

Trends in Air Quality 1970, Today, and Tomorrow

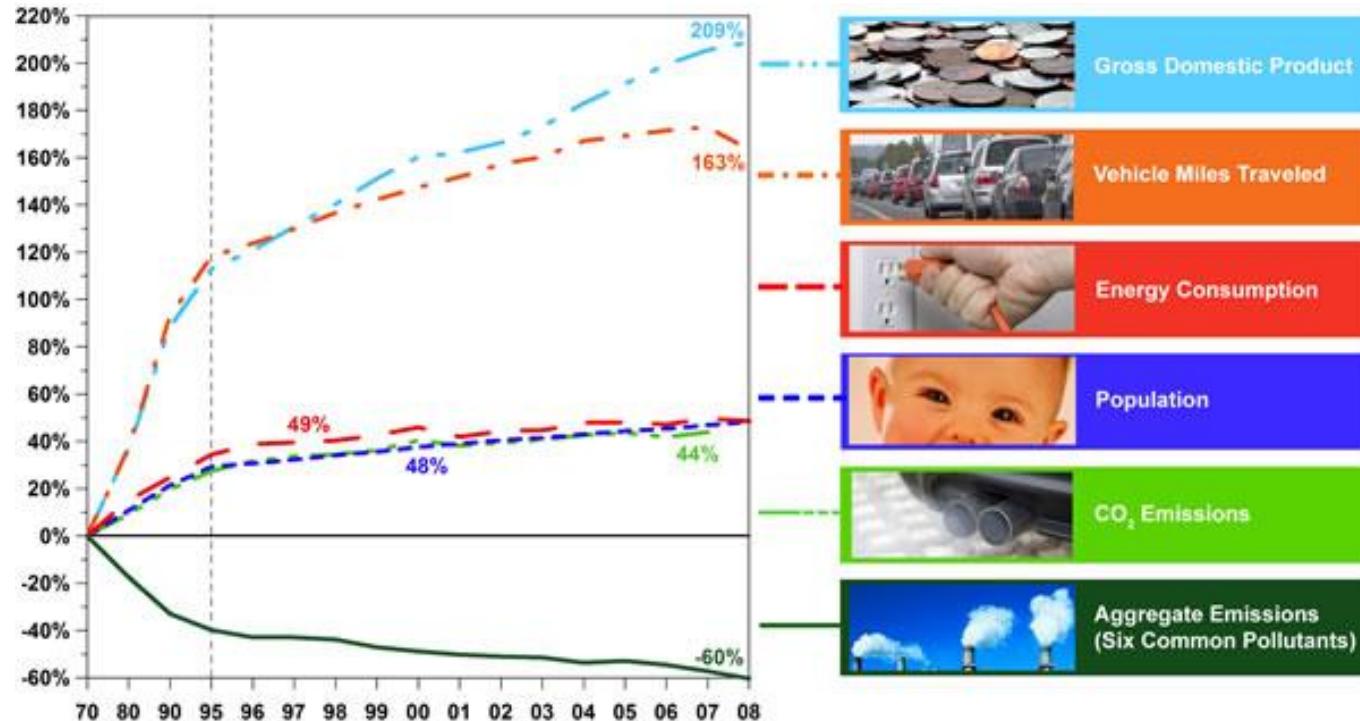
Steven F. Hayward

AF. K. Weyerhaeuser Fellow in
Environmental Studies

November 8, 2010



Comparison of Growth Measures and Emissions



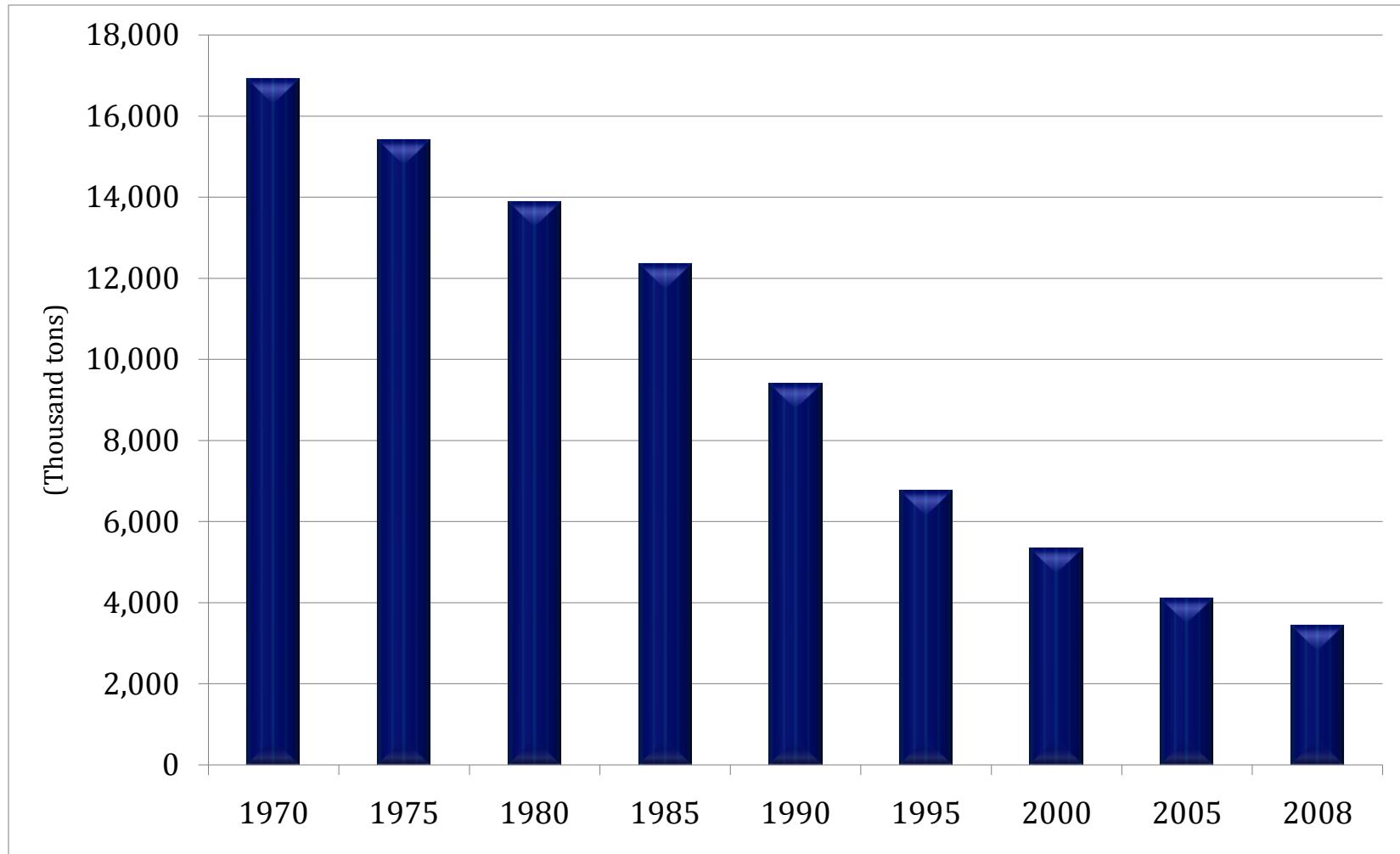
Changes in National Average Ambient Levels and Emissions

