Cairngorms NATIONAL PARK
Pàirc Nàiseanta a' Mhonaidh Ruaidh

STRATEGY

Cairngorm and Glenmore

Strategy

Strategic Environmental Assessment Environmental Report

December 2015

Appendix 2: Environmental Baseline

Topic 2: Air

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> "*In order to protect human health and the environment as a whole, it is particularly important to combat emissions of pollutants at source...*"
>
> Ambient air quality and cleaner air for Europe Directive (2008/50/EC).

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. Even domestic activities such as driving, heating and cooking contribute, as do natural sources like sea salt, wildfires, volcanic activity, soil erosion and farming (Scottish Government, 2015).

Poor air quality can have both short term and long term effects on health. In general, healthy people may not suffer from any serious ill effects; however people with pre-existing health conditions (e.g. heart disease, lung conditions and asthma) may be affected by day to day changes in air pollution levels. It is estimated that in 2010, particulate matter in the air (PM_{10} and $PM_{2.5}$) could have caused the deaths of 2,094 people in Scotland.

Air pollution can also damage the wider environment, causing the acidification of soils and water, damaging plant and animal life in forests, lakes and rivers. It can also add nutrients to soil, which can affect biodiversity. Air pollution can also damage the fabric of buildings and historic monuments (Scottish Government, 2014).

The air quality objectives for Scotland are set out in the Air Quality (Scotland) Regulations 2000 and its 2002 Amendment. The main pollutants of concern are:

- Nitrogen oxides (NO_x);
- Particulate matter (PM_{10} and $PM_{2.5}$);
- Sulphur dioxide (SO_2);
- Non-methane volatile organic compounds (NMVOCs);
- Ground-level ozone (O_3) and
- Ammonia (NH_3)

Scotland's air quality is generally better now than it has been at any time since before the Industrial Revolution, with increasingly strict controls over industrial emissions, tighter fuel and emission standards for road vehicles and the control of smoke from domestic premises yielding positive results. Between 1990 and 2012 significant reductions were seen in the emissions of particulates (-59%), nitrogen oxides (-65%) and sulphur dioxide (-79%) (Sailsbury *et al.* 2014).

Human exposure to air pollution is now largely associated with transport emissions. The effects of this pollution are not confined to Scotland's cities but occur in many of the country's 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), where plans must be implemented to improve air quality. All air quality objectives are currently being met within the Cairngorms National Park and therefore no AQMAs exist within its boundary (the

nearest AQMAs are located in Aberdeen and Inverness). It is therefore unlikely that the Strategy will cause air quality objectives to be exceeded.

Nevertheless, as a Strategy designed to attract a greater number of visits to Cairngorm and Glenmore, and indeed the National Park as a whole, it is clear that the Strategy could have an impact on traffic levels. Therefore, the Strategy's potential for increasing pollutants associated with traffic emissions such as PM_{10} (**Figure 21**) and Nitrogen dioxide (NO_2) (**Figure 22**) needs to be given consideration. Spatial data on the emission of both is available from the UK National Atmospheric Emissions Inventory for 2012. As might be expected, the highest emissions for both are located along the A9 and within National Park's main settlements of Aviemore, Grantown-on-Spey and Ballater, where traffic volumes are greatest.

