
Environmental Indicators for Washington and the United States: 2009

John R. Hill, Ph.D.

Introduction

“Some people will do anything to save the environment...”

P.J. O'Rourke (1990)

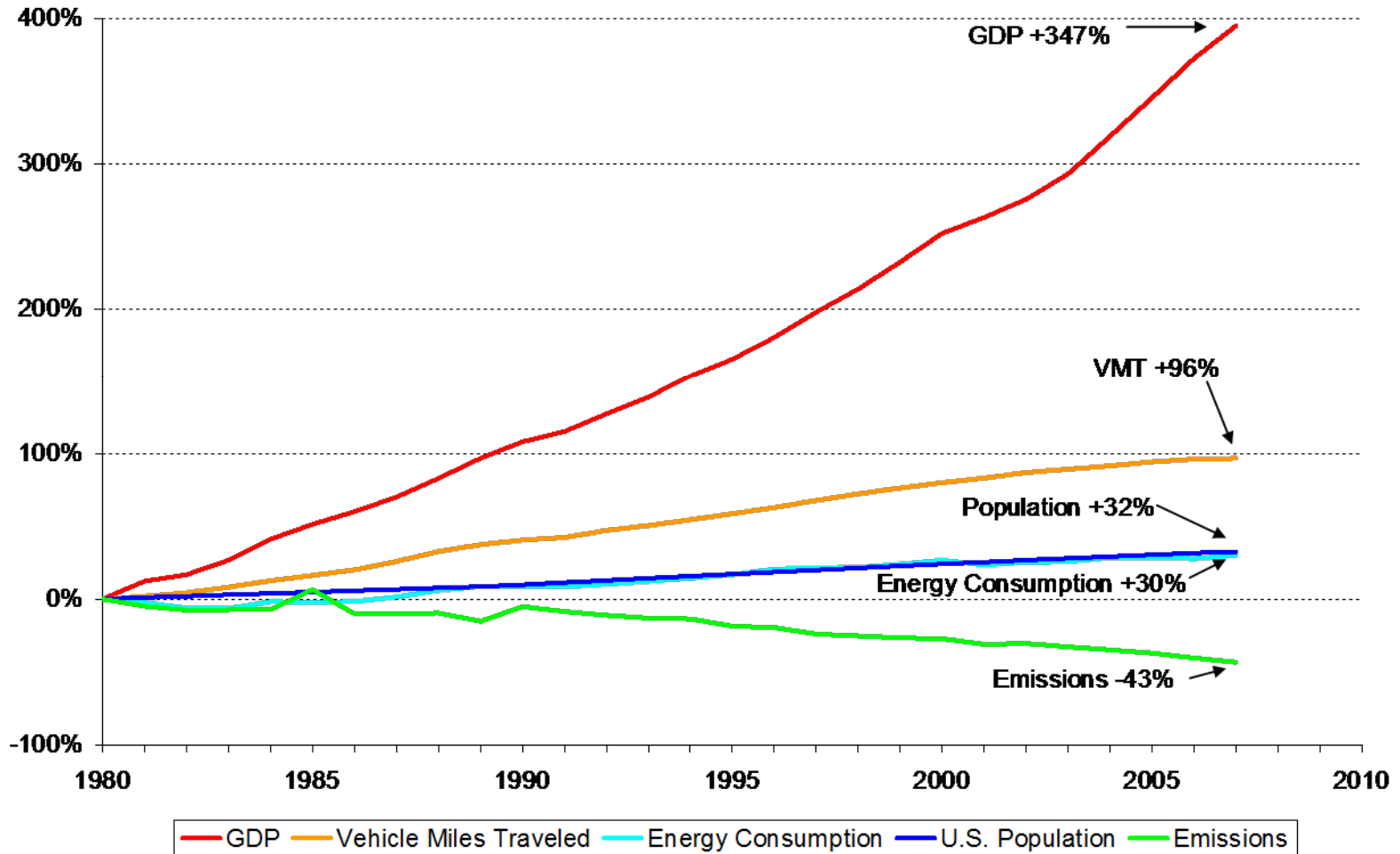
Introduction

“Some people will do anything to save the environment...except take a science course.”

P.J. O'Rourke (1990)