	Ambient	Emissions
Carbon Monoxide (CO)	-79%	-58%
Ozone** (O_3)	-25%	-49%
Lead (Pb)	-92%	-96%
Nitrogen Dioxide (NO_2)	-46%	-40%
Particulates (PM_{10}), 1985 – 2008	-31%	-46%
Fine Particulates ($PM_{2.5}$), 1999 - 2008	-21%	-36%
Sulfur Dioxide (SO_2)	-71%	-56%

Table 1. Change in National Average Ambient Levels and Emissions, 1980 – 2008*

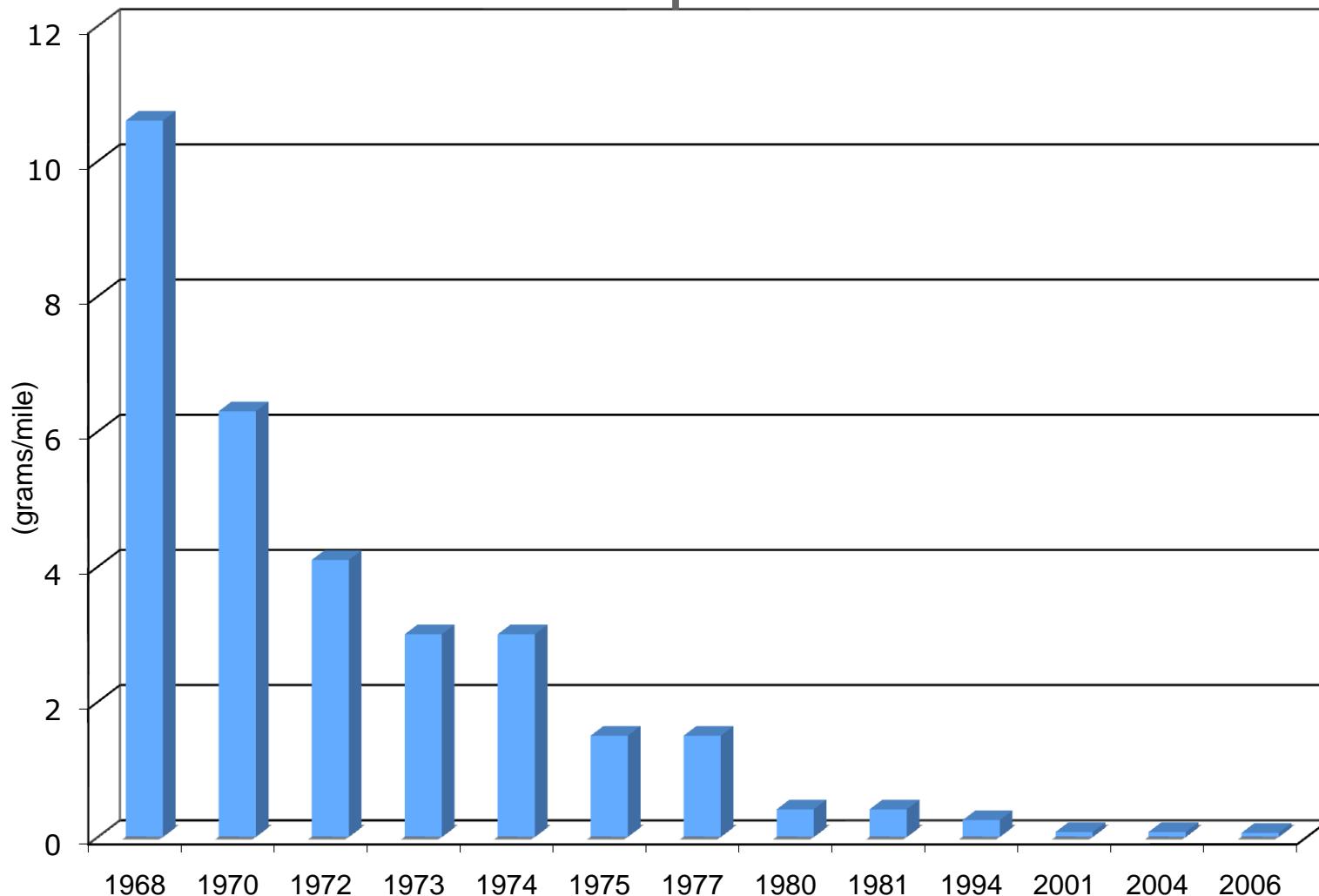


VOCs from Cars & Trucks

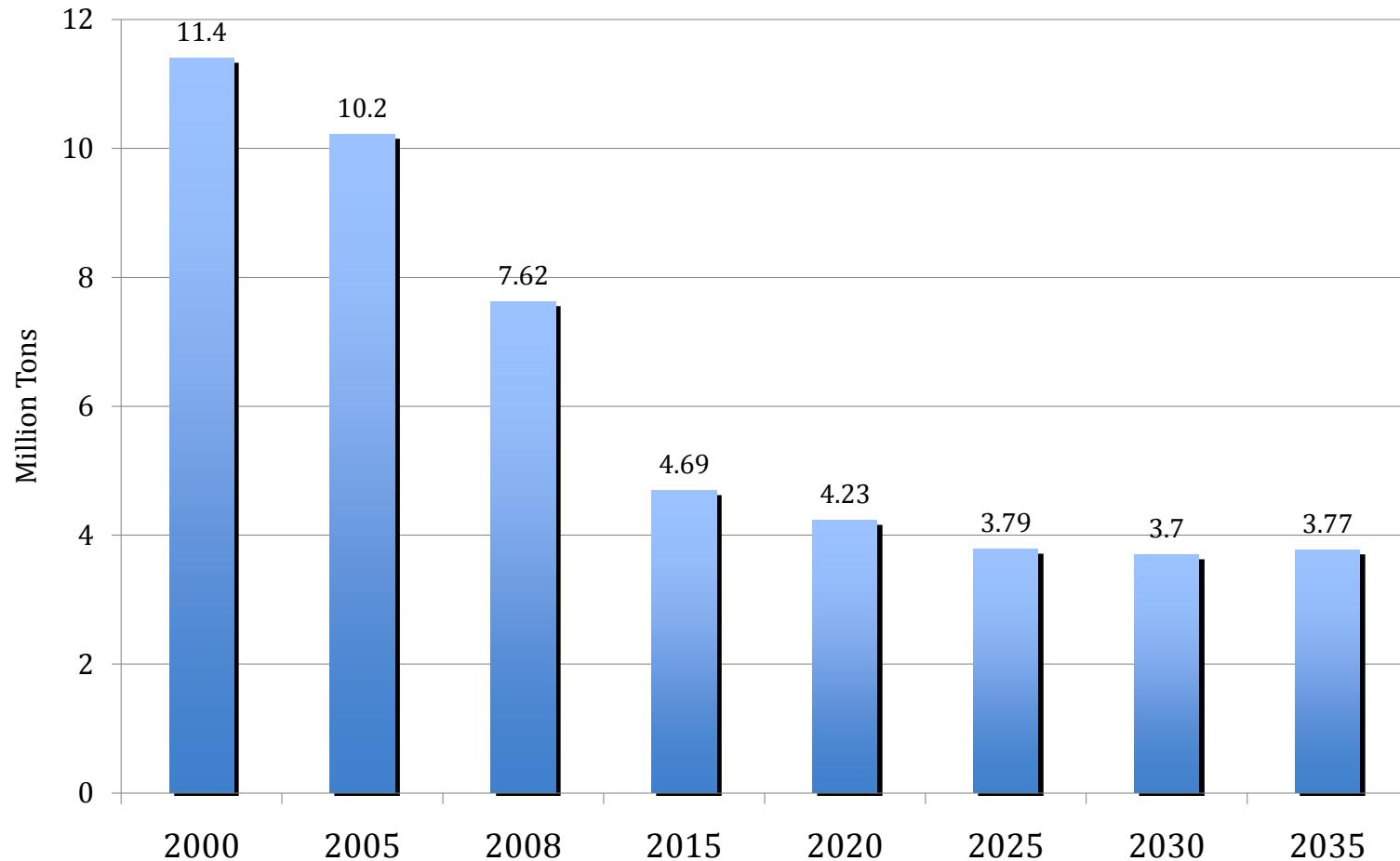


Automobile Hydrocarbon Emissions

