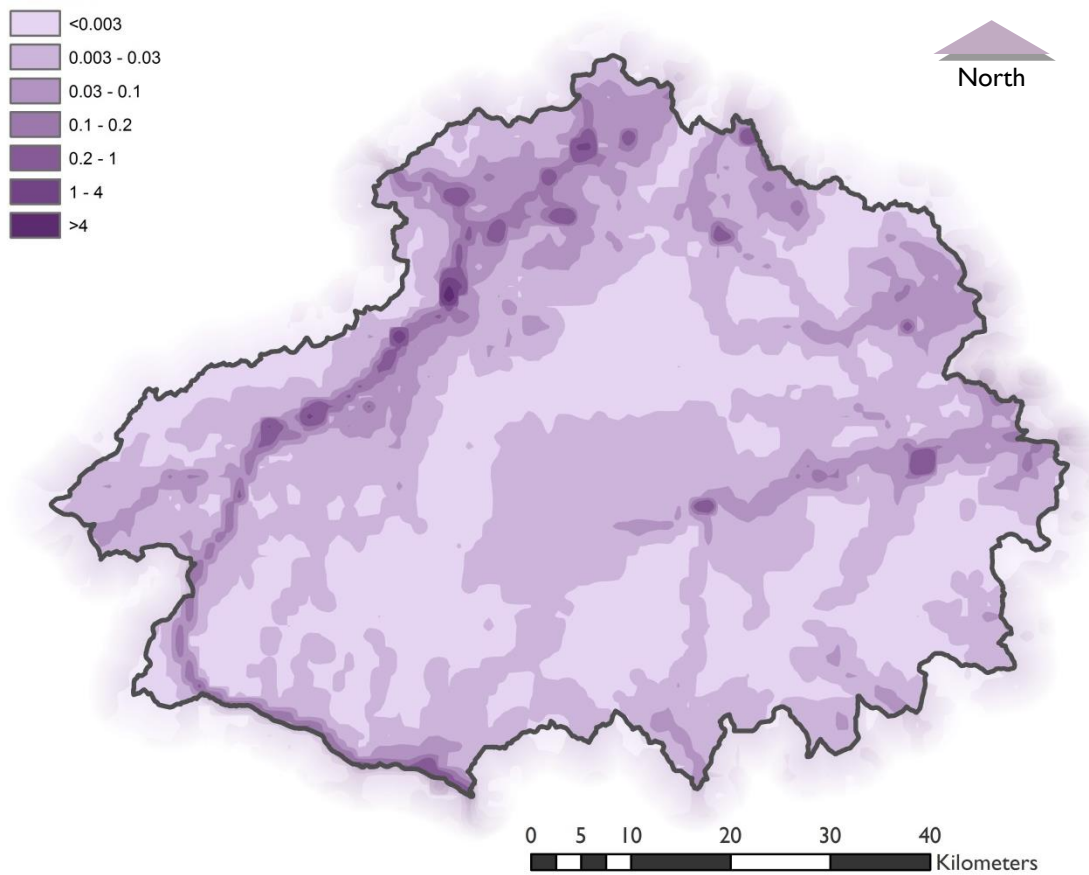
- nitrogen oxides (NO_x)
- particulate matter (PM₁₀ and PM_{2.5})
- sulphur dioxide (SO₂)
- non-methane volatile organic compounds (NMVOCs)
- ground-level ozone (O₃) and
- ammonia (NH₃)

The air quality of Scotland is generally better now than it has been at any time since before the industrial revolution, with increasingly strict control over industrial emissions, tighter fuel and emission standards for road vehicles and the control of smoke from domestic premises yielding positive results. An independent review of air quality in Scotland published in 2019 found that between 1990 and 2016 significant reductions were seen in the emissions of PM₁₀ (-64%), PM_{2.5} (-67%) nitrogen oxides (-72%) and sulphur dioxide (-94%) (<https://www.gov.scot/publications/cleaner-air-scotland-strategy-independent-review/>).

Human exposure to air pollution is now largely associated with transport emissions. The effects of this pollution occur in mainly in built areas.