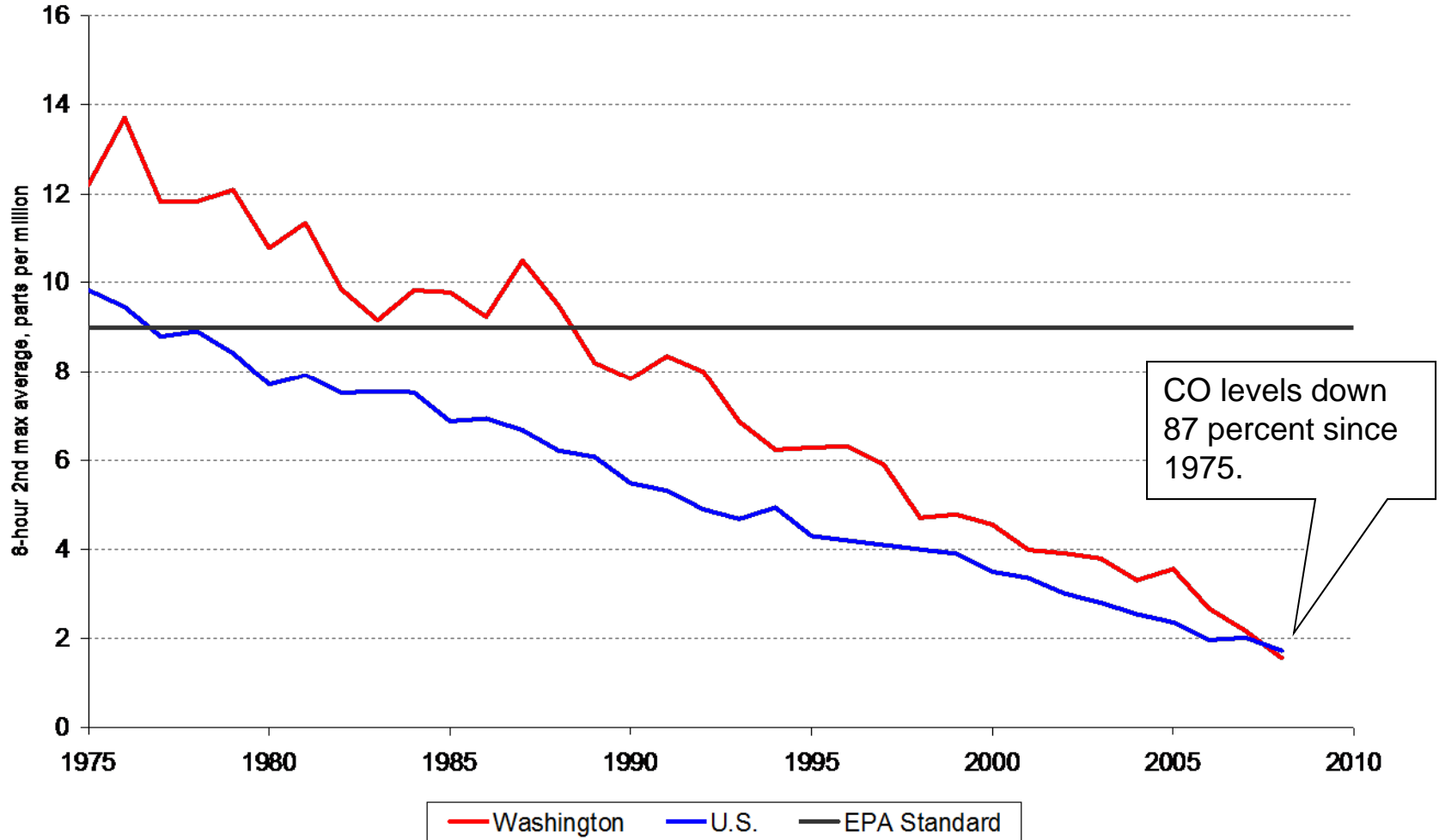
Air Quality

**Trends in Aggregate Emissions, Demographics, and Economics:
U.S., 1980 - 2007**



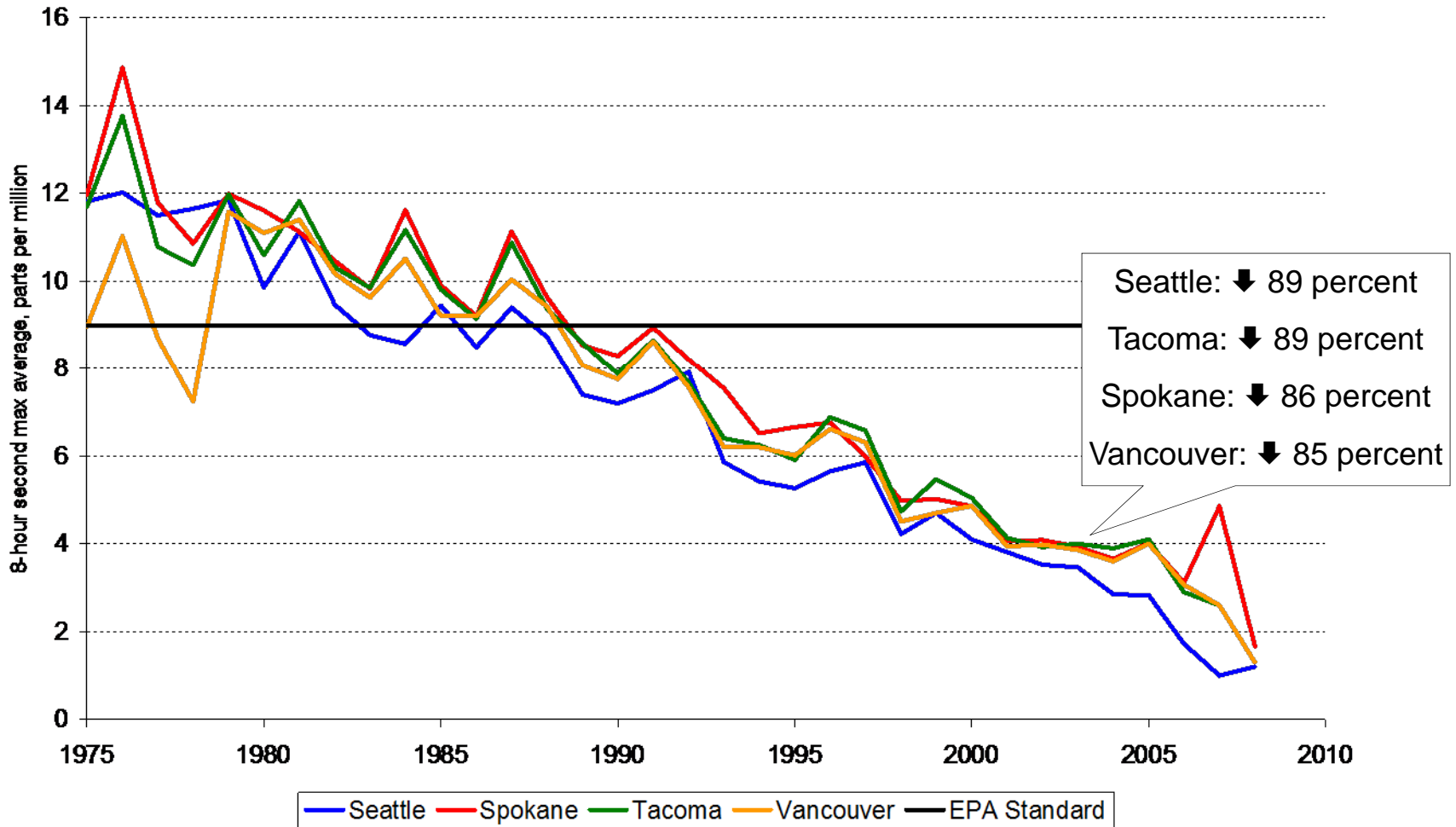
Air Quality – Carbon Monoxide