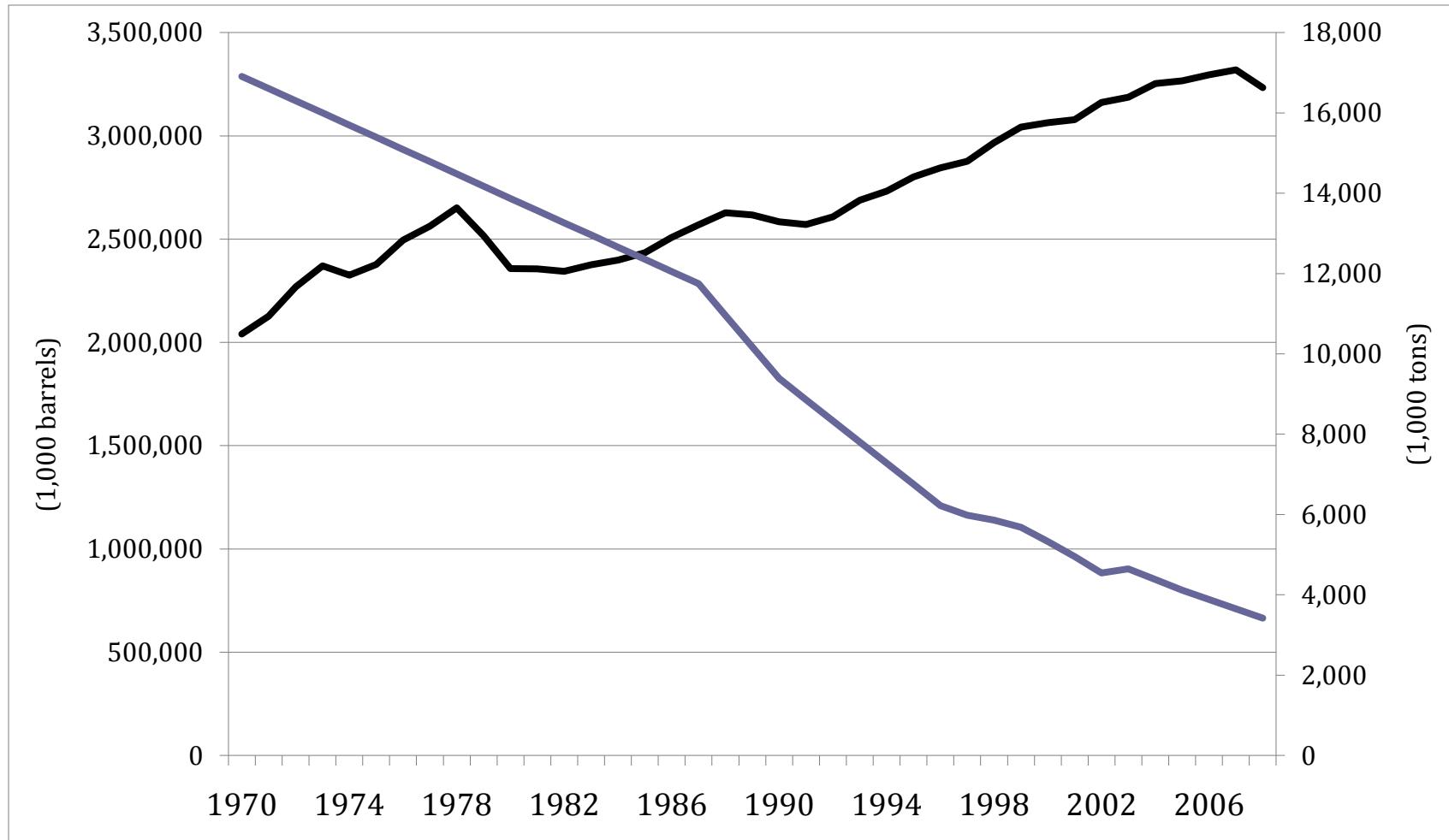
Rate per Mile



Projected SO₂ Emissions from Coal Fired Power Plants



Motor Fuel Use and VOC Emission Trends

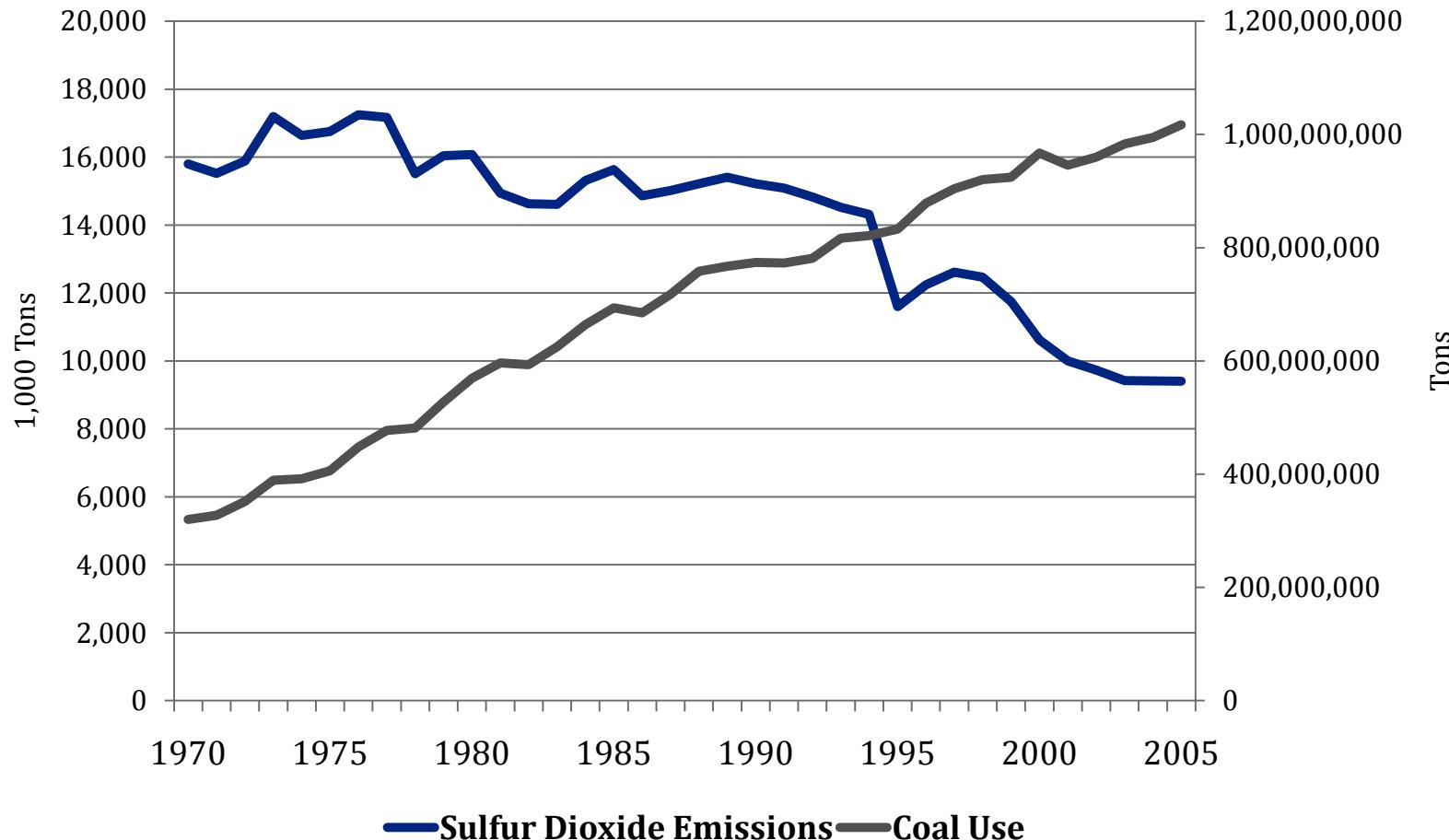


Fuel Use — (Left Axis)

