

“The State of the Air”: Propaganda, Not Science

by Roy Cordato

Each May the American Lung Association (ALA) issues “The State of the Air” in which it reports on ground-level ozone pollution county by county over a three-year period. The study gives each county a grade (A-F) based on what are called “ozone exceedence days” and calculates the number of people “put at risk” for respiratory problems as a result of these exceedences.

The study is important because it influences policy debates, especially in the states, and because the local news media like to focus on the ALA’s ranking of counties and states. In reality every aspect of the ALA report is methodologically flawed. Its reporting of ozone data and the extent of detrimental health effects is hyperbolic, and its grading system and rankings are meaningless.

First, the ALA report is based on data as much as four years old and says little or nothing about current or future trends. Despite its title, “The State of the Air: 2003” focuses on 1999–2001 and says nothing about the state of the air in 2003 or 2002.¹ Ground-level ozone is heavily dependent on the weather, particularly heat, sunlight, and humidity, and can vary dramatically from year to year. For example, from 1999 to

2001 the average number of ozone exceedence days per monitor in North Carolina fell by more than two-thirds, a fact not mentioned in the ALA’s discussion of air quality in the state. In spite of this flaw, the media typically report on the study as if the data were both current and an accurate reflection of past and current trends.

The ALA’s grading system and the comparisons based on this system convey little if any useful information. A county is given an F if there are more than three monitor readings greater than or equal to 85 parts per billion (ppb) of ambient air averaged over eight hours for the three-year period.² This raises several problems.

Imagine county Y and county Z. Y registers ten mild exceedence days of 85 ppb over the period with no other days registering above 70 ppb. Z registers 20 days measuring 80 ppb with no day below 75 ppb. The ALA grading system would give county Y a grade of F and county Z, with no exceedences, a grade of A. According to the Environmental Protection Agency’s Clean Air Scientific Advisory Committee (CASAC), these two grades would tell us nothing about the relative healthiness of the air in these two counties.³ CASAC concluded that when considering a range of 70 to 90 ppb “there is no ‘bright line’ which distinguishes any of the . . . standards . . . as being significantly more protective of public health.” In this case the difference between A and F, while appearing quite dramatic, would turn out to be, in

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terms of actual protection of public health, no difference at all.

Compounding this deception is the fact that the ALA study uses its conclusions to rank counties and metropolitan areas according to relative levels of ozone pollution. The problem is that different counties, cities, and states all have different numbers of monitors. The more monitors a jurisdiction has the more likely an exceedence will be registered on any given day. That biases the comparisons against areas with more monitors. While the ALA is clearly aware of this problem, it has never attempted to adjust its rankings for the numbers of monitors in each county.

In reporting data from a county, the ALA counts an ozone exceedence from any one monitor against the entire geographical area. Assume a county has four monitors each at a different location, if only one shows an exceedence for a given day, the entire county is reported as being out of compliance. Therefore, a county will always be reported as having considerably more ozone exceedence days in a given year than any location in the county actually experiences. For example, in the latest report, Wake County, North Carolina, was cited as averaging 16 high ozone days per year during 1999–2001. In reality the annual average for the four monitors in the county was only six exceedence days each. In 2001 they averaged only two each.

Exaggerates Risk

In adopting this misleading methodology the ALA exaggerates the number of people who are at risk. Whenever the study cites a county as having an ozone exceedence day, even if only registered on one monitor, the entire population of the county is reported at risk. For example, during 1998 in Wake

County, a monitor in the small rural community of Fuquay Varina registered four exceedence days that were not registered on any other monitor. In spite of this, the ALA listed the entire “sensitive” population of the county as “at risk”—including the population of Raleigh, which showed no exceedences on those days.

Along these same lines, the ALA misleadingly reports the identical people as being at risk in several different categories. For example, in stating that “as many as 27.1 million children 13 and under, and over 1.9 million children with asthma are potentially exposed to unhealthy levels of ozone,” the ALA is actually referring to many of the same children twice.⁴ This occurs with several other categories of “at risk” populations. Technically double counting is avoided only because the ALA does not aggregate.

The annual “State of the Air” report is pure propaganda, and its primary purpose is political advocacy. This is clear from the ALA’s website and from the fact that it regularly joins coalitions with leftist environmental pressure groups such as Earth Justice, Environmental Defense, and the Natural Resource Defense Council.⁵ The media and everyone else should view its publications in that light. □

1. Found at http://lungaction.org/reports/sota03_full.html.

2. The 85 ppb, eight-hour threshold is central to the controversial EPA standard that was proposed in 1997. But the ALA standard is even more stringent than the EPA’s. For the ALA, if any one ozone monitor crosses the threshold during the day the entire county is in violation of the standard. As the ALA notes in the appendix of its report, “some counties will receive grades of F . . . while still meeting EPA’s 1997 ozone standard.”

3 “CASAC Closure on the Primary Standard Portion of the Staff Paper for Ozone,” Clean Air Scientific Advisory Committee, U.S. Environmental Protection Agency, EPA-SAB-CASAC-LTR-96-002, November 30, 1995.

4. “American Lung Association Fact Sheet Children and Ozone Air Pollution,” American Lung Association, September, 2002.

5. See “Environmental Groups Sue EPA for Weakening Clean Air Act,” February 28, 2003, www.lungusa.org/press/envir/air_022803.html.