spotlight

No. 403 – November 22, 2010

Second-Best Ozone Season in a Decade

NC's 2010 ozone season comes in like a lion, goes out like a lamb

KEY FACTS: **• In 2010 North Carolina recorded the second-lowest number of high-ozone days of the last decade.**

• A statewide total of 106 high ozone monitor readings were recorded over 26 days from April 1 to October 31.

• Thirty-two of those readings occurred on just eight monitors in two metropolitan areas.

• Despite what might be the popular belief, smog levels in North Carolina have been getting better, not worse.

With 13 high ozone readings reported across 8 counties on April 2, the second day of the 2010 season, North Carolina had what one might call a high-energy start to its ozone season. (Ozone is often referred to as smog.) Despite this auspicious beginning, the state ended up having its second-best ozone season of the last decade.

The 2010 ozone season began on April 1 and ended on October 31. Ozone pollution is primarily a summertime phenomena. It is not a pollutant that comes directly from smokestacks and tailpipes but forms when certain emissions from autos and coal-fired power plants' emissions combine with heat and sunlight. It is also the case that ozone occurs naturally and, to some degree, is always present the atmosphere.

In 2008 the EPA put in place a new, very restrictive standard that defines a high ozone day or, in the parlance of the federal and state bureaucracy, an "exeedance day." According to this standard, an exceedence day occurs if an ozone monitor registers a concentration level of 0.76 or greater parts per billion (ppm) in the atmosphere, sustained over an eight-hour period. It should be noted that if the pre-2008 EPA standard of 0.85 ppb were in place, North Carolina would have only had 11 exceedances in 2010.[1]

North Carolina has 39 ozone monitors scattered across the state, with the largest concentration of monitors in the metropolitan areas of the Charlotte, the Triad, and the Triangle. During the course of the season, the state reg-

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200 W. Morgan, #200
Raleigh, NC 27601
phone: 919-828-3876
fax: 919-821-5117
www.johnlocke.org

istered 106 high ozone readings. They occurred on 26 days out of a season of 214 days. Thirty-two of those readings occurred on just 8 monitors in 2 areas, Charlotte and the Triad. It should be noted that ozone levels are very localized even within metropolitan areas or regions. A monitor on one side of a county or region could register an exceedance while at the same time a monitor a few miles away may not, which is often the case. Because ozone is very localized, the data here should not be read as an indication of how the air quality has been or has varied in your particular neighborhood or local community.

There are two graphs below.[2] The first looks at 10 years' worth of data for the state as whole, and the second looks at 2010 region-specific data for the major metropolitan areas plus the mountains. An important fact to note: the graphs measure average number of high-ozone readings per monitor in either the county region or state. That is because the total number of monitors in each locality are different, and the total number of monitors in the state often differ from year to year as monitors are added or discarded. The more monitors there are in an area or within the state, the more likely it is on any given day that a high ozone reading will be registered. Looking at averages helps to ameliorate any biases that might occur because of more or fewer monitors, either region-to-region or year to year. It is a way of adjusting for the number of monitors. What is clear, particularly from the statewide data, is that over the last seven years there has been a dramatic improvement in ozone levels across North Carolina. Air quality, at least with respect to ozone levels, has been getting better, not worse.

Dr. Roy Cordato is Vice President for Research and a resident scholar at the John Locke Foundation.

Table 1. Statewide high-ozone days per monitor, 2001-10

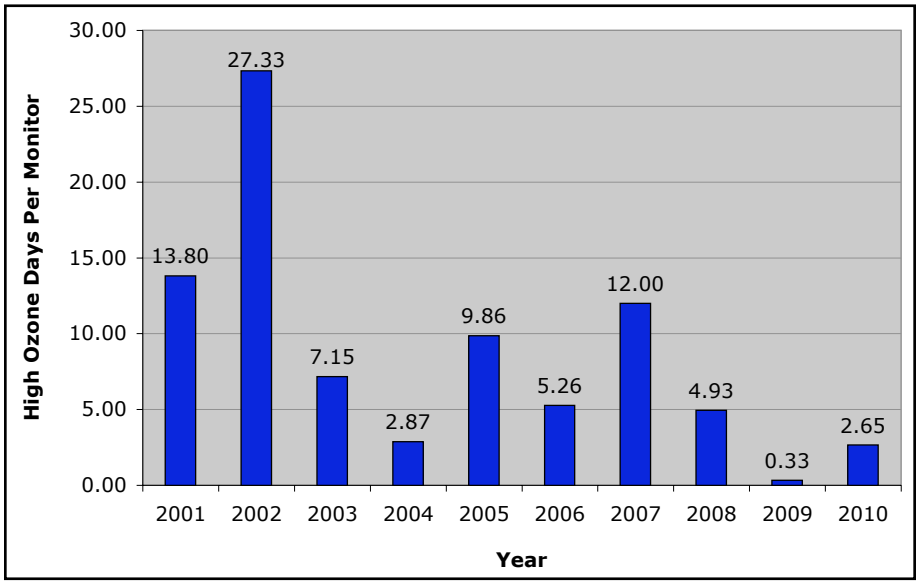
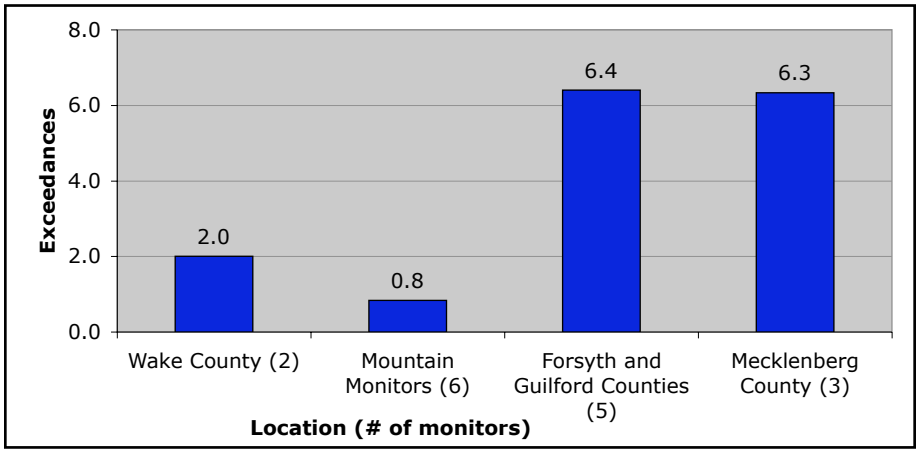


Table 2. Ozone exceedances per monitor, 2010, select regions



End Notes

1. The EPA may be lowering the ozone standard once again, possibly to 0.65 ppb. It is generally thought that this move would put all of North Carolina and most of the country out of compliance with EPA guidelines. See "NC opposing clean air rules," *The News & Observer*, October 15, 2010, *www.newsobserver.com/2010/10/15/741087/nc-opposing-clean-air-rules.html*; also see "How the EPA could destroy 7.3 million jobs," *The Washington Examiner*, November 12, 2010, *www.independent.org/newsroom/article.asp?id=2917*.
2. All data has been obtained from the North Carolina Division of Air Quality. Pre-2008 years have all been adjusted to the current EPA standard.