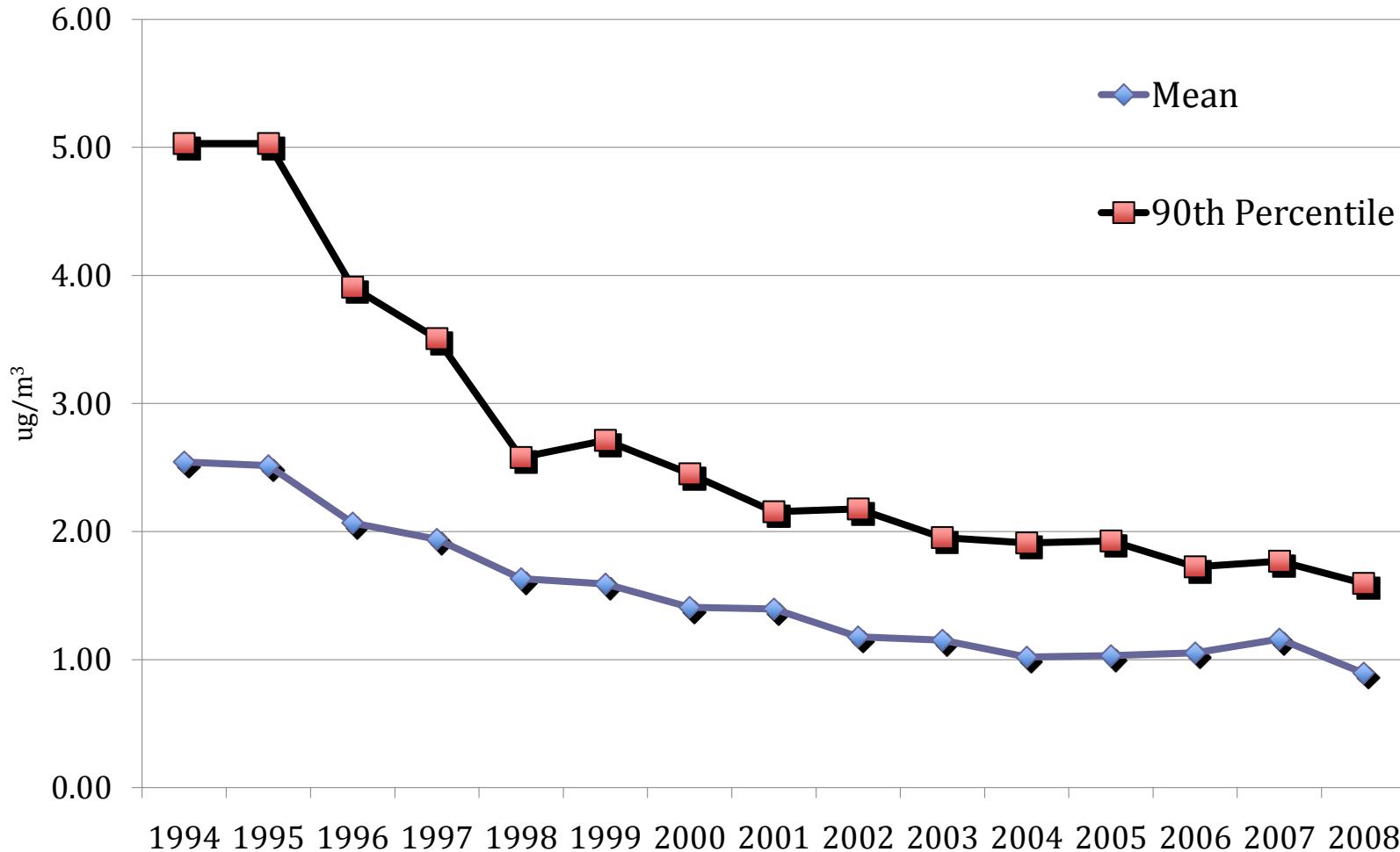
VOC Emissions — (Right Axis)