**Average Ambient Carbon Monoxide (CO),
Washington and the United States: 1975-2008**



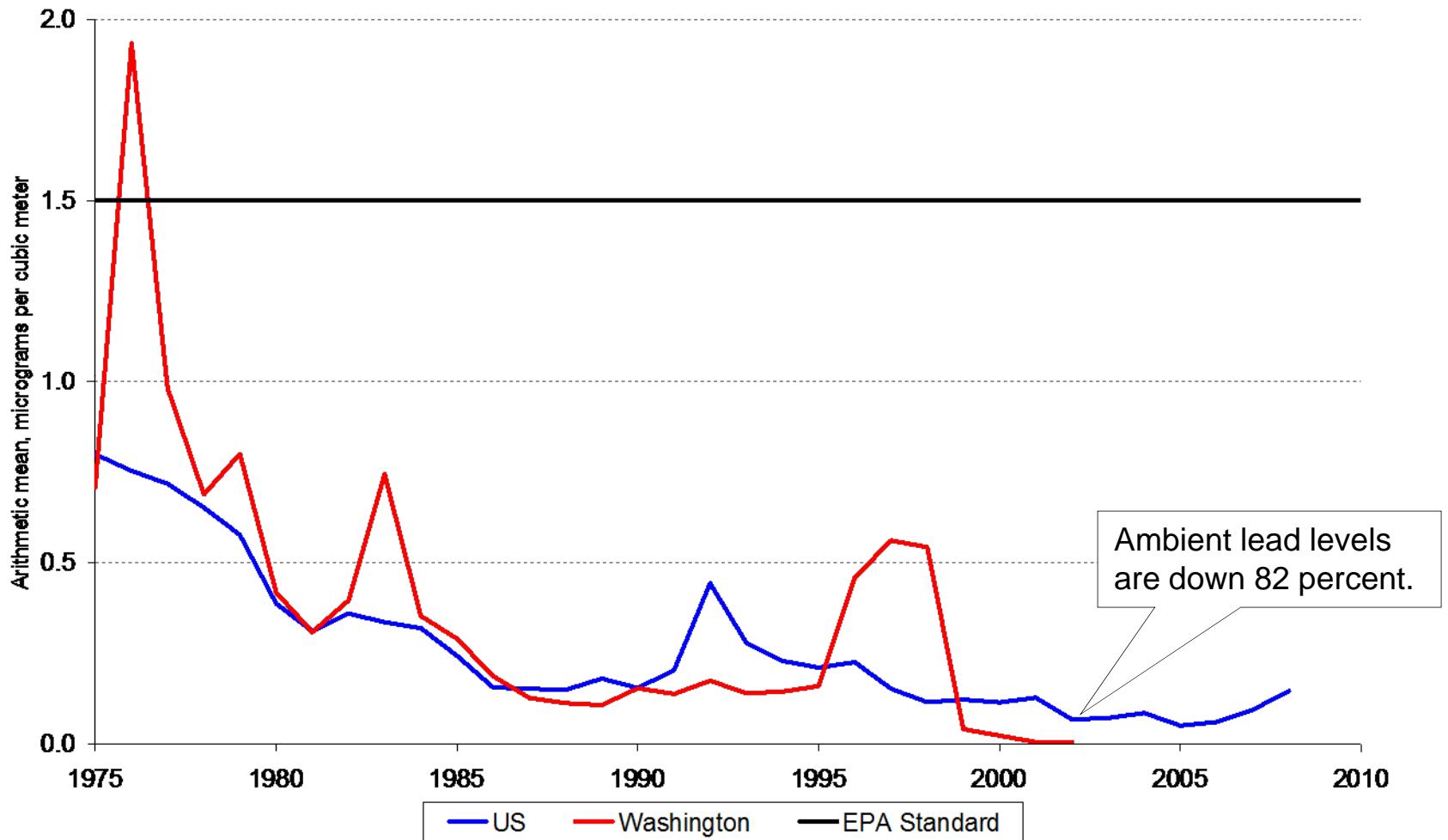
Air Quality – Carbon Monoxide

Ambient Carbon Monoxide (CO) in Washington Cities: 1975-2008



