



Understanding The New Lead NAAQS

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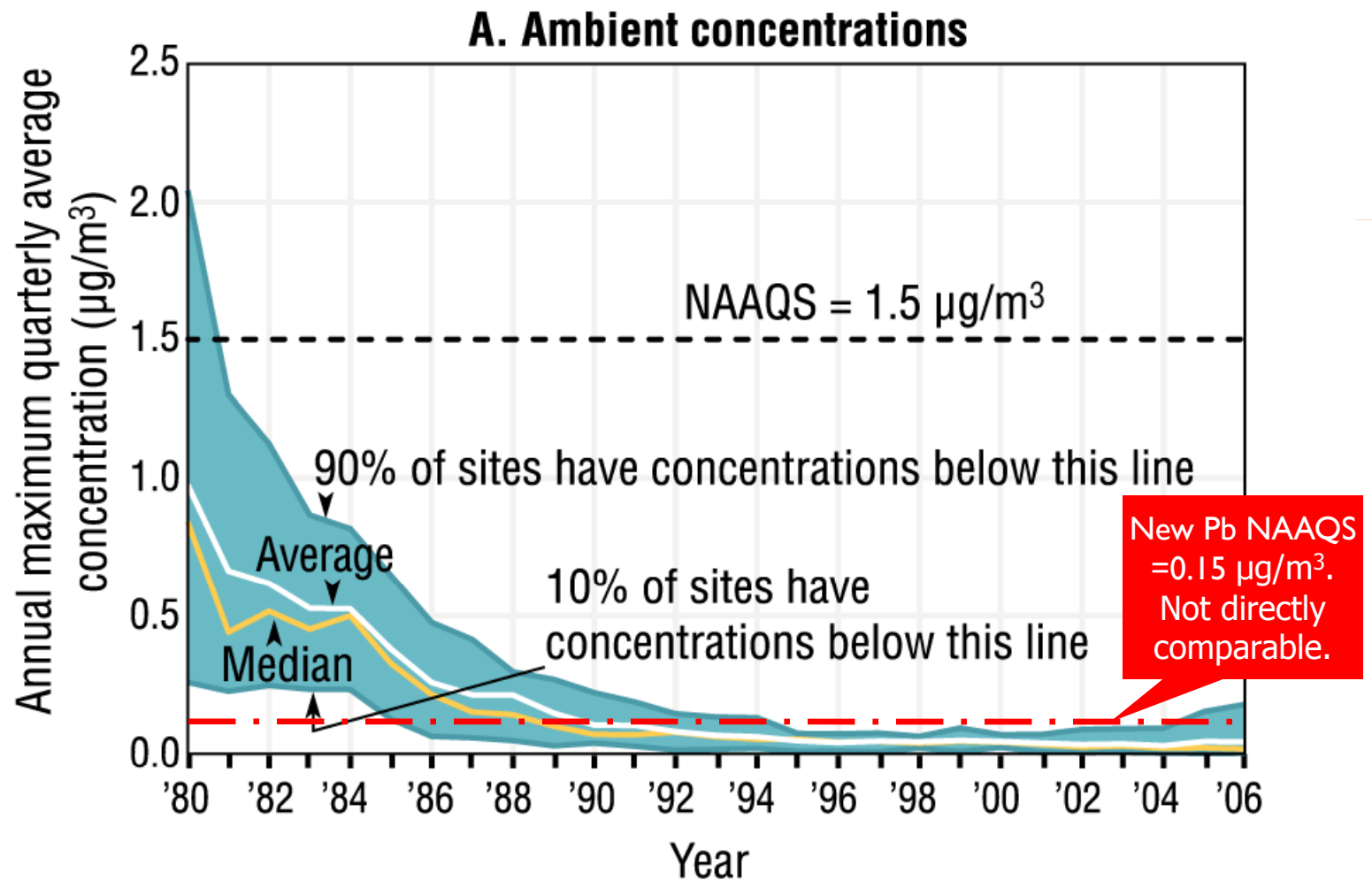


November 19, 2008

New Pb NAAQS

- New Pb NAAQS promulgated on November 12, 2008
- The ambient standard reduced from $1.5 \mu\text{g}/\text{m}^3$ to $0.15 \mu\text{g}/\text{m}^3$