Coal Use and SO₂ Emission Trends



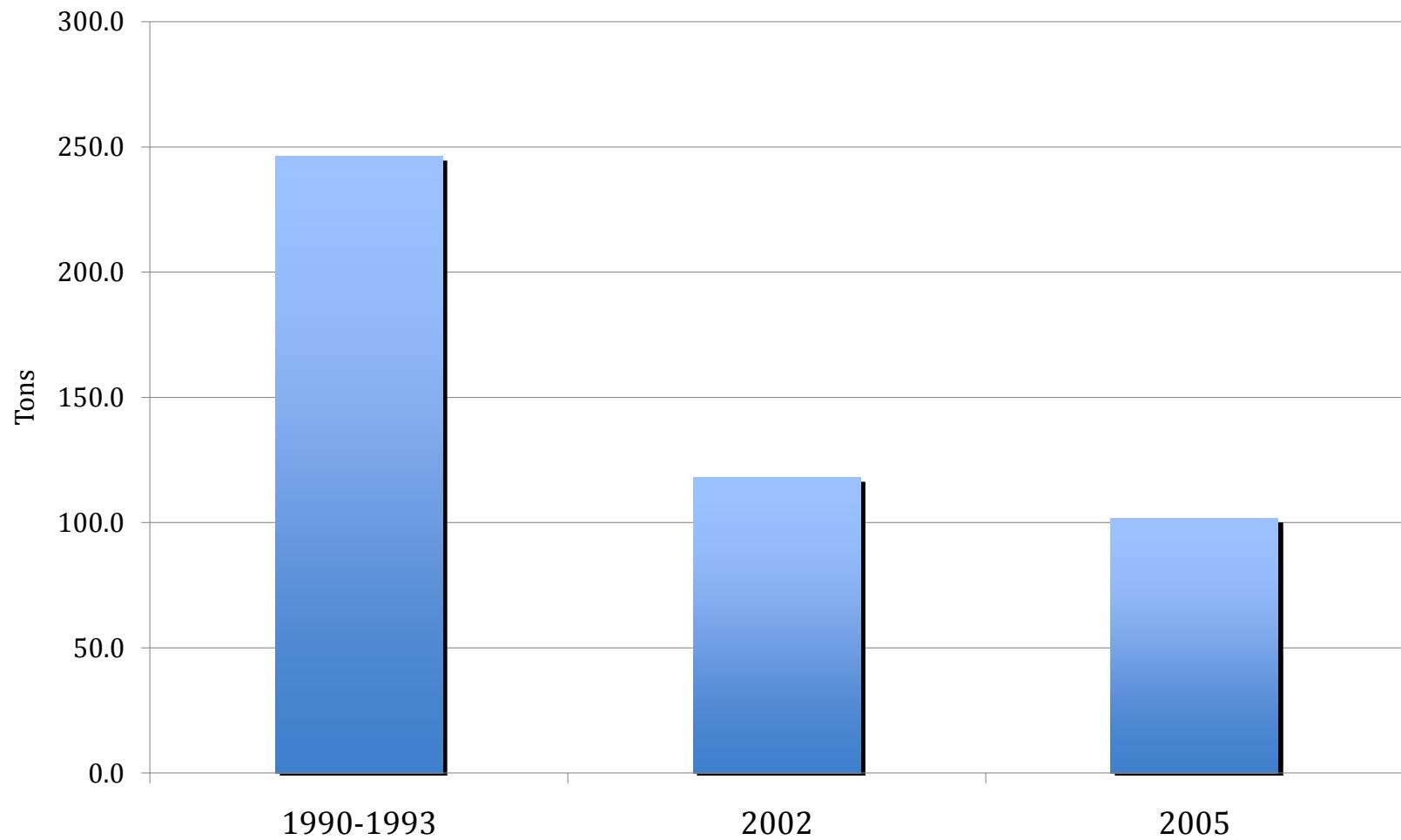
Ambient Benzene Levels, 1994 - 2008



(Source: EPA)



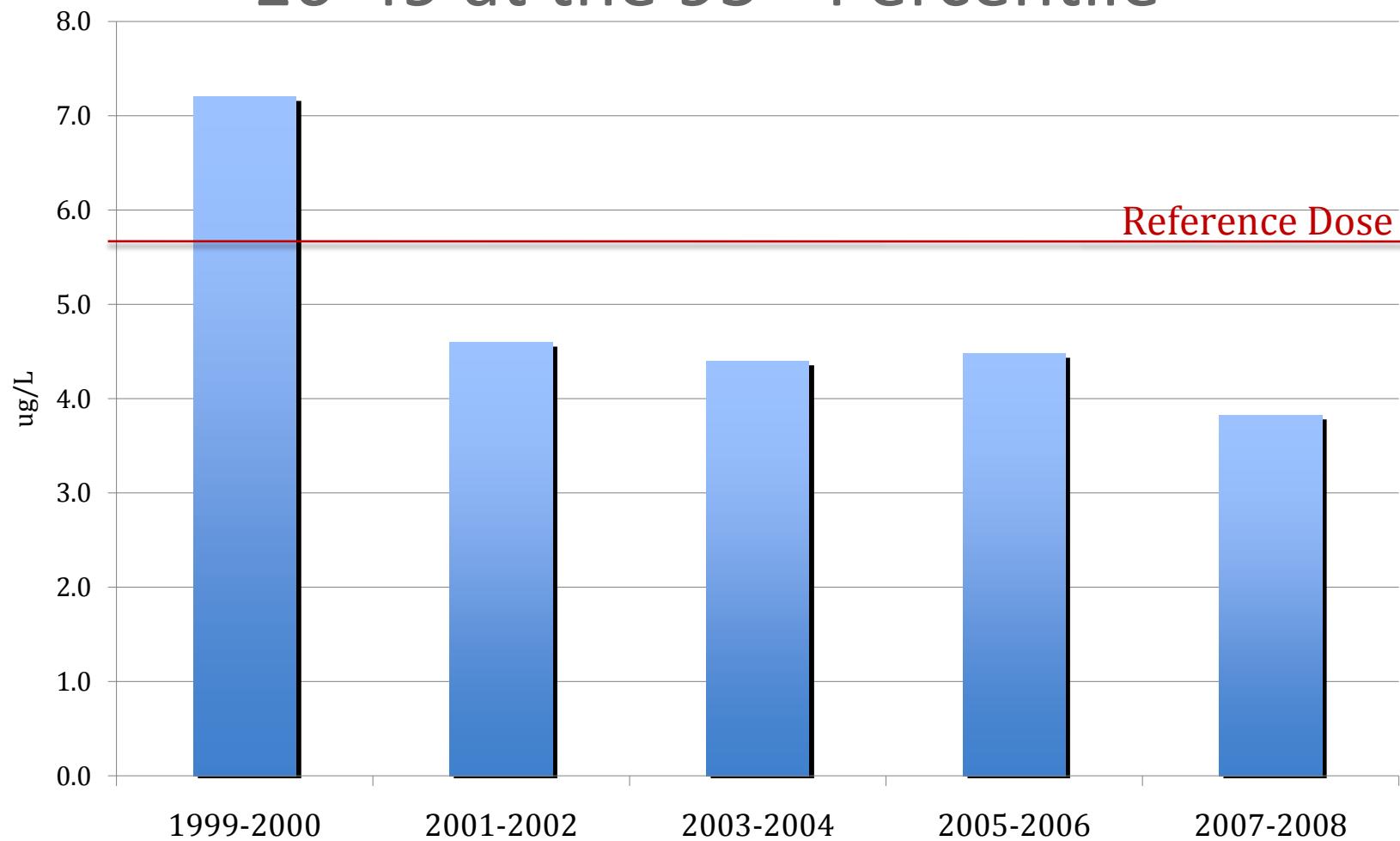
Mercury Emissions



(Source: EPA)



