TECHNICAL AND POLICY ISSUES PROPOSED OZONE NAAQS

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Key Recommendations

Maintain current 2013 ozone review schedule

- Review new health studies to address unanswered questions on health effects from the last review
- Review new data on ozone background levels and significant impact on health benefits valuation
- Review new data on international transport and potential impacts on SIPs
- Assess utility and applicability of a secondary standard in the W126 form
- The above recommendations can be accomplished by folding this unscheduled review into the scheduled ozone review now underway.

Background

- EPA reconsidering 2008 NAAQS decision
  - Outstanding issues with 2008 decision not resolved

- EPA now proposes 0.060 - 0.070 ppm standard based on:
  - The scientific record from the last review
  - Provisional Assessment (PA) of more recent studies

- EPA concluded that PA does not “materially change“ the conclusions on health effects made in the 2007 (AQCD) Criteria Document
  - A comprehensive review of new studies suggests an alternate conclusion

Concerns with Health Studies from Last Review

- Reanalyzed published studies, reaching different conclusions
- Excluded well conducted studies without justification
- Relied on conflicting hypothesis to explain inconsistent results
- Used individual responses within a group clinical study
- Failed to recognize limitations of observational studies
- Deviated from established medical criteria for adverse effect

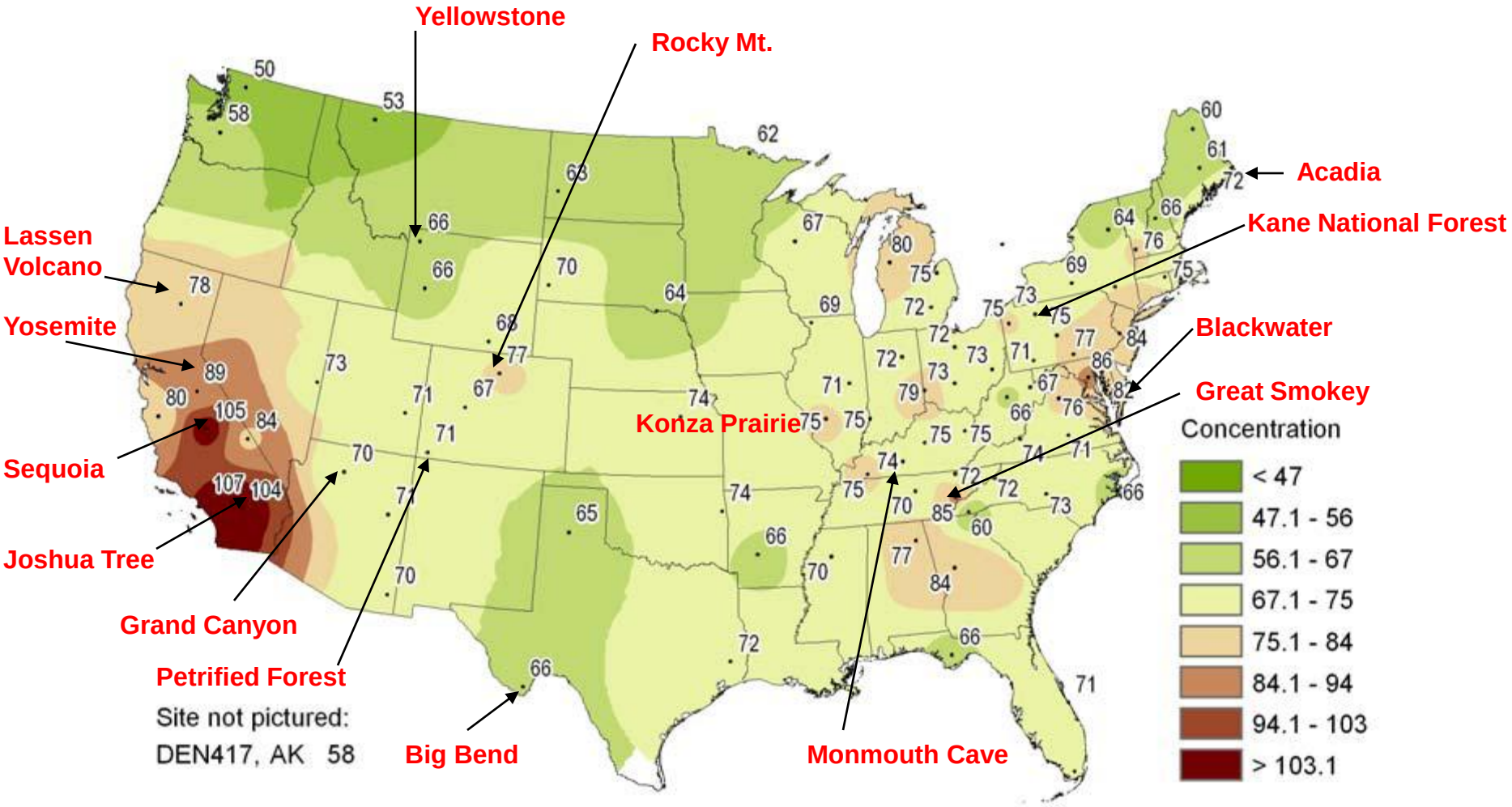
Recent Studies Suggest Alternative Conclusions

