

Proposed Revision of National Ambient Air Quality Standards (NAAQS) for Ozone (2007)

On July 12, 2007, US EPA (Environmental Protection Agency) proposed revisions of both primary (human health) and secondary (human welfare) National Ambient Air Quality Standards (NAAQS) for ozone.

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The EPA Administrator recommended that the primary ozone standard (to protect public health) be set between an 8-hour average of 0.060 and 0.070 ppm (currently it is 0.08 ppm)

EPA has considered a secondary standard (to protect human welfare) that is different from the primary standard.

- SUM06 = Sum of all hourly concentrations ≥ 0.060 ppm during a 3-month plant growth season.
- W126 = A sigmoidal (“S” shaped curve) weighting function of hourly ozone concentrations with an inflection point at 0.067 ppm, with equal weight to values above 0.010 ppm.

Proposed Revision of National Ambient Air Quality Standards (NAAQS) for Ozone (2007): PRIMARY

A significant issue associated with the revision of the primary standard is the definition of “ Policy Relevant Background (PRB)” ozone concentration.

PRB is defined as the distribution of O₃ concentrations that would be observed in the U.S in the absence of anthropogenic emissions of precursor molecules from the U.S. and the neighboring countries of Canada, and Mexico.

AAQTF has serious concerns regarding the modeled results, associated uncertainties and their consequent propagation in the risk assessment to human health.

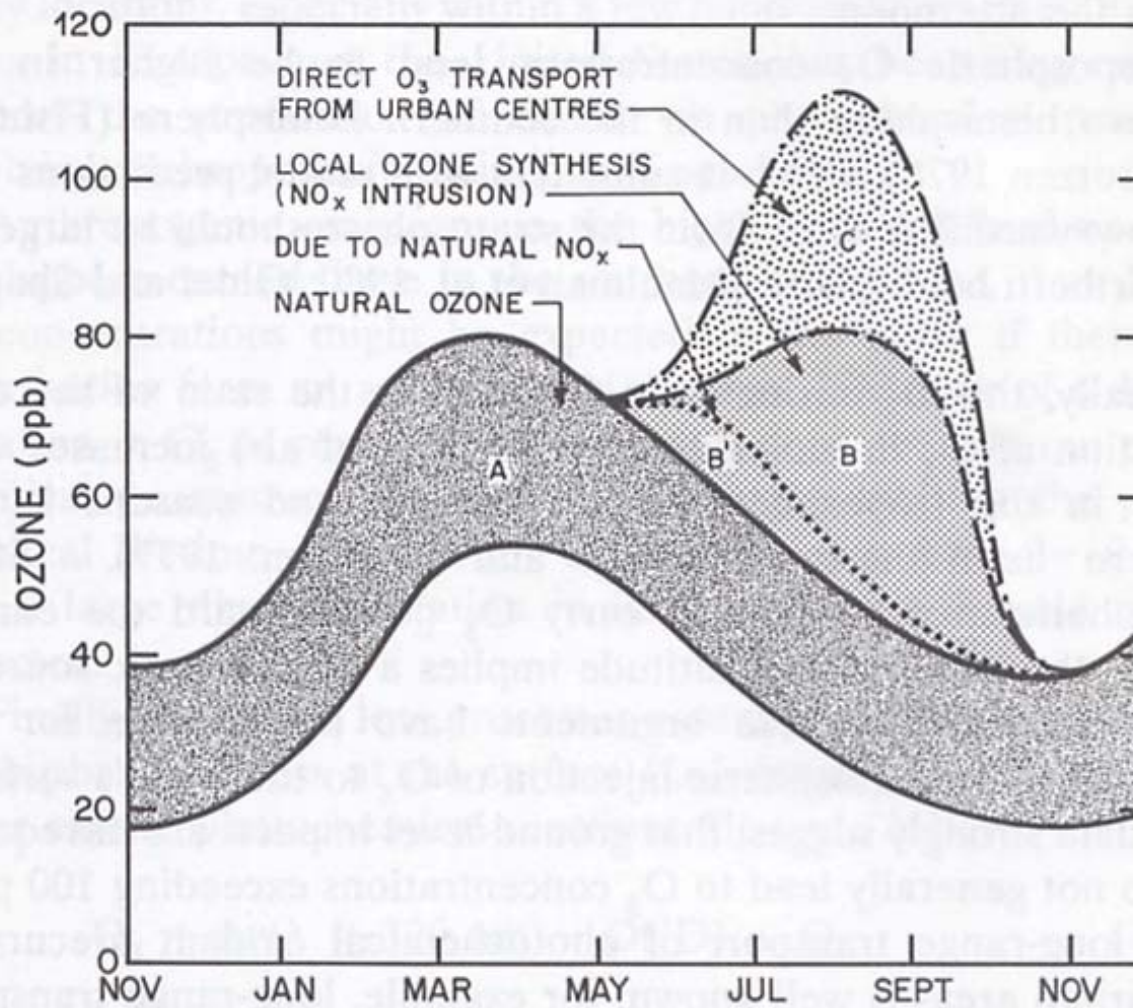


Figure 3.2 A schematic diagram of the idealized variations in O₃ concentrations at remote locations.

Source: Singh et al. (1978). (Reprinted with permission, Copyright 1978 Pergamon Press PLC).

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- **The Final Ozone Staff Paper does not provide a sufficient base of evidence from the peer-reviewed literature to suggest that the current approach to determining a PRB is the best method to make this estimation.**
- **One reason is that part of the PRB is not controllable by EPA (CASAC, March 26, 2007).**

Proposed Revision of National Ambient Air Quality Standards (NAAQS) for Ozone (2007): SECONDARY

- **A major concern in the context of any revision of the secondary NAAQS: EPA has neither provided any significant additions nor any new data on the numerical relationships between ozone exposures and plant (crops and forests) responses at this time, compared to what was used in the revision of NAAQS in 1996.**
- **Equally importantly, the ozone exposure metrics (SUM06 and W126) are no different in their approach from those considered in 1996 and suffer from a lack of consistency in their performance and a lack of underlying mechanistic or process based explanatory biological reasoning.**

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- **Therefore, it is recommended by the USDA-AAQTF that given the inadequacies described in this document, at this time it would be inappropriate for EPA to establish a new secondary standard that is different from the primary standard. AAQTF recommends that both the primary and the secondary standards be the same.**
- **Further, EPA should initiate and provide support for scientists in academic institutions to conduct chamber-less, open field studies under real world conditions to determine the spatial and temporal trends in the effects of ambient ozone on crop productivity. Data from such studies can be used effectively in setting scientifically defensible regulatory policies.**