Where We Have Been and Where We Are Now

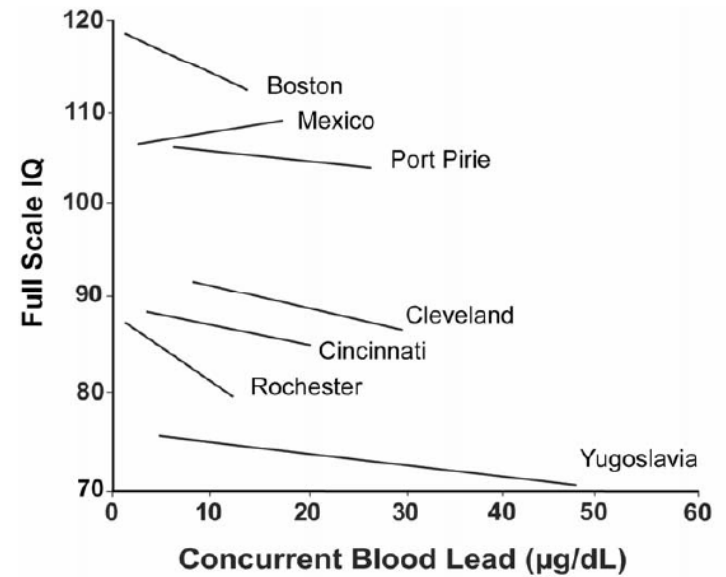
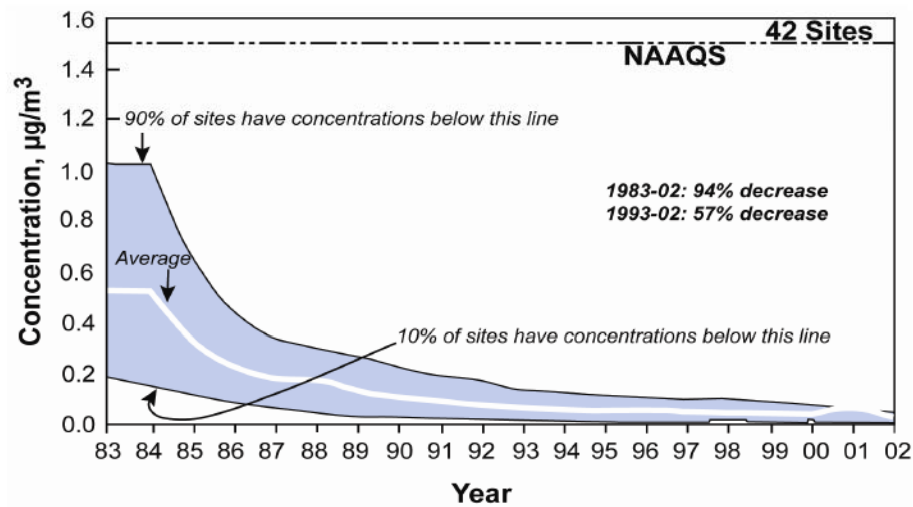
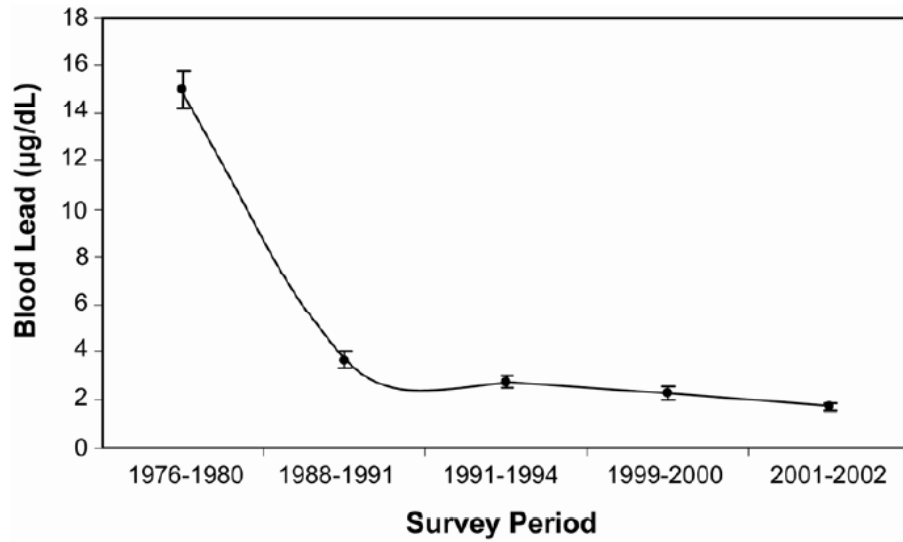


Source: EPA

Why Does EPA Revise Pb NAAQS?