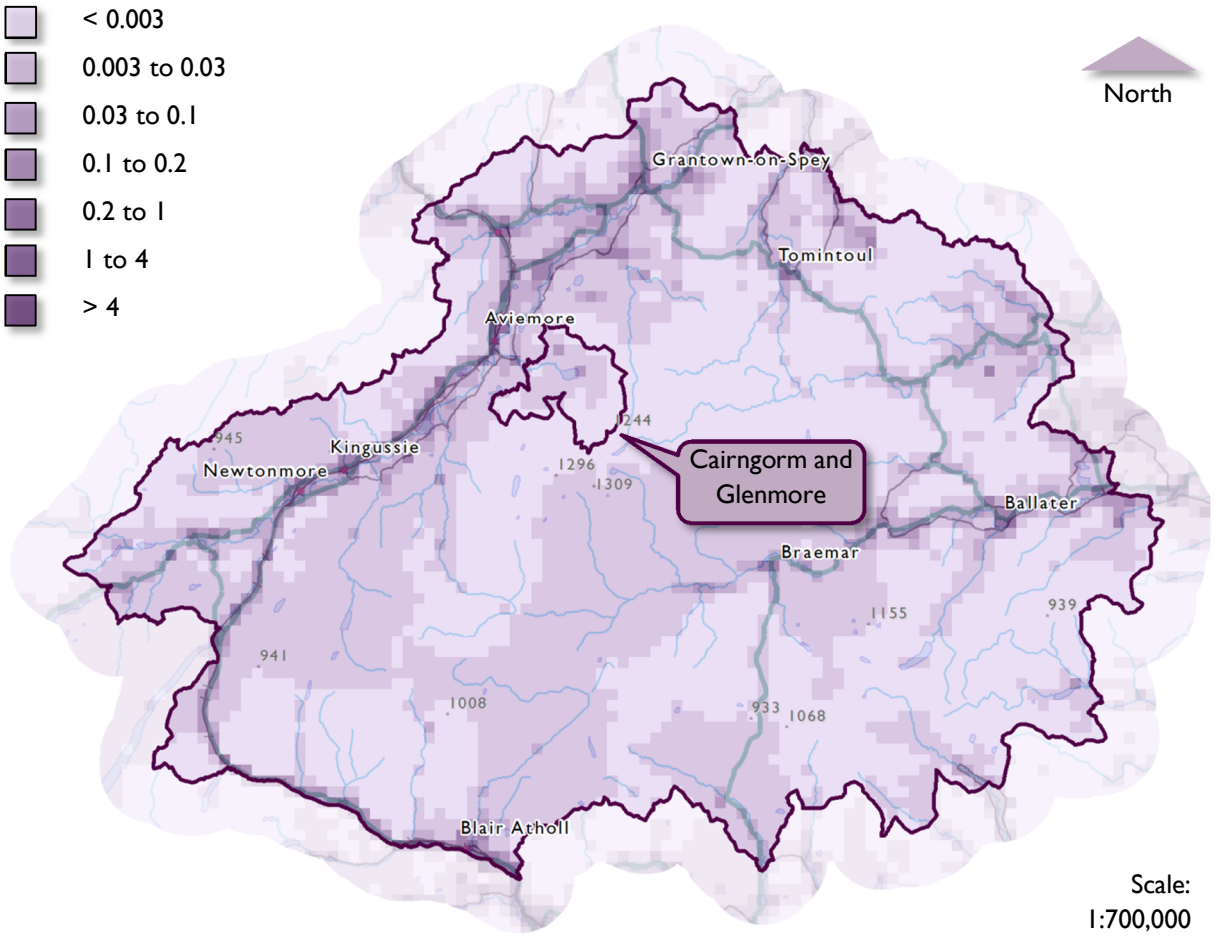

Figure 21 Emissions of PM_{10} in tonnes in the Cairngorms National Park in 2012.

Scottish Household Survey data for 2012 / 2013 (Scottish Government, 2014) indicates that private motorised vehicle use is the main mode of transport for the LAs that cover the National Park's area, ranging from around 77% in Aberdeenshire to around 65% in Highland. While specific data for the National Park is unavailable, it is assumed that due to the area's rurality, a similar level of use exists within its boundary. Indeed, Census information collected on household access to cars or vans supports this assumption (see **Topic 5: Material Asset**, p. 104) Road traffic is on the increase across Scotland (Transport Scotland, 2014) and owing to population growth and increasing visitor numbers, is also likely to rise within the National Park over the Plan period. It is estimated that the A9 alone will see a growth in traffic in the region of 10 to 15%, even without the effects of the planned dualling (Transport Scotland, 2013).

