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Four Questions Reporters Should Ask about the ALA's "State of the Air" Report

Comments and Observations from
Joel Schwartz and Steven F. Hayward¹

On April 29, the American Lung Association (ALA) will release its annual "State of the Air" report on air pollution levels in American cities. Like previous "State of the Air" reports, the news will be alarming. The ALA will claim 55% of Americans live in areas with unhealthy levels of ozone or particle pollution. Metropolitan areas from New York to San Diego are given letter grades of "F" for air quality.

Before taking this year's ALA report at face value, reporters should ask the ALA report's authors a few questions to clarify the report's biases.

1. Is air quality in California, and the U.S. as a whole, better or worse than it was 10 years ago? Five years ago?

Discussion: Air pollution has been declining for decades. While southern California's air pollution remains the highest in the nation, southern California has made more progress than any other region. Figure 1 displays the improving trend in exceedences of the 1-hour ozone standard. National compliance with the 1-hour ozone standard went from about 40% in the late 1970s to 90% today.

About 44% of U.S. monitoring locations still exceed EPA's stringent new 8-hour ozone standard, but 8-hour ozone levels have been dropping as well. Virtually the entire nation (>99%) now meets all federal health standards for carbon monoxide, nitrogen oxides, and sulfur dioxide. More than 96% of the nation complies with PM₁₀ standards (particulate matter under 10 micrometers in diameter), and the compliance rate is about 82% for EPA's stringent new annual PM_{2.5} standard. PM_{2.5} declined 40% between 1981 and 2003, with the most polluted areas once again achieving the greatest reductions.

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These declining trends will continue in the coming decade (see discussion of question 4 below).

2. Is every single person in each city or county with an “F” grade exposed to dangerous levels of air pollution?

[If the ALA spokesperson says “Yes” to this question, it will mean they do not know what they are talking about and reporters can stop taking notes. See discussion below.]

Follow up question: For each county, “State of the Air” lists the number of days per year exceeding the 8-hour ozone standard. How many individual monitoring locations in a given county exceeded the ozone standard that many times per year? [The correct answer is zero for almost all counties with more than one ozone monitoring site (see Figure 2 below).]

Discussion: ALA “State of the Air” reports give an entire county an “F” grade if only a single air quality monitor within a county exceeds the EPA’s strict new 8-hour ozone benchmark more than 3 times per year. But in most metro areas only a few monitors ever register an exceedance. In some metro areas, only a tiny percentage of the population lives in proximity to air quality monitors that exceed the EPA standard.

For example, ALA gave San Diego an “F” for air quality, claiming that San Diego experienced 16 exceedances per year of the EPA ozone standard for 1999-2001. In fact, only a single rural location, Alpine, exceeded the 8-hour ozone standard more than 2 times per year (see Figure 3). **99% of people in San Diego County breathe air that meets both the EPA 8-hour and 1-hour ozone standards.** ALA greatly exaggerated ozone levels in other metro areas as well.

ALA also claims that 81 million Americans live in areas with dangerous short-term PM2.5 levels. But as of the end of 2002, only 1.5% of PM2.5 monitoring sites violated the 24-hour PM2.5 standard, and that fraction had dropped to 0.6% by the end of 2003.

ALA was able to claim 55% of Americans live in areas with unhealthy levels of air pollution only by including tens of millions of people who actually breathe clean air.

Figure 4 compares ALA and EPA claims about the number of people living in areas that violate pollution standards, with our realistic estimate based on pollution levels where people live.

3. Does ALA believe that current air pollution levels pose a significant health risk?

Discussion: Few Americans are at risk from current levels of air pollution. For example, the EPA projects that going from nationwide attainment of the 1-hour ozone standard to attainment of the 8-hour standard would reduce emergency room visits for asthma by 0.6 percent, even though the 8-hour standard is significantly more stringent (4.5 times as many monitoring locations violate the 8-hour standard).