- EPA concluded pulmonary function effects at 0.060 ppb
  - New clinical study confirms no effects at 0.060 ppm
- EPA claimed asthma exacerbation at current ozone levels
  - 3 of 4 new studies report no association
- EPA concluded airway inflammation/respiratory morbidity at current levels
  - All new studies (3) on airway inflammation report no association
  - Results of new studies on respiratory morbidity are mixed
- EPA concluded cardiac admissions at current levels
  - 7 of 8 new studies in PA report no association
- EPA concluded acute mortality at current levels
  - New studies do not support case for acute mortality link

Policy Relevant Background (PRB)

- EPA defines PRB as ozone levels that would occur in the absence of anthropogenic emissions in North America
- EPA asserts PRB to be 15-35 ppb based on GEOS-CHEM modeling
- Modeled PRB is far too low in comparison to monitored values
- Risk assessment uses ozone in excess of PRB in benefits valuation

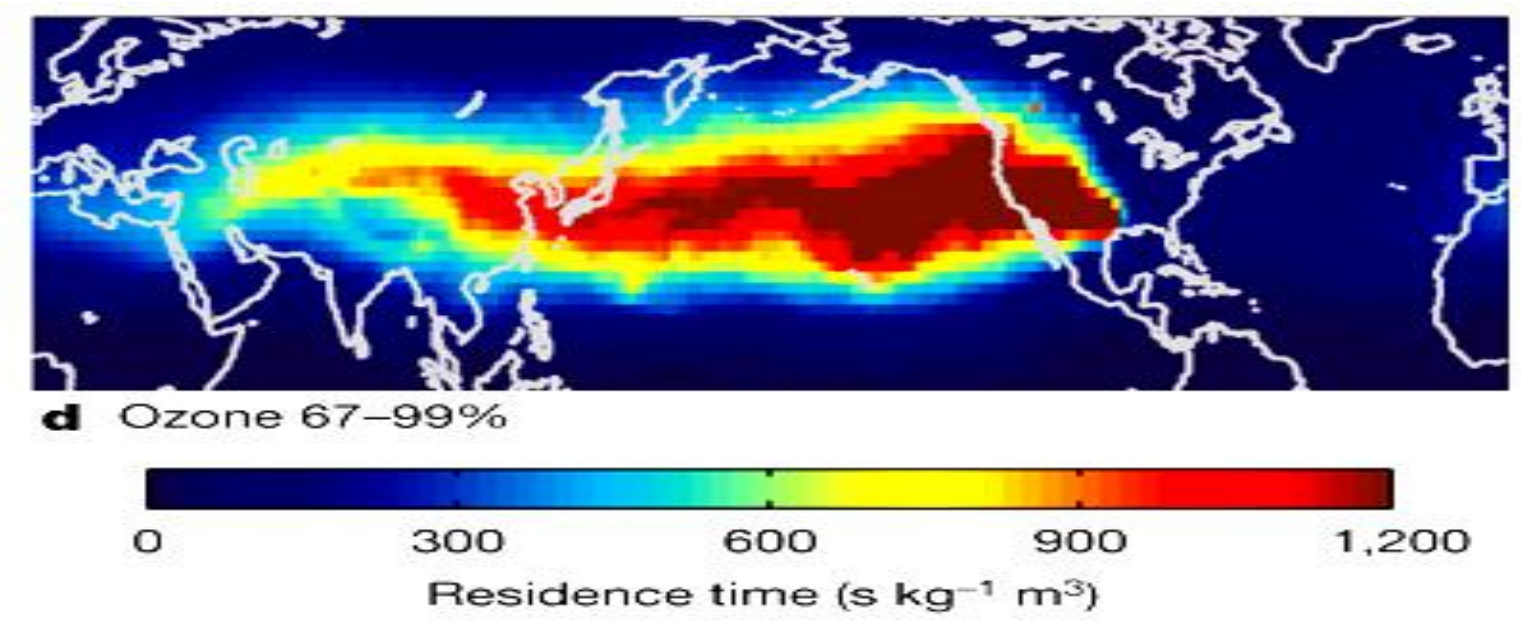
EPA CASTNET DATA INDICATE LEVELS IN MANY RURAL AREAS WILL EXCEED A 60-70 ppb NAAQS[1]



