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PII: S1618-8667(19)30476-5

DOI: <https://doi.org/10.1016/j.ufug.2019.126552>

Reference: UFUG 126552

To appear in: *Urban Forestry & Urban Greening*

Received Date: 25 June 2019

Revised Date: 7 November 2019

Accepted Date: 27 November 2019

Please cite this article as: Xing Y, Brimblecombe P, Trees and parks as “the lungs of cities”, *Urban Forestry and amp; Urban Greening* (2019), doi: <https://doi.org/10.1016/j.ufug.2019.126552>

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Urban Forestry & Urban Greening

Trees and parks as “the lungs of cities”

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Highlights : 3-5 bullets, <=85 characters

- The metaphor of parks as “the lungs of cities” has been influential for >250 years
- Air pollution dispersion is often reduced by trees in parks
- Air purification by microscale deposition to vegetation may be overstated
- Spatial scale is critical to air-vegetation interactions in urban parks
- Research on air quality in parks needs better links to planning and design

Abstract:

The metaphor “lungs of cities”, initially a slogan for the preservation of urban parks, has been retained almost as common sense to the present. It implies that parks provide urban dwellers spaces for breathing in polluted cities. Observations on air pollutants in urban parks detect imprints left by emissions from local vehicles and industries, although they also reveal cleaner park interiors. There has been divergence about the way enhanced air quality in urban parks has been interpreted, some seeing this as the result of pollutant dispersion, while others believe it arises through pollutant uptake by vegetation. A bibliometric analysis suggests that studies considering only deposition found pollutant reduction, while those which account dispersion are less consistent, but street trees often fail to improve air quality. The balance between pollutant dispersion and deposition processes varies with spatial scale and is an important determinant of the roles played by vegetation in improving air quality. In small

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