Comparison of air pollution levels in California counties shows that there is little relationship between air pollution levels and asthma prevalence (see Figure 5). A recent study funded by a coalition of environmental groups concluded that reducing power plant emissions by 75% would reduce serious respiratory and cardiovascular distress (e.g., emergency room visits) due to particulate matter pollution by 0.2% to 0.6%.²

A study of asthmatic children in Connecticut reported increased symptoms on days with higher ozone. However, there was no association between asthma symptoms and PM2.5. Furthermore, based on the study's results, going from current ozone levels to background levels (a much larger reduction than simply attaining the 8-hour ozone standard) would reduce the risk of wheezing from 2.8% to 2.69% and the risk of experiencing chest tightness from 1.8% to 1.71%.

Despite these results and others like them, ALA claims 40% of Americans—all children, all the elderly, and everyone with a respiratory disease are “at risk” from current relatively low PM2.5 and ozone levels.

4. Does the American Lung Association believe that, notwithstanding the decline in air pollution in the U.S. and California, air pollution is going to get worse in the future?

Discussion: In State of the Air 2004, ALA claims “the Clean Air Act is seriously at risk”, that changes to the New Source Review program will cause pollution to rise, and that delay in enforcing the 8-hour ozone standard has meant little cleanup of ozone pollution. ALA doesn't present any evidence for this from actual pollution trends or upcoming requirements.

For example:

- EPA's “NOx SIP Call” regulation comes into effect in May and requires a 60% reduction in NOx emissions from coal-fired power plants and industrial boilers in the eastern U.S.
- The Clean Air Act's Title IV sulfur dioxide reduction program requires a 20% reduction between 2000 and 2010.
- EPA has adopted technology-based caps on pollution from dozens industrial sources during the last decade. These reductions include:³
 - Coke-oven emissions: –80%

² Abt Associates, *The Particulate-Related Health Benefits of Reducing Power Plant Emissions*, Prepared for the Clean Air Task Force, Bethesda, Maryland, 2000.

³ EPA, *Taking Toxics out of the Air* (Washington, DC: August 2000), <http://www.epa.gov/oar/oaqps/takingtoxics/airtox.pdf>. Also see the specific rules by industry at <http://www.epa.gov/ttn/atw/mactfnlalph.html>.

- Chrome-plating: -99%
- Refineries: -60%
- Organic chemical manufacturing: - 80%

All of these requirements place hard caps on industrial emissions and are unaffected by changes to New Source Review. Yet ALA does not mention them in its report.

Motor vehicle data from on-road pollution studies and inspection programs show emissions from gasoline vehicles are dropping by about 10 percent per year, as the fleet turns over to more recent models that start out and stay much cleaner than vehicles built years ago. Diesel truck emissions are also declining. Although motorists are driving more miles each year, these increases in driving are tiny compared to the large declines in vehicle emission rates and will do little to slow progress on auto pollution.⁴ New EPA requirements for diesel trucks require a 90% reduction in NOx and soot starting in 2007. New requirements for cars phase in this year and require an additional 70%-80% reduction from the already-low levels of recent models.

Summary

“State of the Air” is designed to generate scary headlines and maintain a mood of crisis, rather than provide the media and the public with accurate information on air pollution. August Andrew Goldstein of *Time* magazine wrote: “Fuzzy math and scare tactics might help green groups raise money, but when they, abetted by an environmentally friendly media, overplay their hand, it invites scathing critiques. . .” (From “Too Green for Their Own Good?” *Time* magazine, August 26, 2002.)

Data in this advisory is excerpted from a forthcoming AEI book, *Air Quality in America: A Dose of Reality on Air Pollution Levels, Trends, and Health Risks*, to be published this summer by AEI Press.

For more details on this issue, Joel Schwartz’s study for the American Enterprise Institute, “No Way Back: Why Air Pollution Will Continue to Decline.” It is available at: http://www.aei.org/publications/bookID.428,filter./book_detail.asp.

For general details on environmental trends in the U.S., see *The Index of Leading Environmental Indicators 2004* (eighth edition), available at www.pacificresearch.org.