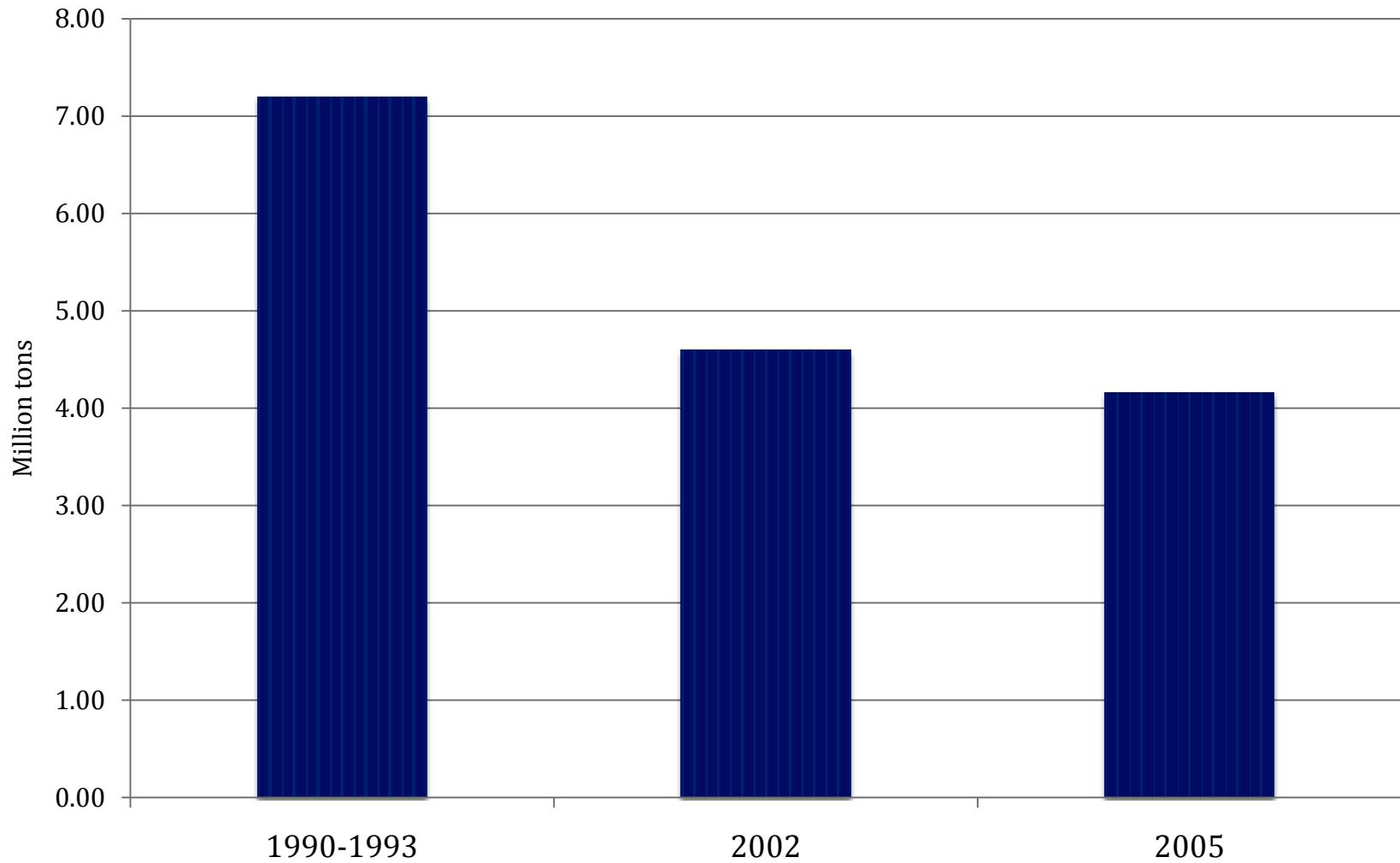
Blood-Mercury Levels in Women, Ages 16-49 at the 95th Percentile



