

**Public Hearing on EPA's proposed decisions on the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM)**

**Docket ID No. EPA-HQ-OAR-2015-0072**

**Hello. I'm Nancy Boxer, N-a-n-c-y B-o-x-e-r. Association for Climate Health. Thanks for letting me speak.**

We agree: current standards **are** inadequate to protect our health and welfare. You propose lowering the standard to 9-10 micrograms per cubic meter. Yet we urge you to adopt a stronger standard at 8 micrograms which will save more lives, reduce disease and suffering.

The relationship between particulates and disease is well documented – especially harming the heart and lungs of older adults, those with pre-existing conditions, and children. Impacts are worse among minority populations.

Particulate exposure may **also** cause other harm. Although the evidence is not strong enough to be certain, these threats should not be taken lightly. If you have the opportunity to **probably** reduce the risk of getting cancer, diabetes, Alzheimer's or miscarriage, **and** shield children from things that hurt their growing brains, shouldn't you take it? Most people would say, YES!

Your own estimates predict the revised standard would reduce deaths by 20% - a good gain for public health. Yet we can do better, reducing by a third at the 8 microgram level. We urge you to adopt this **healthier** standard. The evidence – plus the caution to use an adequate margin of safety – supports it.

We also ask to tighten **secondary** standards. Your analysis covers visibility, climate change and the impact on materials. Yet effects on welfare include "soils, water, crops, vegetation, wildlife ..."<sup>1</sup> Your narrow focus omits many deep impacts where current secondary standards may not be adequate.

Example: Particulates harm other species just as they do humans. Higher levels are associated with lower weights in birds,<sup>2</sup> fewer eggs hatching,<sup>3</sup> more mutations<sup>4</sup> and birth defects. These lead to plummeting bird populations, which result in more insects since fewer birds are out there eating them. Then? More disease-carrying mosquitoes and crop-harming bugs, increasing disease, death and threats to our food security.

Bee health also seems to deteriorate with exposure to particulates.<sup>5</sup> This seriously reduces their ability to pollinate food crops as well as wildflowers, trees and other species. 75% of our food

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<sup>1</sup> CAA section 302(h)

<sup>2</sup> <https://link.springer.com/article/10.1007/BF00203919>

<sup>3</sup> <https://pubs.er.usgs.gov/publication/5224791>

<sup>4</sup> <https://pubs.acs.org/doi/abs/10.1021/es502720a>

<sup>5</sup> <https://www.pnas.org/doi/full/10.1073/pnas.2009074117>

crops are pollinated by bees. Thus, higher pollution levels threaten food supplies as well as the integrity of Nature.

Particulates also block sunlight and absorption by plants and trees<sup>6</sup>, shrinking the productivity and resilience of farms, forests and wetlands - more threats to food security **and** the ability of plants to absorb pollutants and carbon. Even as we encourage planting trees to fight global warming, we undercut our own efforts to save the planet if we allow higher particulate levels.

Other impacts: more invasive species,<sup>7</sup> acidification of our soils,<sup>8</sup> fewer fish<sup>9</sup> and the potential collapse of ecosystems as more species are pushed to the brink.

Where crops are threatened and efforts to mitigate the climate crisis sabotaged, and species diversity collapses around us, we have **serious** “known or anticipated adverse effects associated with the presence of [the] pollutant in the ambient air” which you are **required** to consider for our secondary standards.

Thus, we urge you to adopt a stronger limit for both primary **and** secondary standards.

Thank you for your time.

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<sup>6</sup> [https://19january2017snapshot.epa.gov/ozone-pollution/ecosystem-effects-ozone-pollution\\_.html](https://19january2017snapshot.epa.gov/ozone-pollution/ecosystem-effects-ozone-pollution_.html)

<sup>7</sup> [https://www.urbanhabitats.org/v05n01/ozone\\_full.html](https://www.urbanhabitats.org/v05n01/ozone_full.html)

<sup>8</sup> chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.caryinstitute.org/sites/default/files/public/reprints/Lozett\_NYAS\_2009.pdf

<sup>9</sup> [Paper2.pdf \(wrapair.org\)](#) Ecosystems (2000) 3: 352–368 DOI: 10.1007/s10021000003