[1V]Values are three-Year Average of Fourth Highest Daily Maximum 8-Hour Average Ozone Concentrations (ppb) in various National Parks for 2006–2008

International Transport Impacts U.S.[1]

- Increasing Asia emissions are outpacing U.S. reductions
- Asia emissions contribute up to 17 ppb to tropospheric ozone
  - Trend projected to continue at 0.7 ppbv per year
  - Intrusion increases ground level ozone in the west and mid-west
- Key conclusion: ozone transport hindering attainment in U.S.



[1]Statements, data, conclusions presented are from Cooper et al. (2010).

Impact of PRB on Acute Mortality Estimates[1]

	Number of Deaths Attributable to Ozone > GEOS-CHEM PRB	Number of Deaths Attributable to Ozone > 40 ppb PRB	Percent Reductions If Using 40 ppb rather than GEOS-CHEM for PRB Assumption
Atlanta	6.5	0.3	95%
Cleveland	37.4	4.3	88%
Detroit	37.9	1.8	95%
Houston	22.7	1.5	94%
Los Angeles	38.5	0.1	>99
Sacramento	11.0	0.2	98%
St. Louis	4.4	0.3	93%

[1]Risks estimated using risk specific coefficients from Bell et al. 2004, at exact attainment of the 0.084 ppm NAAQS, average of 2002 and 2004 data (CRA, 2007)