- Periodic review required by CAA; this review cycle started in Nov. 2004
- CASAC Lead Panel considered the NAAQS inadequate and recommended EPA to revise it.
- Health effect, especially on children
 - Air → blood → neurological effect
 - Slope for IQ change with blood Pb level: as large as negative 2.94 IQ point per $\mu\text{g}/\text{L}$ blood Pb
 - The old $1.5 \mu\text{g}/\text{m}^3$ standard may cause IQ loss of 3.5-4.8

Pb in Air, Blood Pb, and IQ



Source: EPA

Old vs. New

	Old Pb NAAQS	New Pb NAAQS
Indicator	Pb in TSP (Pb-TSP)	Pb in TSP (Pb-TSP) Allow Pb-PM ₁₀ in certain circumstances
Averaging Time & Form	Calendar quarter, maximum	Rolling 3-month, maximum not to exceed in 3 years
Level	1.5 µg/m ³	0.15 µg/m ³

EMISSION TREND

Lead Emissions in 2002

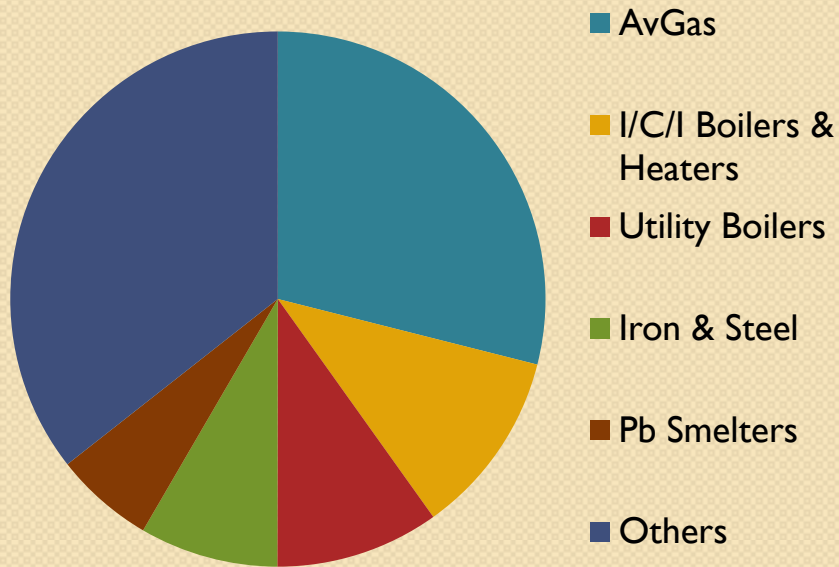
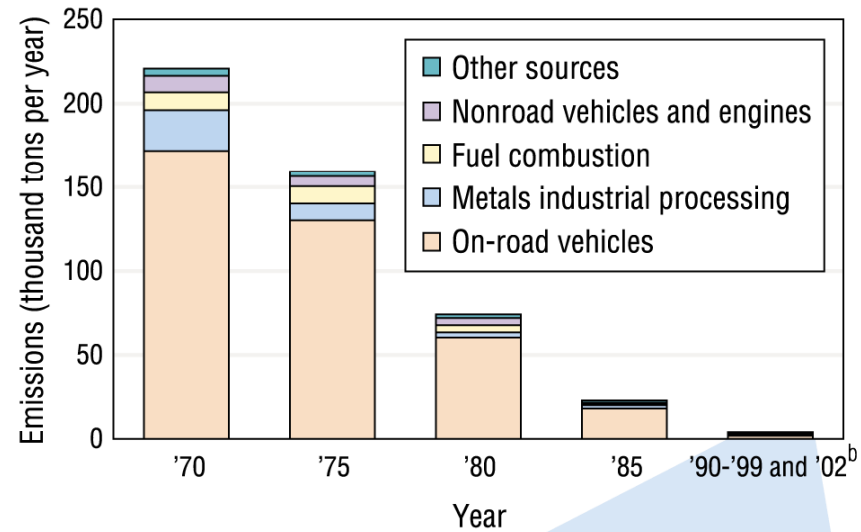
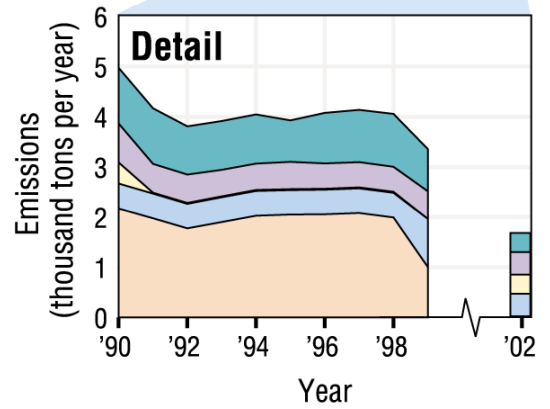


Exhibit 2-5. Lead emissions in the U.S. by source category, 1970-1999 and 2002^a



^aEmissions inventory data are presented for years that allow reliable estimation of long-term trends.