⁴ For detailed data and analysis, see J. Schwartz, “No Way Back: Why Air Pollution will Continue to Decline,” http://www.aei.org/docLib/20030804_4.pdf.

Figure 1

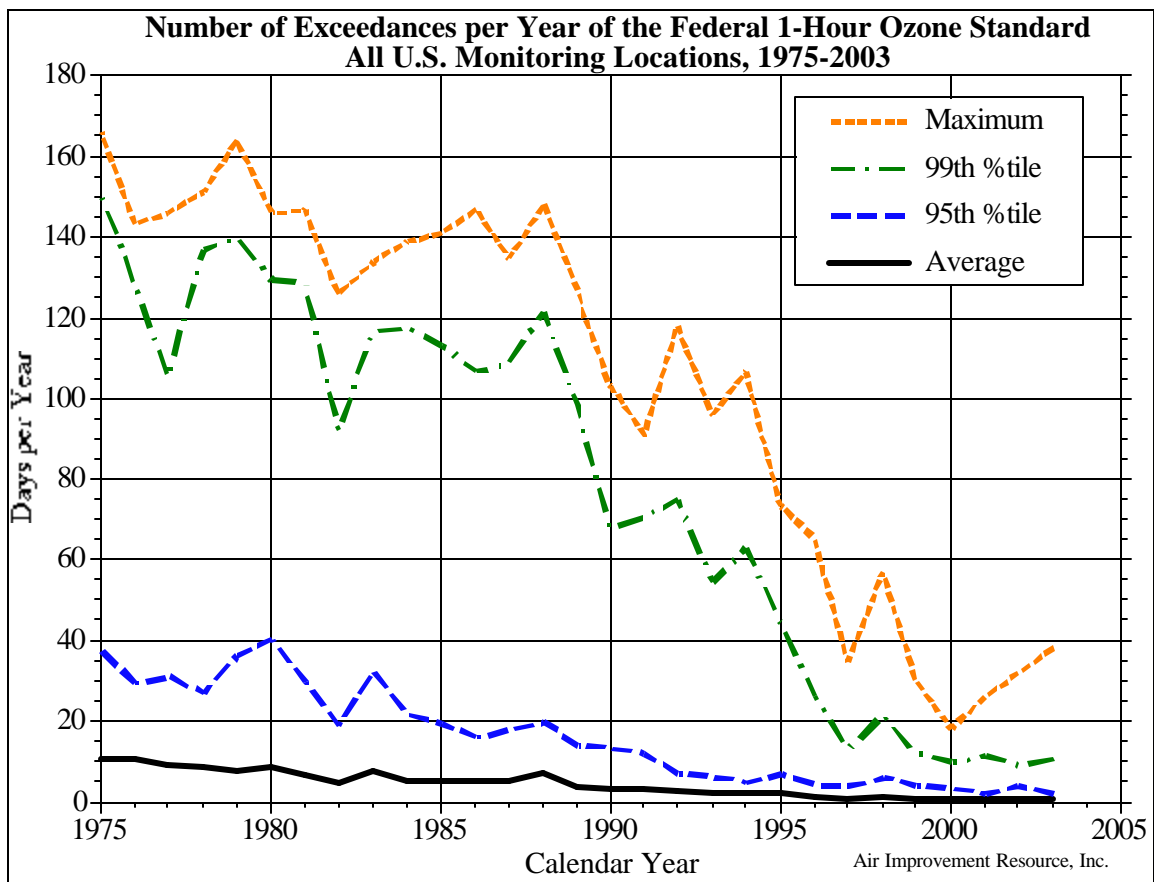
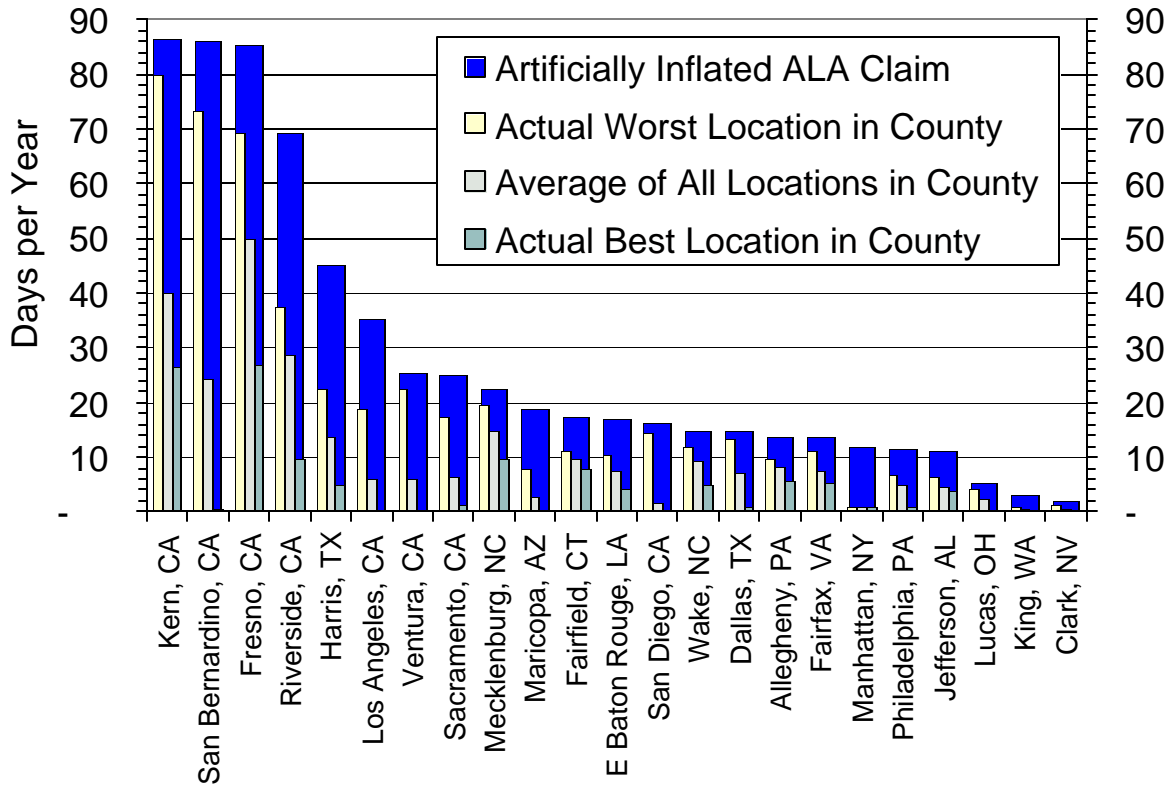
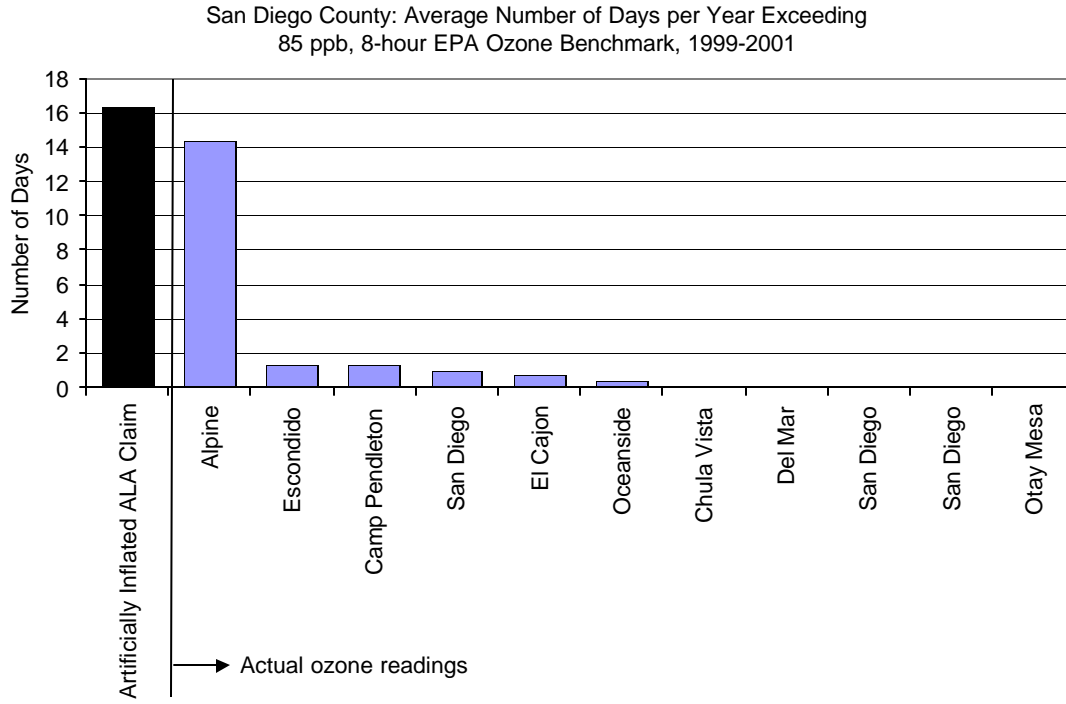