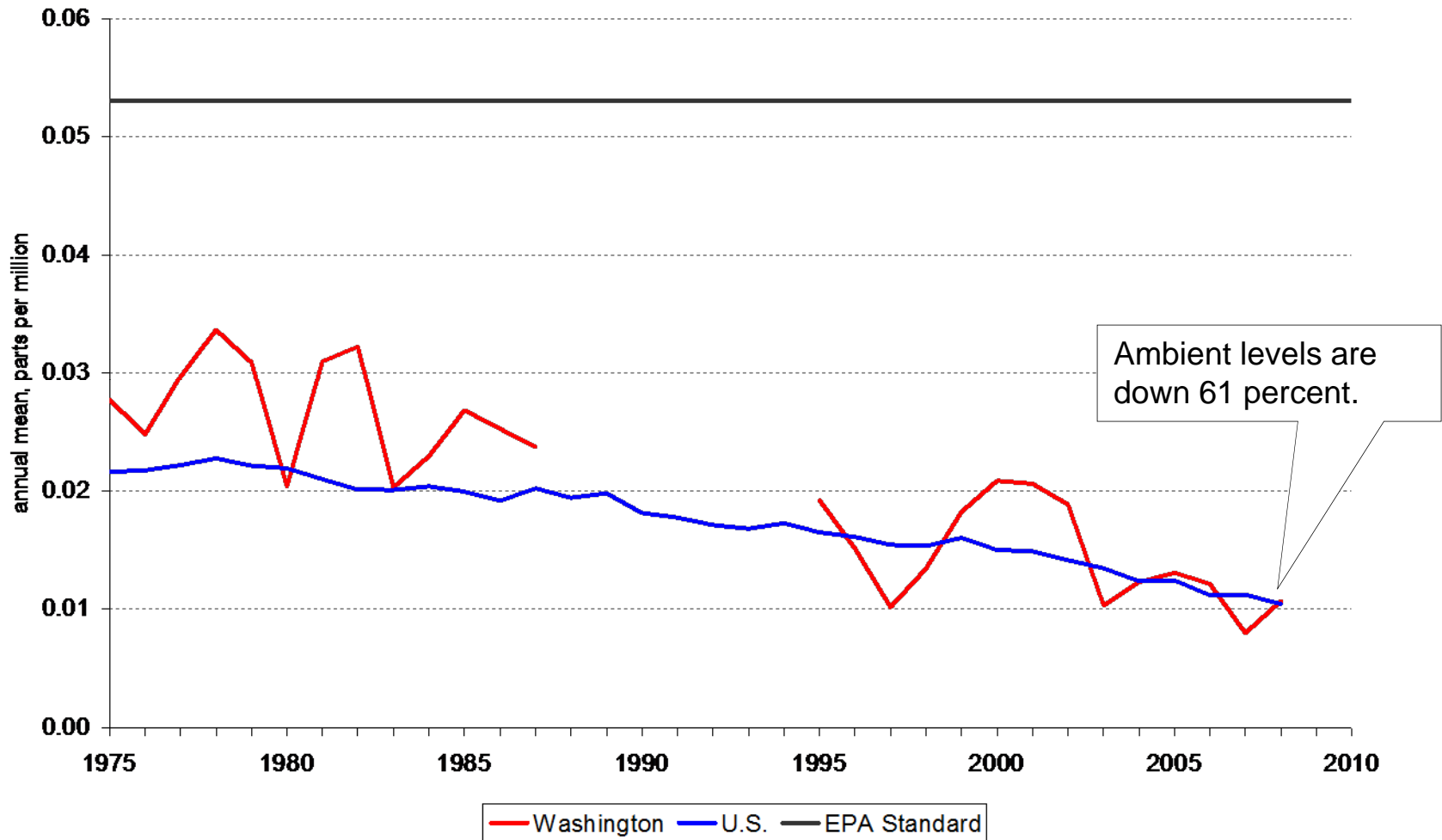
Air Quality - Lead

**Ambient Lead (Pb) in Washington and the U.S.:
1975-2008**



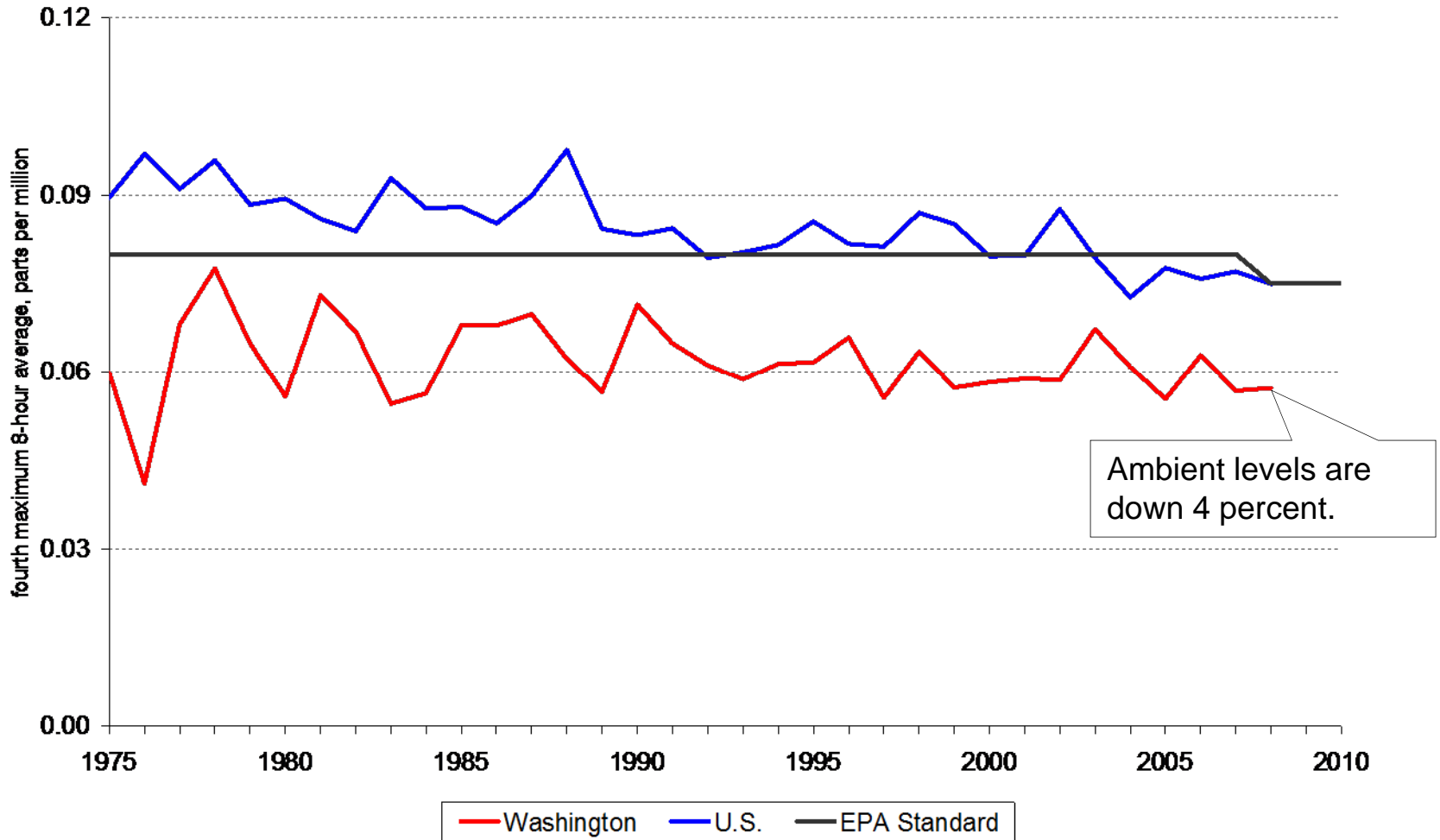