^bData for 1990-1999 and 2002 are average annual emissions (thousand tons per year) and are therefore comparable to the annual emissions shown for the earlier years.



Data source: U.S. EPA, 2001, 2007^b

Geographic Distribution of Stationary Sources

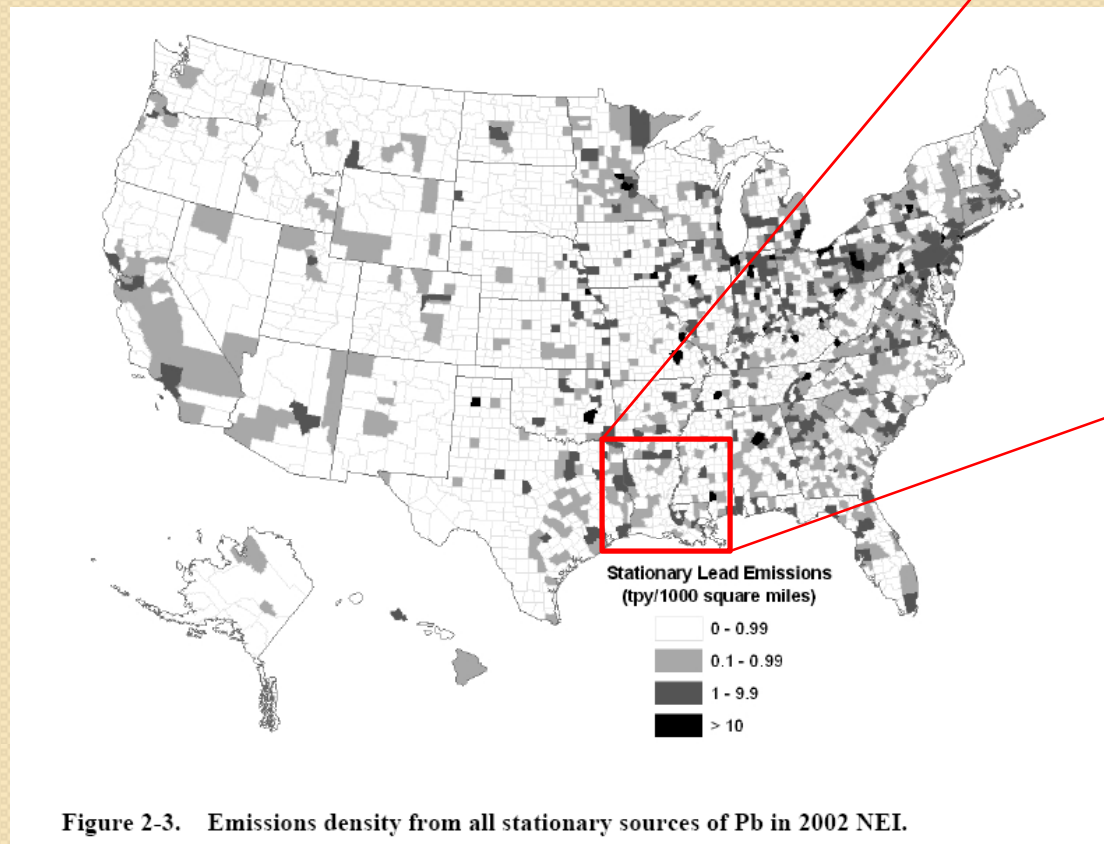
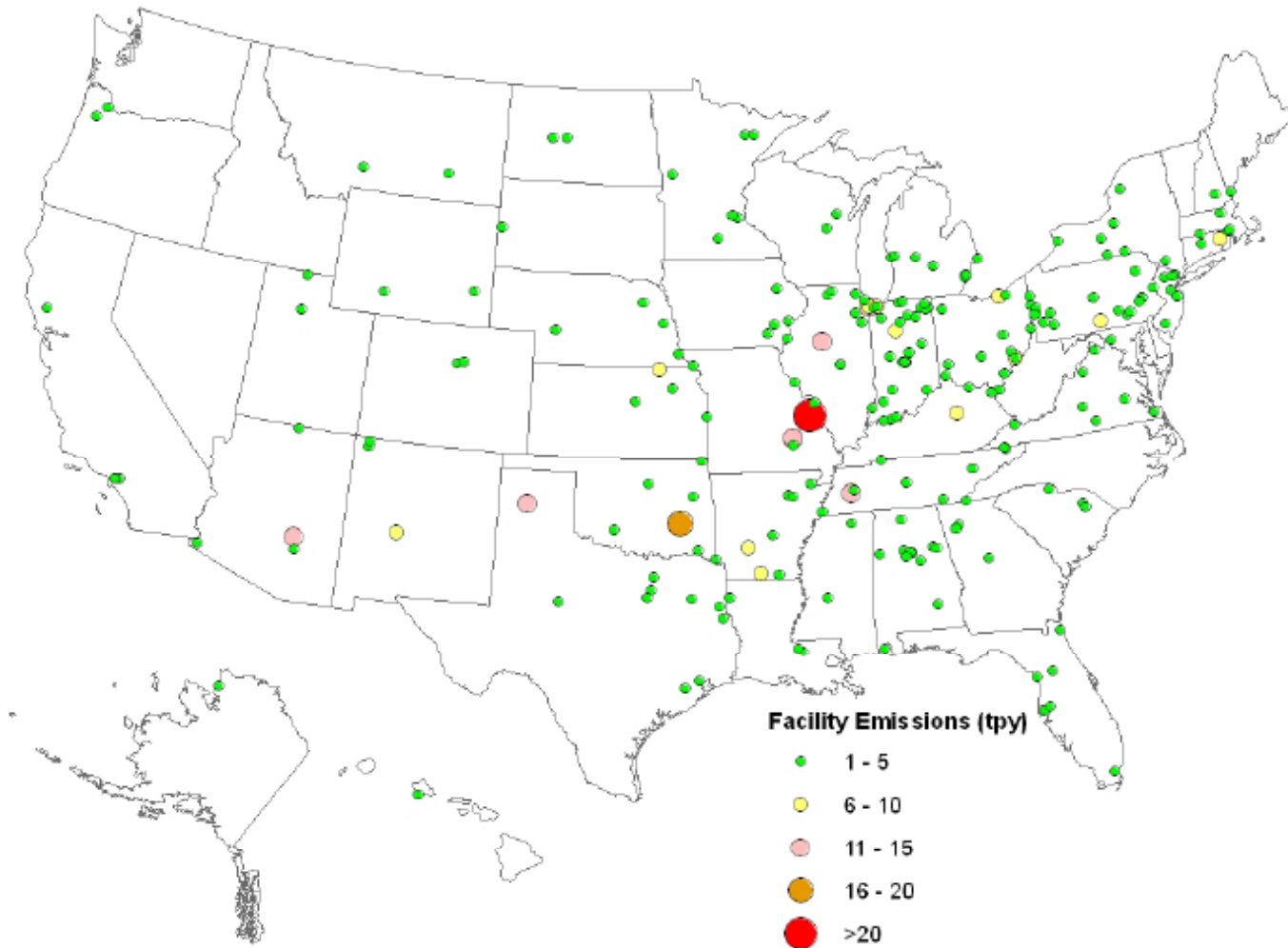


Figure 2-3. Emissions density from all stationary sources of Pb in 2002 NEI.

Geographic Distribution of Point Sources with > 1 tpy Pb Emissions



Source: EPA



Monitoring Requirements

- At least one source-oriented monitor near each of Pb source that emits 1.0 tpy or more, installed by Jan. 1, 2010
- One non-source-oriented monitor in every CBSA with a population of 500,000 people or more, installed by Jan. 1, 2011



Implementation

- Attainment/non-attainment area designation – 2-3 years from 11/12/08
- Area boundary – presumptively county (parish) boundary
- Non-attainment must achieve attainment within 5 years from designation
- Other implementation issues – EPA guidance in the proposed rule

Impact on Permitting

- Lead is regulated under PSD
 - Significant Emission Rate (SER) is 0.6 ton/yr
 - No Significance Impact Level (SIL)
 - Significant Monitoring Concentration (SMC) is $0.1 \mu\text{g}/\text{m}^3$
 - No PSD Increment
- It is logical to expect changes to PSD thresholds with large reduction in NAAQS