Figure 2. Days per Year Exceeding 8-hour Ozone Standard by County| ALA Claim vs. Actual Values.



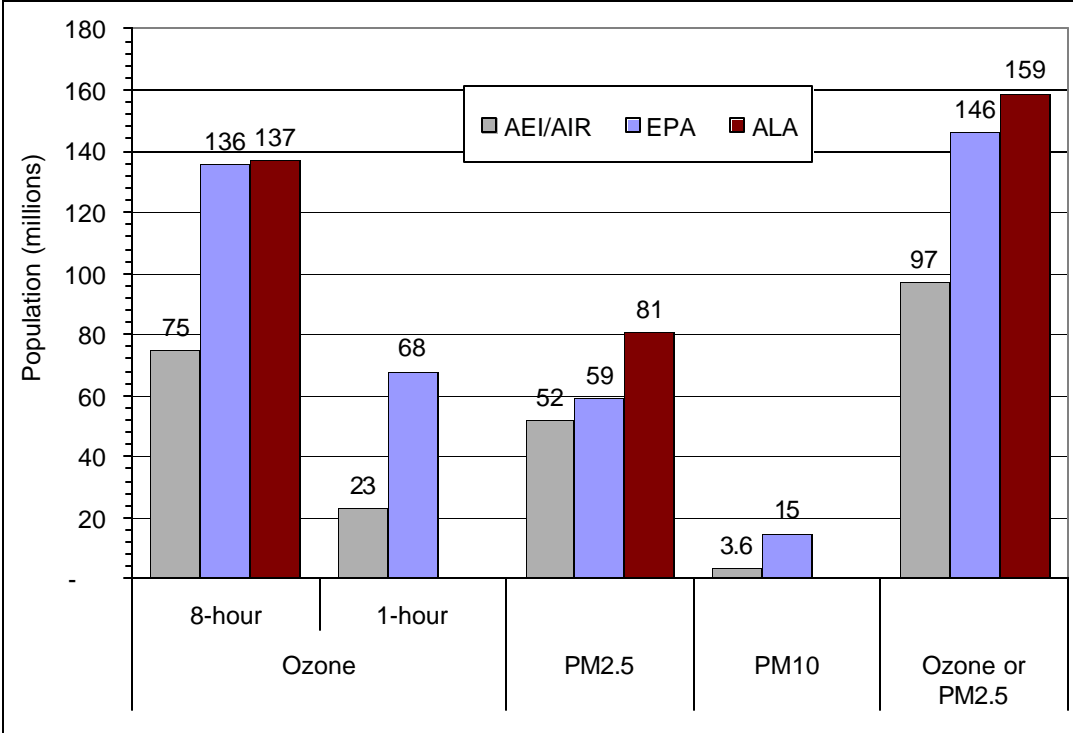
Both "State of the Air" claim and actual values are based on 2002 data.