Air Quality – Nitrogen Dioxide

**Ambient Nitrogen Dioxide (NO₂) in Washington and the U.S.:
1975-2008**



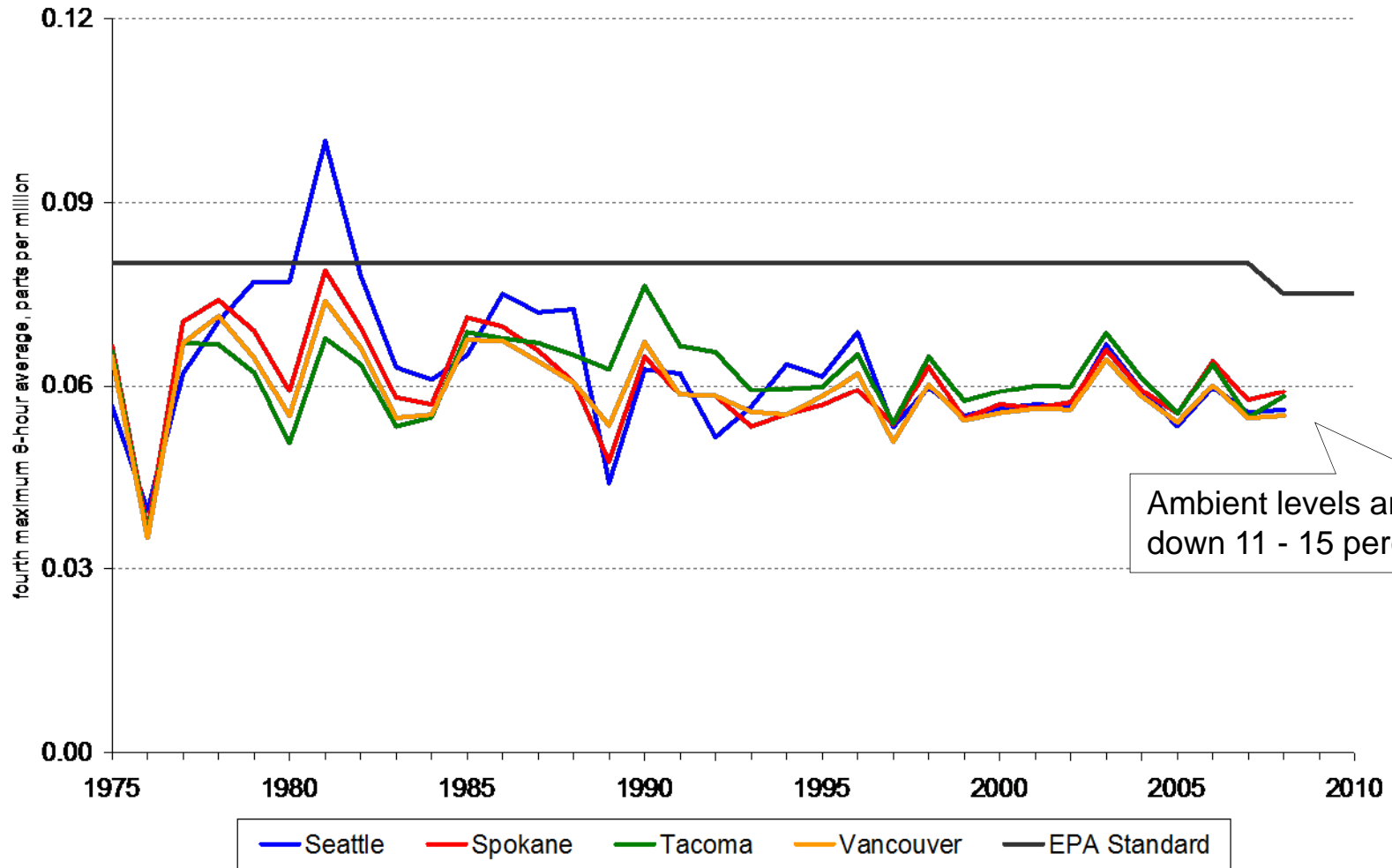
Air Quality – Ozone

**Ambient Ozone (O₃) in Washington and the U.S.:
1975-2008**