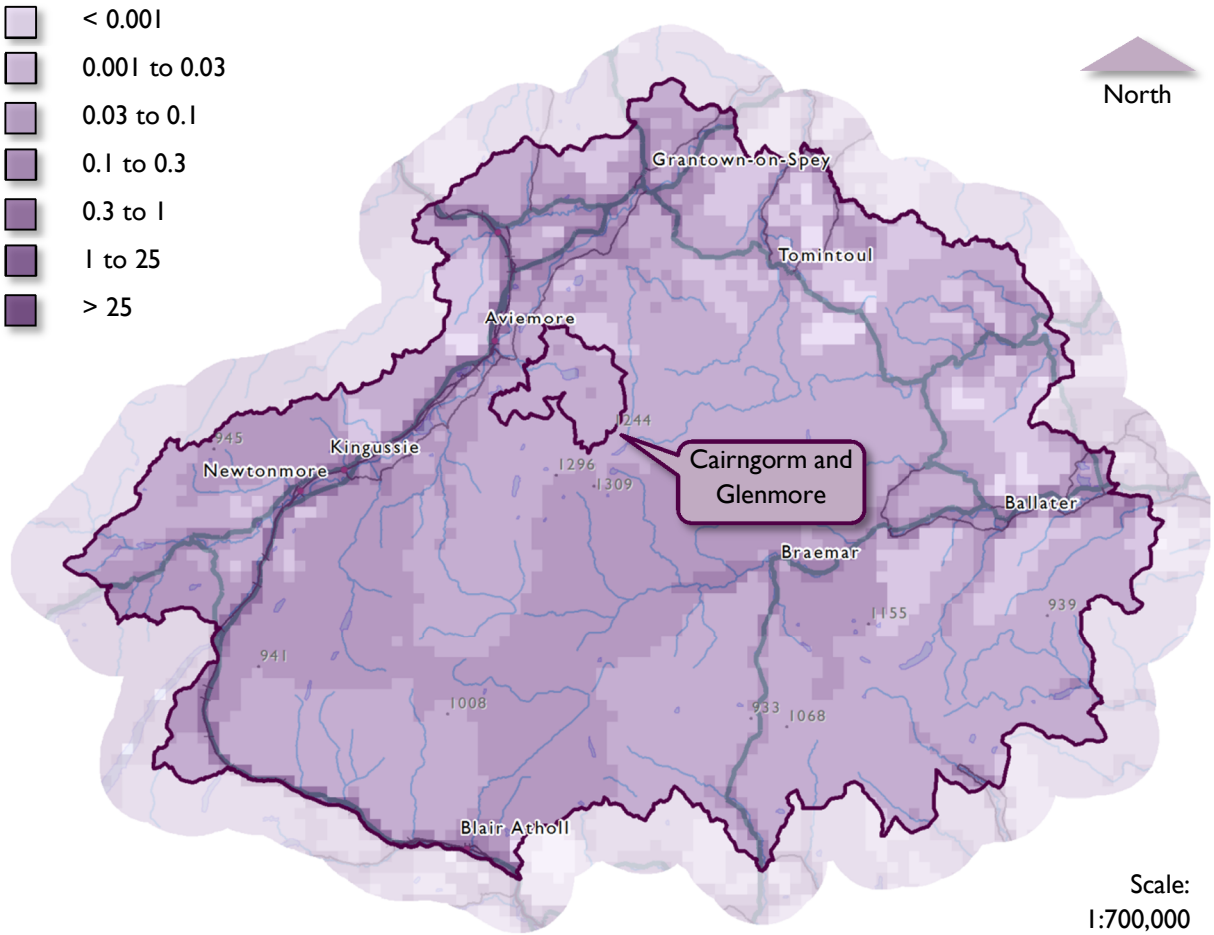

Figure 22 Emissions of Nitrogen Oxides (NO_x) as NO_2 in tonnes in the Cairngorms National Park in 2012.

The Strategy will therefore need to carefully consider its impact on traffic levels and seek to avoid adverse effects on air quality. It will also need to consider its relationship with the A9 Dualling Strategy (Transport Scotland, 2015), which is predicted to result in a reduction in ambient roadside carbon, NO_x and particulate levels through resultant improved traffic flows (Transport Scotland, 2013).

Key Messages

Air pollution is relatively low within the Cairngorms National Park, with no AQMAs within its boundary. However, there are localised areas along the main transport corridors where pollutants related to vehicle use are high enough to generate concern should they not be managed appropriately.

The Strategy may have an influence over air quality both on its own and in combination with other PPS, such as the A9 Dualling Strategy. Therefore, consideration needs to be given to the Strategy's potential to increase the ambient levels of traffic related such as NO_x and PM_{10}.

Inter-relationships with other topics

- Topic 3: Water 85
- Topic 4: Soil 94
- Topic 6: Biodiversity, Fauna and Flora 113
- Topic 8: Population and Human Health 176