

My name is Georgia Murray and I am a Staff Scientist for the Appalachian Mountain Club. AMC is the oldest conservation and recreation organization in the country with over 100000 members and supporter. We operate backcountry huts and roadside lodges for recreationist visiting the White Mountains of NH and across the NE. In NH alone our operations contribute about \$18 million annually to economic activity in the state. Our members are part of an outdoor economy which generate \$887 billion in consumer spending and 7.6 million jobs on an annual basis<sup>1</sup>. Clean air and a healthy environment are core ecosystem services that sustain this important economic sector.

Our organization has participated in the process of ozone NAAQS reviews for decades. The review in 2020 of the ozone primary health and secondary welfare standards was rushed, insufficient, and frankly inappropriate.

The process lacked the expertise from outside scientists to help review the most recent scientific literature which is essential to the integrity of the process. This should not only include health experts but those with a background in ozone's effects on crop and forest productivity, scenic beauty, ecosystem functioning, and climate change. Instead what should have been a science-based review with the goal of protecting public health and welfare appears to be a rushed rubber stamped process to do nothing.

More specifically the sequence and timeframe of this process was jumbled and compressed. For numerous prior reviews, EPA has utilized an organized, sequential review process, first drafting an integrated review plan ("IRP"), followed by a review of the science in the form of an Integrated Science Assessment ("ISA"), a Risk and Exposure Assessment ("REA"), and then a review of policy issues in its Policy Assessment ("PA"). EPA's timeline for this review did not allow for sufficient consideration of the scientific evidence. In fact, a process that typically takes years to complete was done in months with the PA being considered before the ISA, basically the science underpinning, had been finalized.

Additionally, the process has historically been done with the advice of a Clean Air Scientific Advisory Committee (CASAC) supported by pollutant-specific review panels. The members of CASAC for this review lacked critical expertise due to a wholesale turnover in 2018 by EPA with new members. In addition for four decades, the chartered seven-member CASAC has augmented its ranks with additional experts to allow the breadth, depth, and diversity of expertise needed to review multidisciplinary scientific issues relevant to each of the criteria pollutants regulated under the NAAQS.<sup>2</sup> That expanded expert panel has been in place to fulfill

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<sup>1</sup> 2017 the Outdoor Industry Association

<sup>2</sup> CASAC's charter provides it with the authority to convene such expert panels. That charter states: "EPA, or CASAC with the Agency's approval, may form subcommittees or workgroups for any purpose consistent with this charter." Of course, the panel is not CASAC, and does not itself make recommendations to the agency. As the CASAC charter states, "[s]uch subcommittees or workgroups may not work independently of the chartered committee and must report their recommendations and advice to the chartered CASAC for full deliberation and discussion. Subcommittees or workgroups have no authority to make decisions on behalf of the chartered committee, nor can they report directly to the EPA." United States Environmental Protection Agency Charter, Clean Air Scientific Advisory Committee, June 5, 2019 (date of filing with Congress), [https://yosemite.epa.gov/sab/sabproduct.nsf/WebCASAC/2019casaccharter/\\$File/CASAC%202019%20Renewal%20Charter%203.21.19%20-%20final.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/WebCASAC/2019casaccharter/$File/CASAC%202019%20Renewal%20Charter%203.21.19%20-%20final.pdf). Additional experts have been appointed to review panels that interact with members of the chartered CASAC for all reviews since the late 1970s. Over time, the chartered CASAC has typically been augmented with 12 or more additional experts in a given review cycle for a given criteria pollutant. The average number of experts among 20 such panels for which membership data is available is 14, and the average size of the review panels is 20 members, inclusive of participating CASAC members.

the statute's requirement that the NAAQS reflect the latest scientific knowledge. This did not happen, and there was no panel members with expertise in the ecosystem impacts of ozone on forests, scenic beauty, nor in ozone's role in climate change.

EPA unreasonably relied on recommendations from a CASAC that was constituted illegally, undercut the necessary expertise and support for scientific review, conflated steps for scientific assessment and policy determinations, failed to conduct a thorough assessment of the most recent studies on the health and welfare harms of ozone pollution, and dramatically accelerated the entire review process, leaving insufficient time for public comment and scientific review. These deficiencies have led to a flawed Proposal to retain the current inadequate standards that fails to comply with the Clean Air Act's requirements for a sound scientific foundation and an adequate margin of safety.

Meanwhile we have lost precious time to address a harmful pollutant. Tropospheric ozone is negatively affecting human health, ecosystems, and our climate. Our organization supports healthy outdoor spaces for all and protection of natural resources, and we are concerned that people working or exercising outdoors will continue to see significant negative impacts to their health from ozone. AMC was part of a hiker health study with Harvard School of Public Health and Brigham and Women's Hospital that demonstrated healthy individuals hiking on Mount Washington in NH had lung function declines even with low levels of ozone. For those with a respiratory disease the impacts were even more severe. This is just one example of a significant body of science that support a standard lower than EPA's proposal to keep the current ozone standard of 70 parts per billion (ppb). The science clearly shows that a stronger limit is needed to protect public health under the Clean Air Act with an adequate margin of safety.

We also strongly supports a separate cumulative based W126 metric for the secondary ozone standard to protect plants and ecosystems. The negative impacts of ozone to plants and ecosystems include visible foliar injury, productivity declines, biomass loss, altered nutrient and water cycling, changes in community structure, and disruption of plant-insect interactions. This litany of insults to the health of our natural ecosystems should be considered in aggregate as well as in the context of other anthropogenic stressors.

A W126 form of the standard is supported by the large body of science from past reviews. EPA has proposed that the current primary standard is sufficient to protect against the harm of ozone to trees and other plants. However, the 8-hour averaging is inadequate to protect plants and ecosystem services that are damaged by ozone throughout the growing season. Averaging across 3 years is also less protective as was clearly spelled out by the 2014 CASACs panel that included plant experts. EPA justifies the 70 ppm 8-hr standard as equivalent to a 3 year average of a cumulative 12 hour 3 month W126 level of 19 ppm-hrs without addressing the 2014 CASAC panels advice of a 1-year growing season W126 form or the most protection at 7 ppm-hrs. The result is a proposed welfare standard that is woefully under protective especially for sensitive plants and for mountain ecosystems that see higher nighttime and morning ozone levels.

Climate change impacts from ozone should be addressed more fully and in the context of the global crisis and urgency for action. Ozone is not only a greenhouse gas itself but it also

damages trees and reduces our forest's ability to store carbon. Every year of biomass loss and reduced productivity by trees is compounded and makes it harder to combat climate change moving forward.

We urge OMB to reject this flawed process, and send this rule back to EPA where an appropriate and rigorous science based review can occur.

Thank you