Air Quality – Ozone

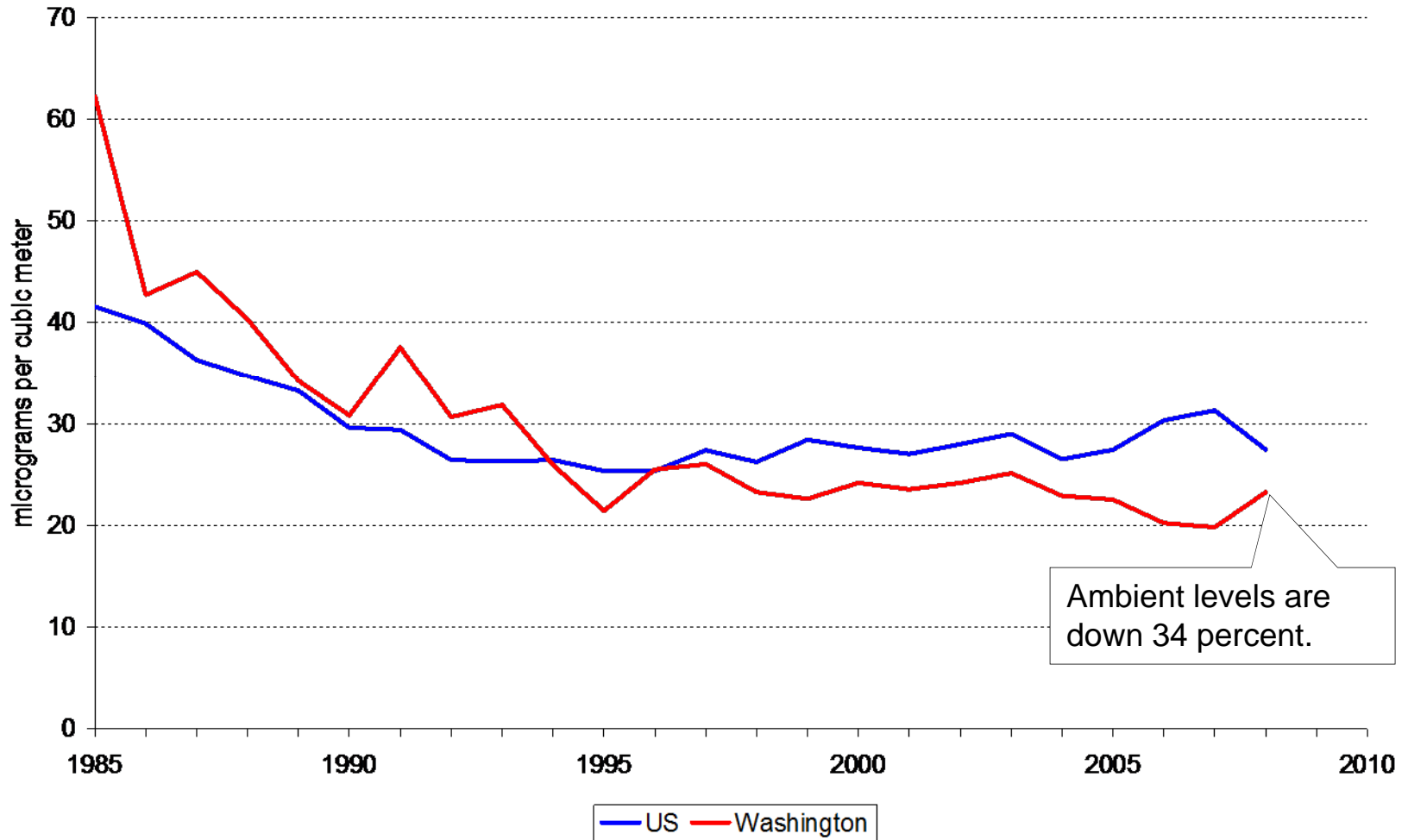
**Ambient Ozone (O₃) Trends in Washington's Largest Cities:
1975-2008**



Ambient levels are down 11 - 15 percent.

