

Trees help you breathe more easily

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Research by the University of Birmingham has contributed to The Woodland Trust's new Urban Air Quality report. Published in collaboration with Lancaster University, the report highlights how considered planting of trees and other vegetation can be used to significantly improve air quality in towns and cities. In fact, just through the screening of single trees, it has been shown that the concentration of certain types of pollution¹ can be reduced by 15-20%.

Impacts of air pollution cost the UK economy an estimated £9-19 billion every year according to the Department of the Environment, Food and Rural Affairs (DEFRA). Figures from the Environmental Audit committee also suggest that air pollution reduces life expectancy in the UK by up to eight months.

Professor Rob MacKenzie from the University's School of Geography, Earth and Environmental Science comments: *"Green roofs, green walls, street trees and parks all affect our exposure to urban air pollution in dramatically different ways that we should be careful not to confuse. Taken together, we should think of these green elements of a city as providing an infrastructure that supports our urban lifestyles in ways that are every bit as important as the grey infrastructure of roads and pipes and wires."*

Mike Townsend, Woodland Trust Conservation Advisor adds *"Although air quality in the UK has improved in recent decades, there remain serious health issues relating to air pollution, particularly in towns and cities. For example, the UK has one of the world's highest rates of childhood asthma, with about 15% of children affected. But, as this new report shows, Columbia University researchers found asthma rates among children were significantly lower in areas with more street trees."*

Pollution causes irritation of the lungs and can worsen existing lung conditions. It also affects people with heart conditions, especially when combined with high summer temperatures. Worst affected are poorer, mostly urban, areas close to busy roads and inadequately served by green space. The Woodland Trust hopes that the report will highlight the step change needed to increase tree planting in urban areas.

Dr Tom Pugh from Lancaster University adds, *"Air quality is often listed as one of the potential benefits of increasing tree cover in urban areas, but few urban greening projects appear to take into account how air quality goals can best be achieved."*

Careful selection and placement of tree species can help to ensure positive impacts are greatest and any negative impacts are minimised. However, the large-scale planting of almost all tree species will have a positive effect on air quality. Read the full report at:

Notes to Editors

¹The main pollutants of concern are particulate matter (PM), oxides of nitrogen, and ground-level

ozone. Road transport and the burning of fossil fuels, for instance in large fuel-burning plants such

as power stations, are the biggest sources of these pollutants.

Urban Air Quality Report

The report was prepared by Mike Townsend of the Woodland Trust with the assistance of Dr Tom Pugh and Prof Nick Hewitt, both of Lancaster University, and Prof Rob MacKenzie of the University of Birmingham. The material was prepared as part of the outreach programme of the *Urban Futures* project (<http://www.urban-futures.org> (<http://www.urban-futures.org/>)) of the Engineering and Physical Sciences Research Council, grant number EP/F007426/1, and draws on previous research from the URGENT programme of the Natural Environment Research Council, grant number GST/02/2236.