Figure 3



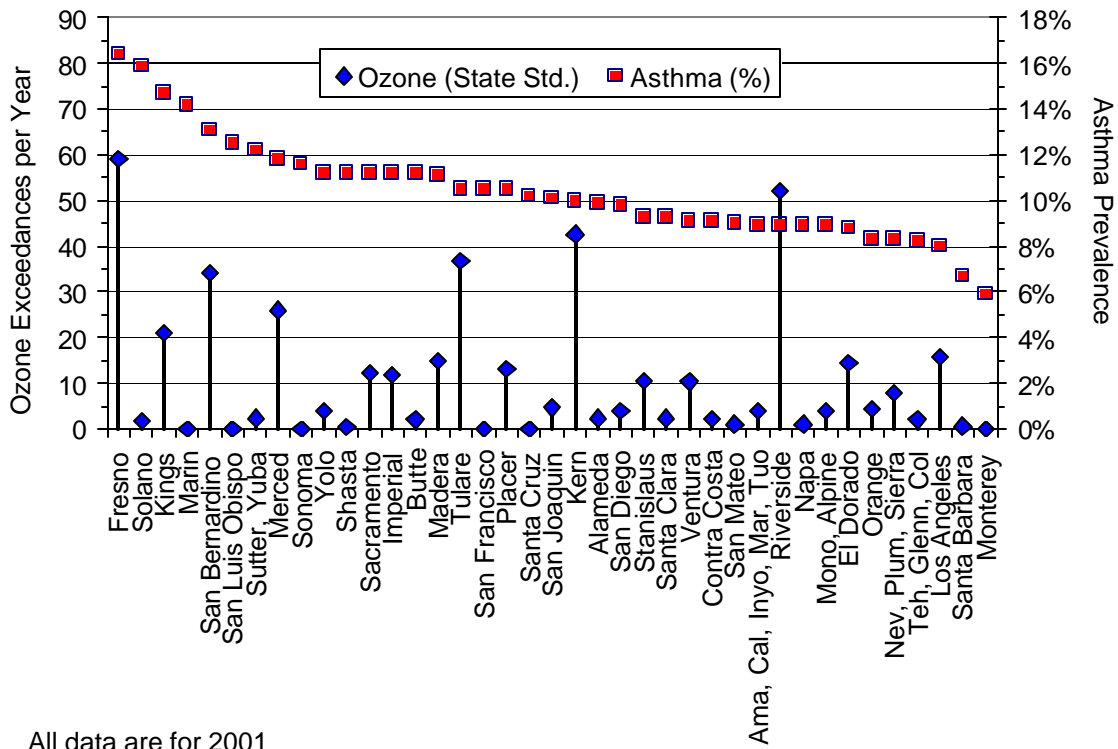
San Diego appears more than once because there are ozone monitors at 3 different locations in the city. Locations with fewer than 4 days per year with ozone greater than 85 parts per billion (ppb) comply with EPA's 8-hour ozone standard

Figure 4. AEI-AIR Estimate of People Living in Violating Areas Compared to EPA and ALA “All-County” Estimates



Note: Estimates are as of 2002 and include only counties with pollution monitors. Due to declining PM2.5 levels, the PM2.5 estimate dropped to 47 million in 2003.

Figure 5. Comparison of Days Exceeding the 8-hour Ozone Standard and Percent of Californians Who Said they Had Been Diagnosed with Asthma and Had Experienced Symptoms in the Past Year



All data are for 2001

Number of days exceeding the pollution standard is an unweighted average for all monitoring sites in a county with data for 2001. Asthma prevalence by county for 2001 is the percent of children aged 5-14 who reported both having been previously diagnosed with asthma and experiencing asthma symptoms in 2001. Sources: Ozone data for 2001 were retrieved from CARB's air quality data CD (# PTSD-02-017-CD). UCLA Center for Health Policy Research, "Asthma Symptom Prevalence in California in 2001."