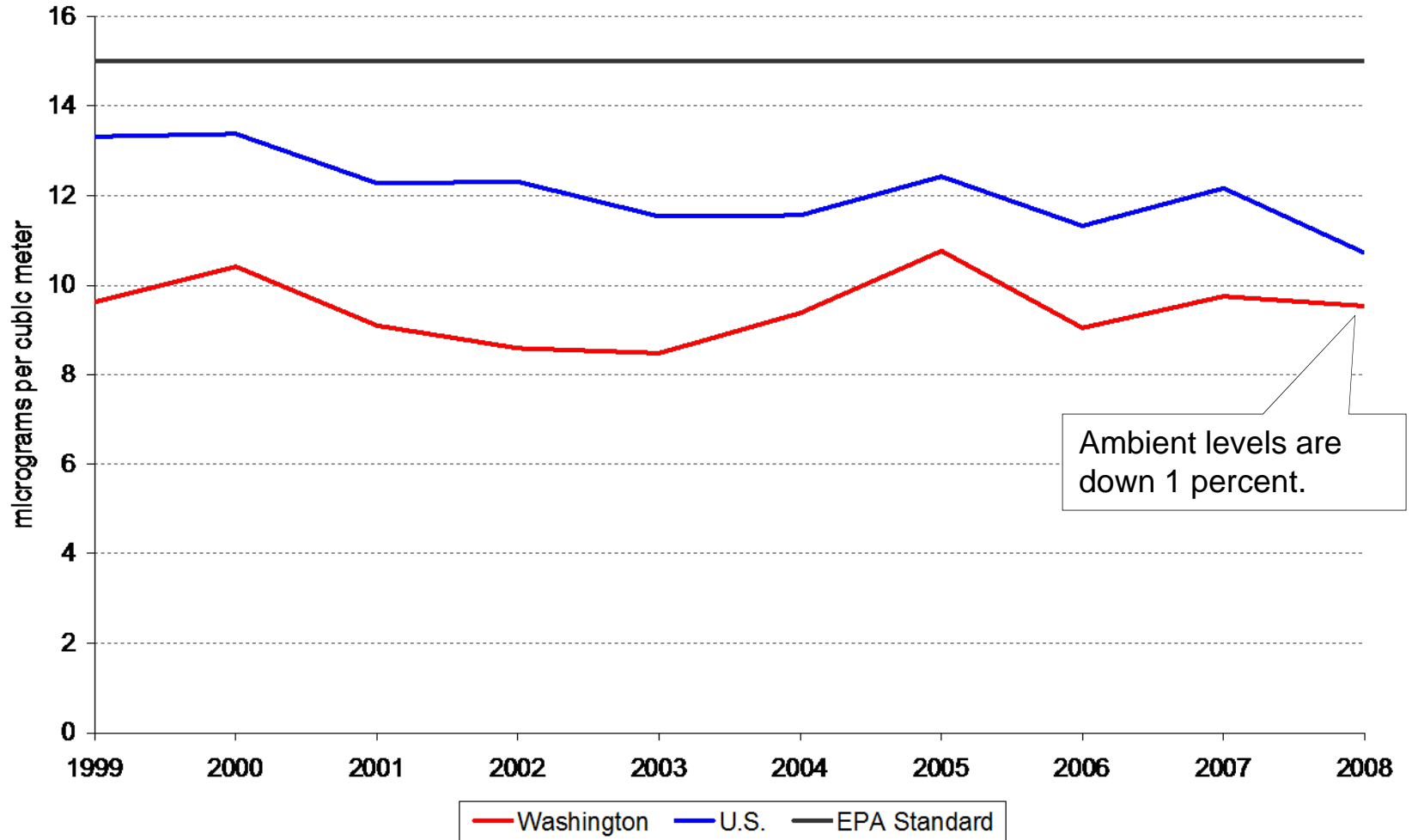
Air Quality – Particulate Matter

**Ambient Particulate Matter (PM₁₀), Annual Mean in Washington and the U.S.:
1985-2008**



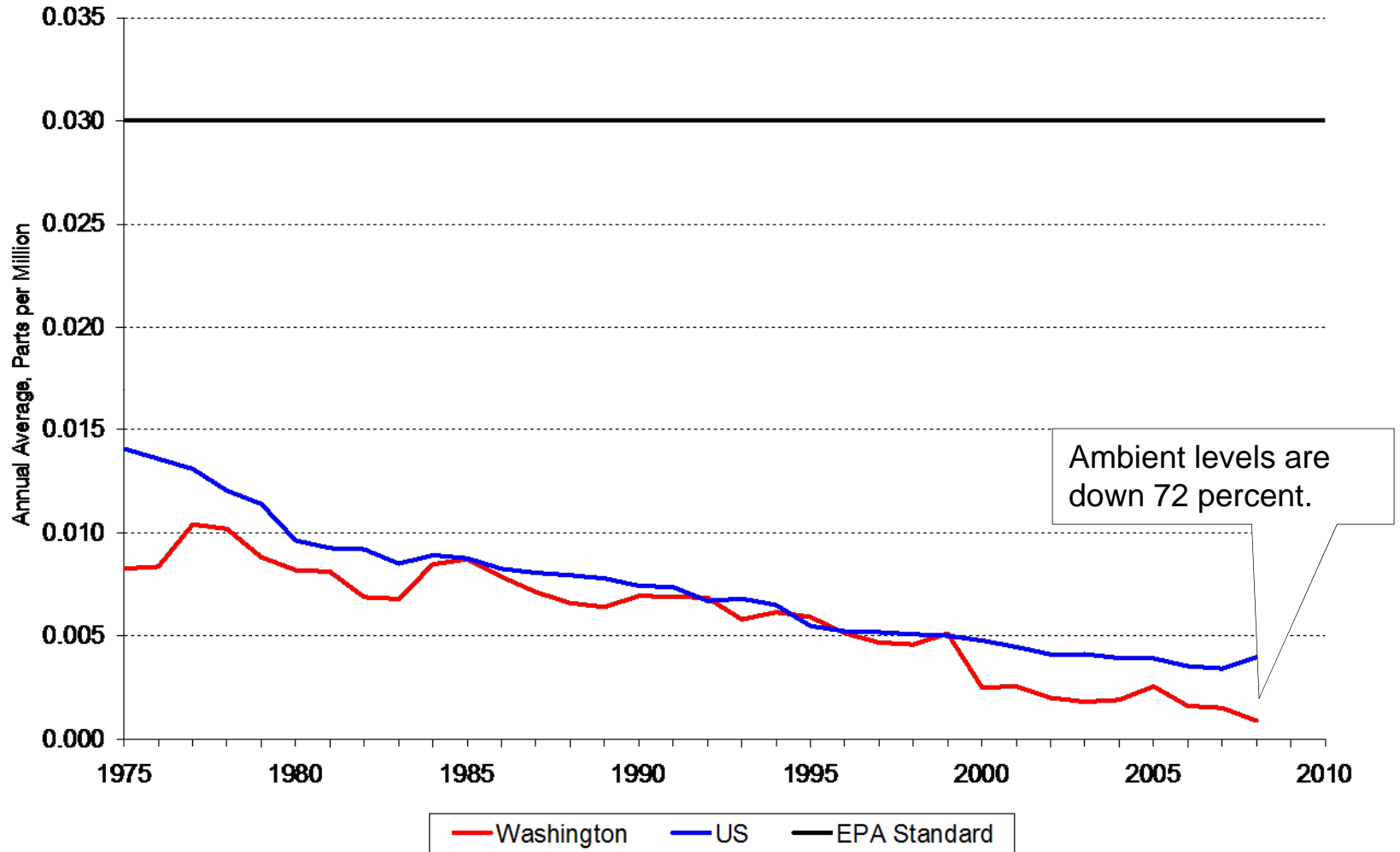
Air Quality – Particulate Matter