A Separate Secondary NAAQS Not Warranted

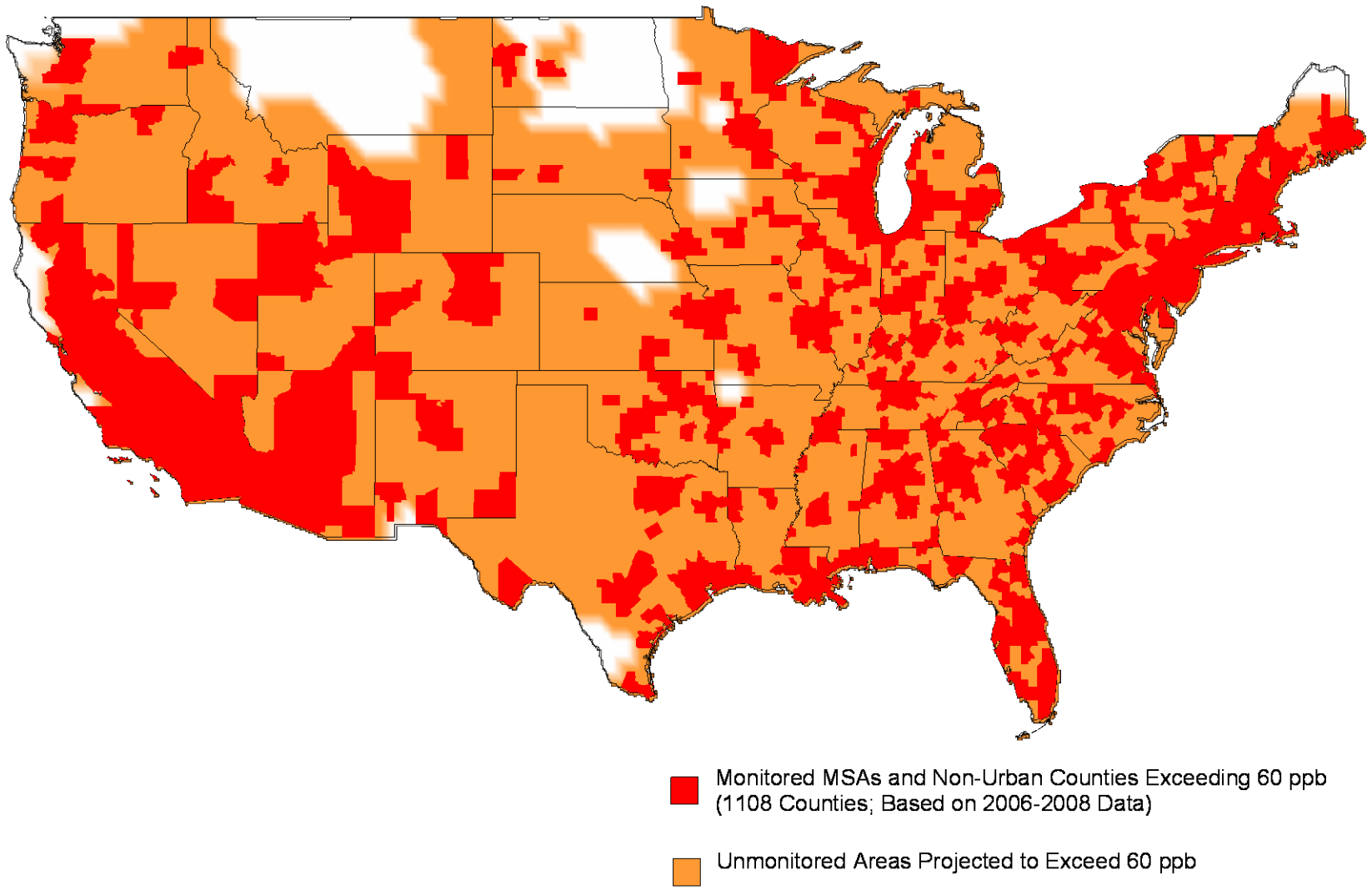
- Little new evidence of secondary effects
- W126 index lacks a strong biological basis
- Peer-reviewed research concluded W126 greatly overestimated the negative response to ozone
- CASAC recommends ”EPA collect information and seek additional research that could be used to inform continued refinement of the [W126] standard”
- W126 standard is not ready for national implementation