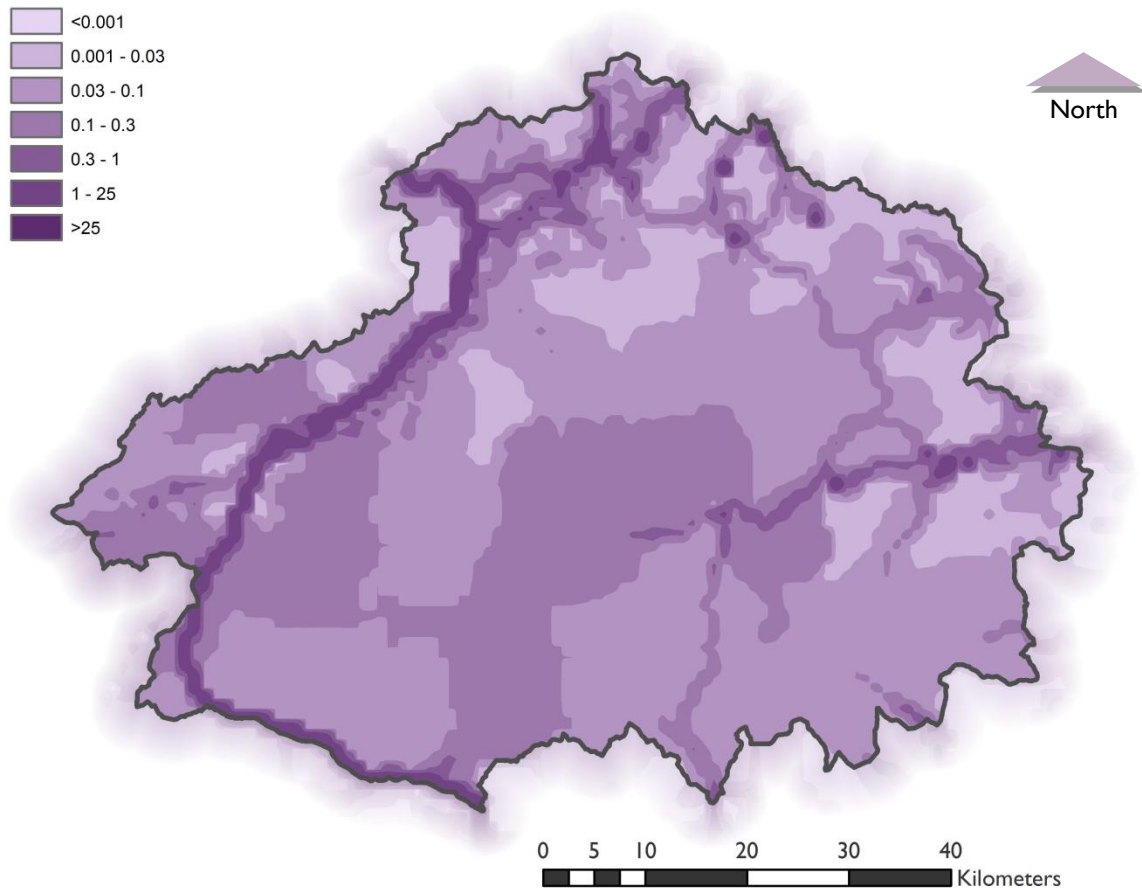
Where air quality objectives are not being met, Local Authorities have a duty under section 83(10) of the Environment Act 1995 to designate Air Quality Management Areas (AQMAs) to improve air quality. All air quality objectives are currently being met within the Park and therefore no AQMAs exist within its boundary (the nearest AQMAs are located in Aberdeen and Inverness).

Nevertheless, dualling of the A9 and how this could change traffic levels and visitor numbers in the Park means that air quality could be a future concern. In particular, the potential for increasing pollutants associated with traffic emissions such as PM_{10} and nitrogen dioxide (NO_2) needs to be given consideration. Spatial data on the emission of PM_{10} and NO_2 is available from the UK National Atmospheric Emissions Inventory for 2016. (There is insufficient monitoring data to undertake mapping for $PM_{2.5}$.) The highest emissions are located along the A9 and within the main settlements of Aviemore, Grantown-on-Spey and Ballater, where traffic volumes are greatest (figures 1 and 2).



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Figure 1 - emissions of PM_{10} in tonnes in the Park in 2016



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Figure 2 - emissions of NO_x in tonnes in the Park in 2016

Private motorised vehicle use is the main mode of transport in the Park for employment purposes, with public transport use being particularly low (Topic 8, Population and human health). Due to population growth and increasing visitor numbers, is likely that travel by private vehicle will increase in the Park unless there is a modal shift to alternative means of travel.

Proposed SEA objectives

SEA main objective	Sub-objective
2a: To maintain or improve air quality and reduce emissions of key pollutants	Will there be an effect on the levels of UK National Air Quality pollutants (eg NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?
	Will there be an effect on the levels of other types of air pollution (eg particulates)?