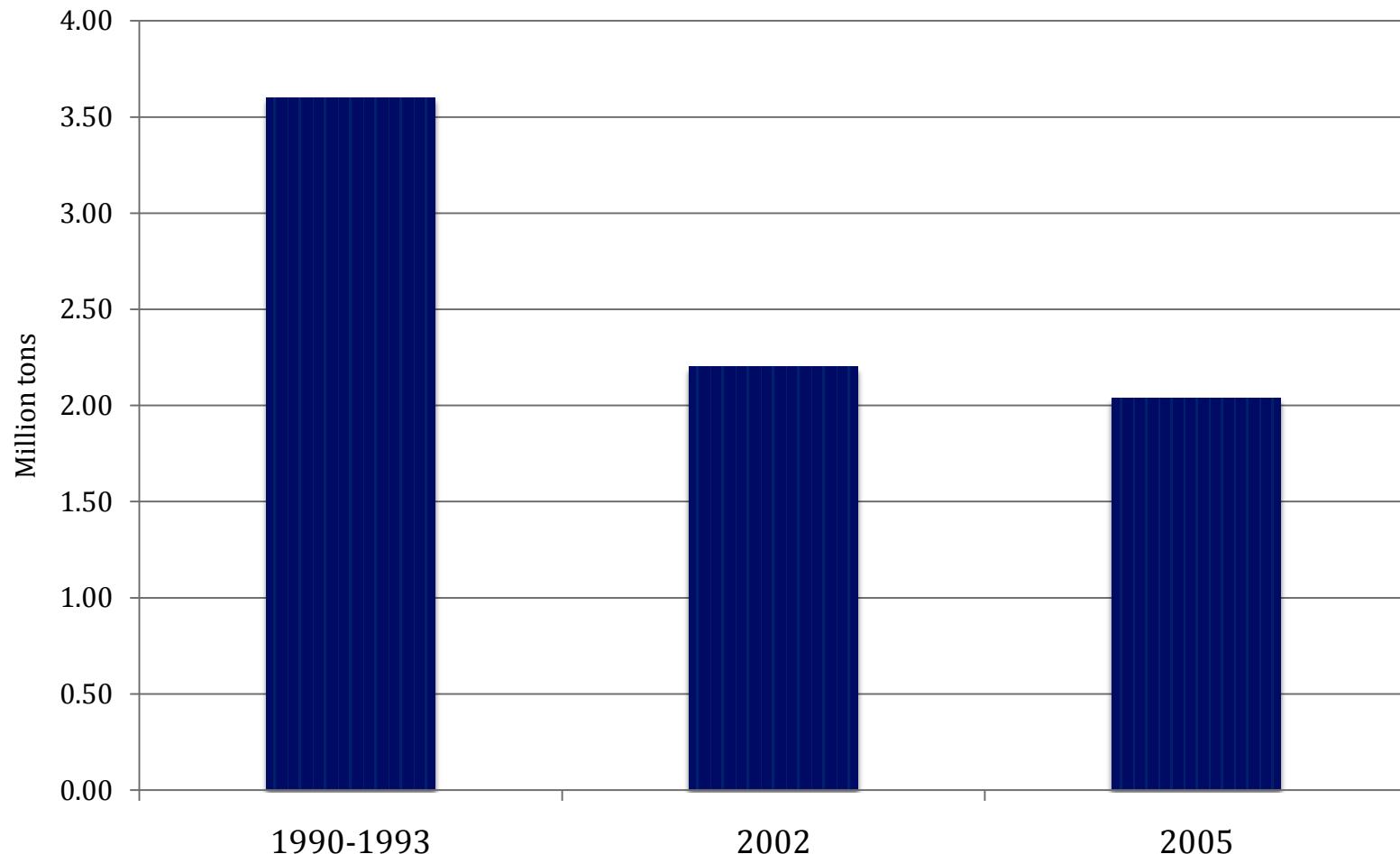
(Source: CDC)



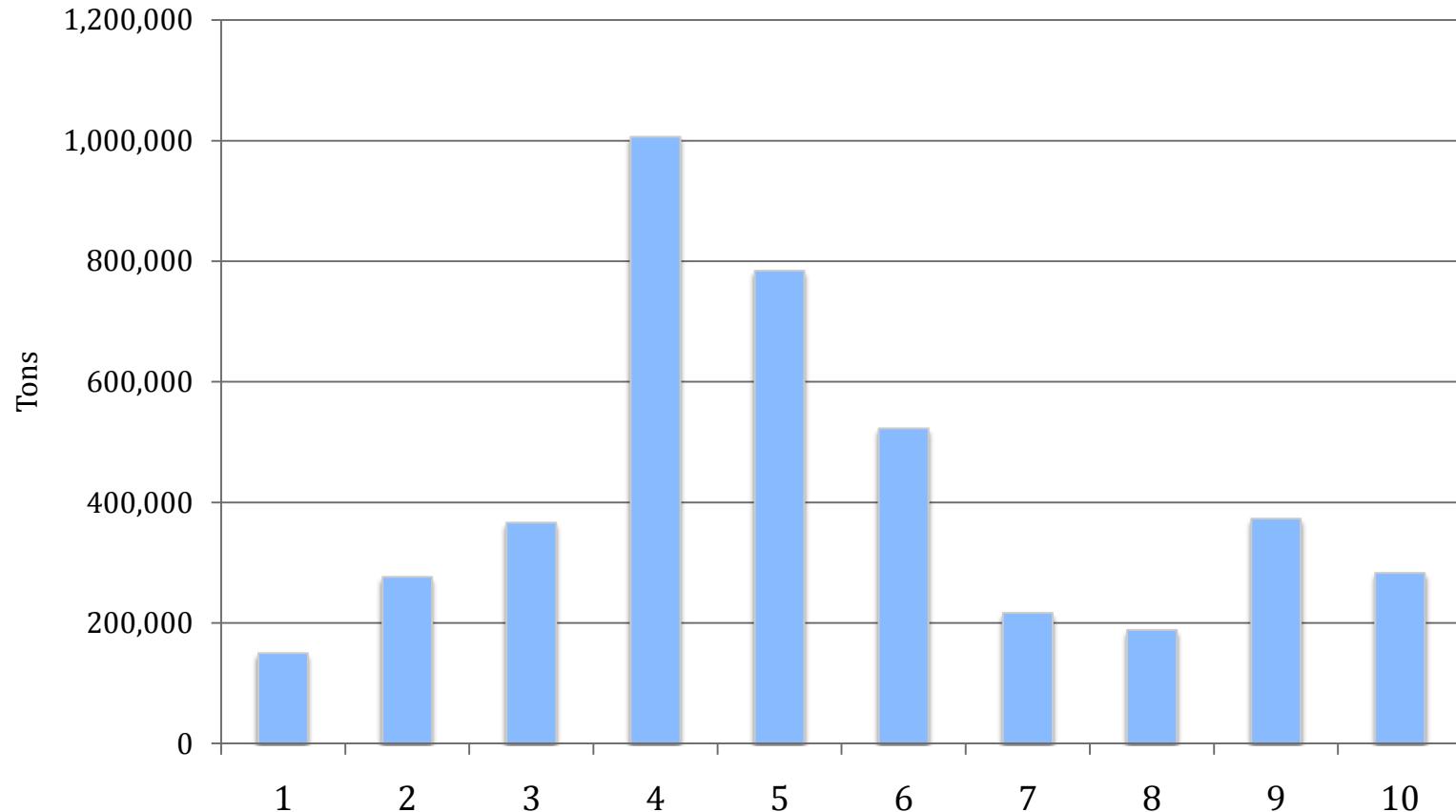
All 188 HAPs



HAPs from Stationary Sources



2005 HAPs by EPA Region



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