Conclusions

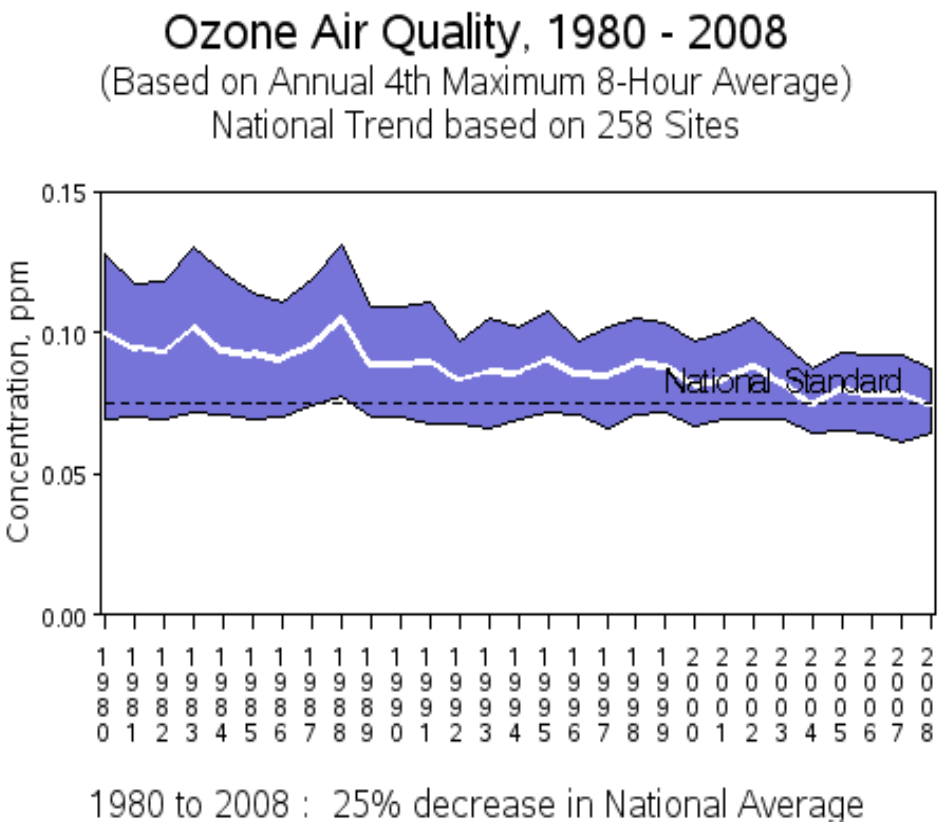
- ➔ Do not change the standards without a full review of the new health studies and without correcting background ozone levels.
- ➔ EPA should maintain current 2013 ozone review schedule
- New / existing health studies do not support lower standard
- The benefits of a lower ozone NAAQS are highly uncertain
  - Majority of studies show no effects at current levels
  - Low modeled PRB over-stated benefit valuation
- A lower NAAQS will vastly increase non-attainment areas preventing business expansion, negatively impacting jobs…..
- W126 secondary standard is not ready for national implementation

Background

Not Attaining the Proposed 60 ppb Standard



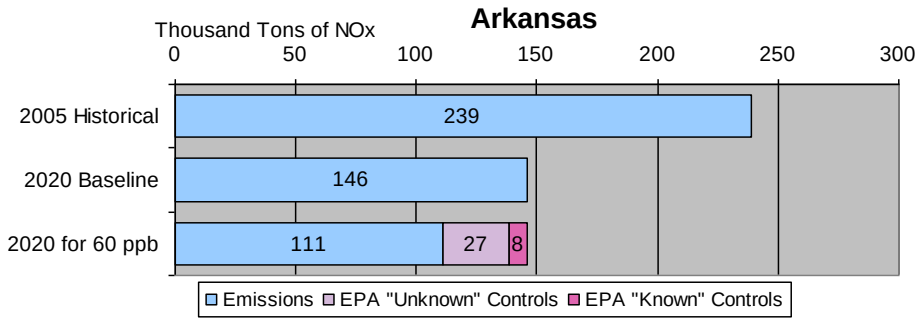
EPA Data Show Lowest 10% Ozone Values Have Remained Relatively Flat Despite Aggressive Control Program

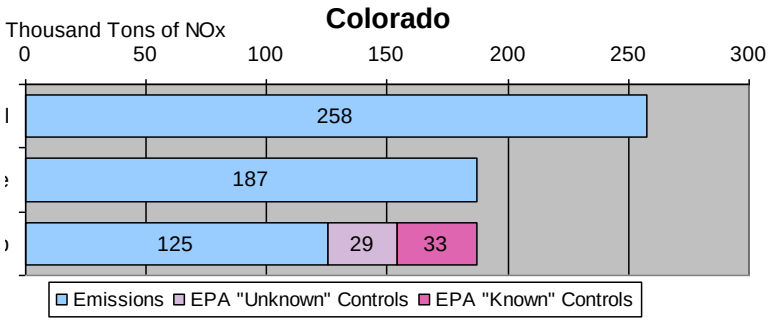


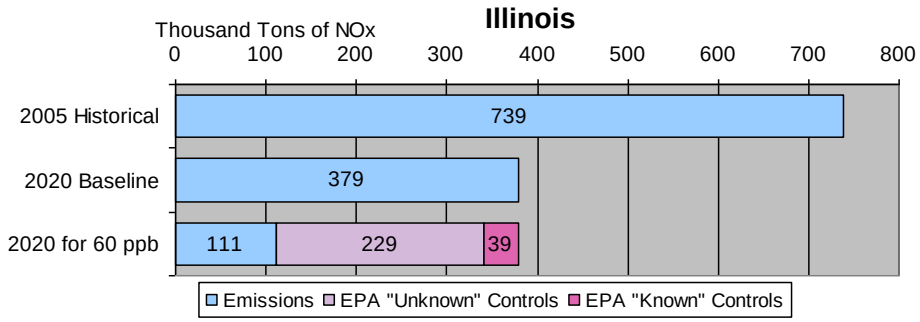
Year	10th Percentile
1980	0.069
1981	0.070
1982	0.069
1983	0.072
1984	0.071
1985	0.069
1986	0.070
1987	0.074
1988	0.077
1989	0.070
1990	0.070
1991	0.068
1992	0.068
1993	0.066
1994	0.069
1995	0.072
1996	0.071
1997	0.066
1998	0.071
1999	0.072
2000	0.067
2001	0.069
2002	0.069
2003	0.069
2004	0.064
2005	0.065
2006	0.064
2007	0,061
2008	0.064

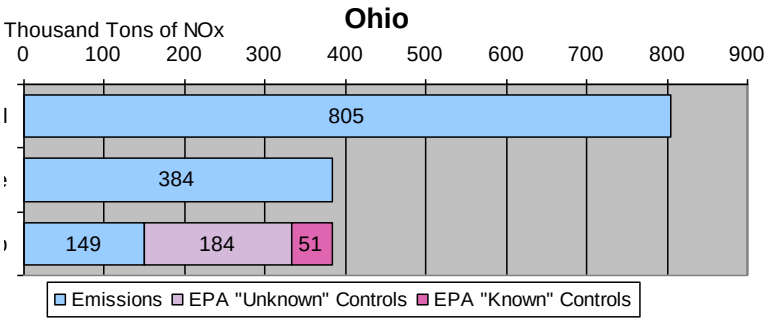
http://www.epa.gov/airtrends/ozone.html

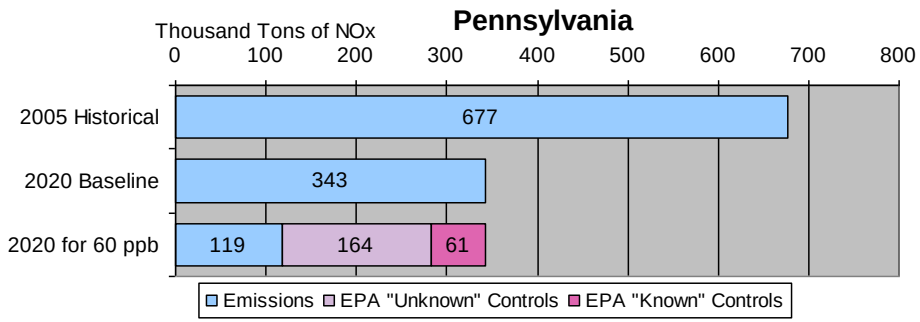
Lower NAAQS Drives Extreme Classifications

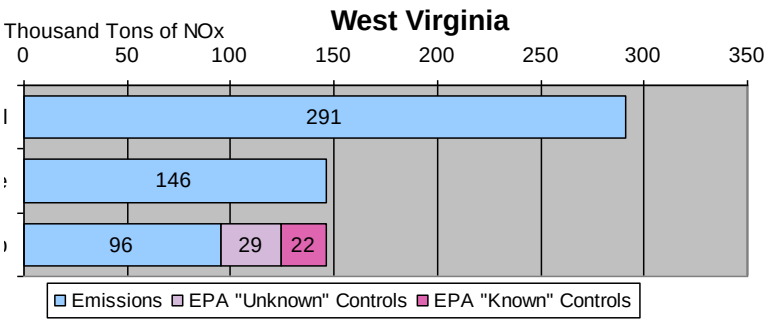












Source: NERA analysis of EPA data in Docket No. EPA-HQ-OAR-2007-0225

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