Annual Mean of Ambient Particulate Matter (PM_{2.5})
in Washington and the U.S.: 1999-2008



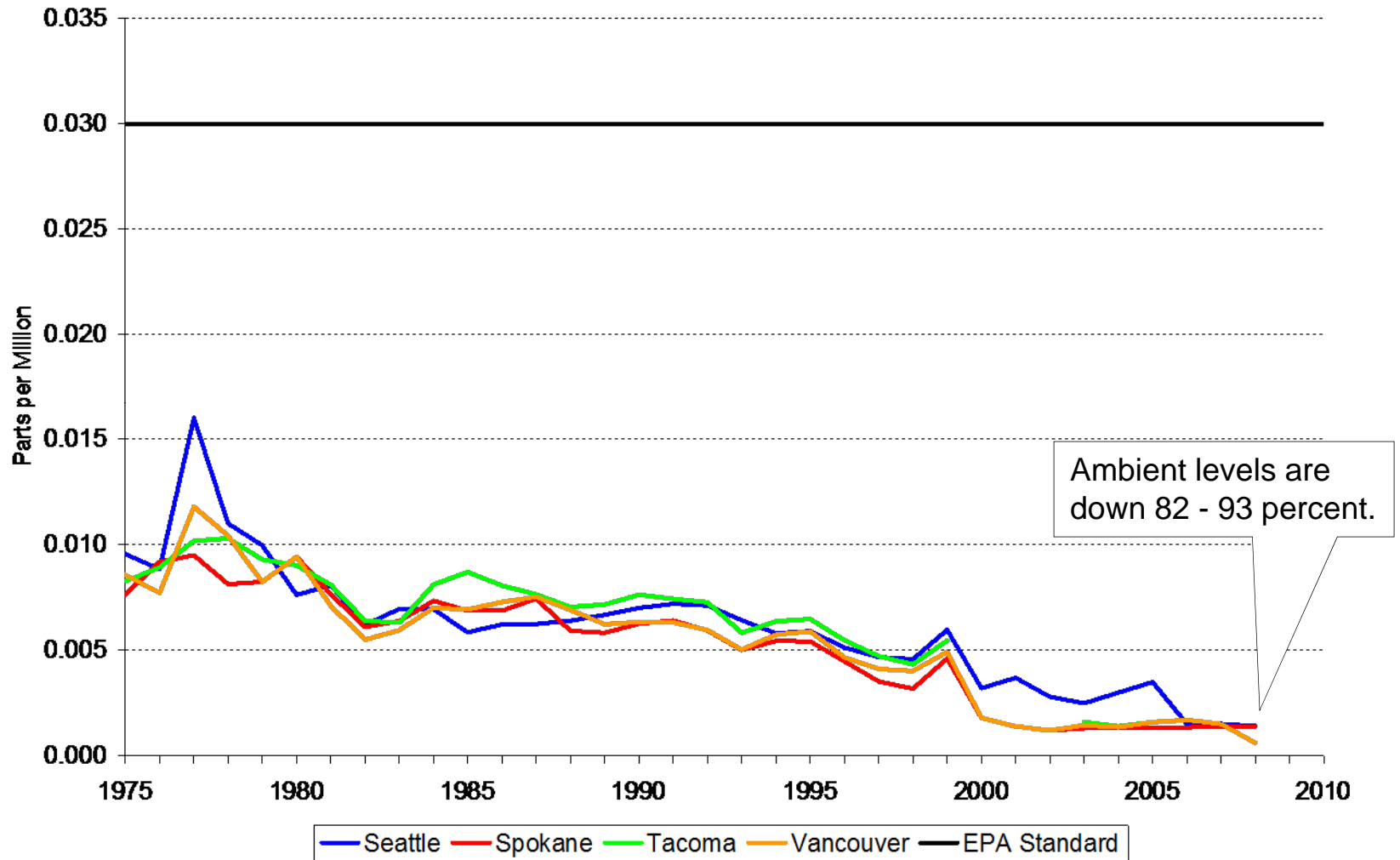
Air Quality – Particulate Matter

Ambient Sulfur Dioxide (SO₂) in Washington and the U.S.: 1975-2008



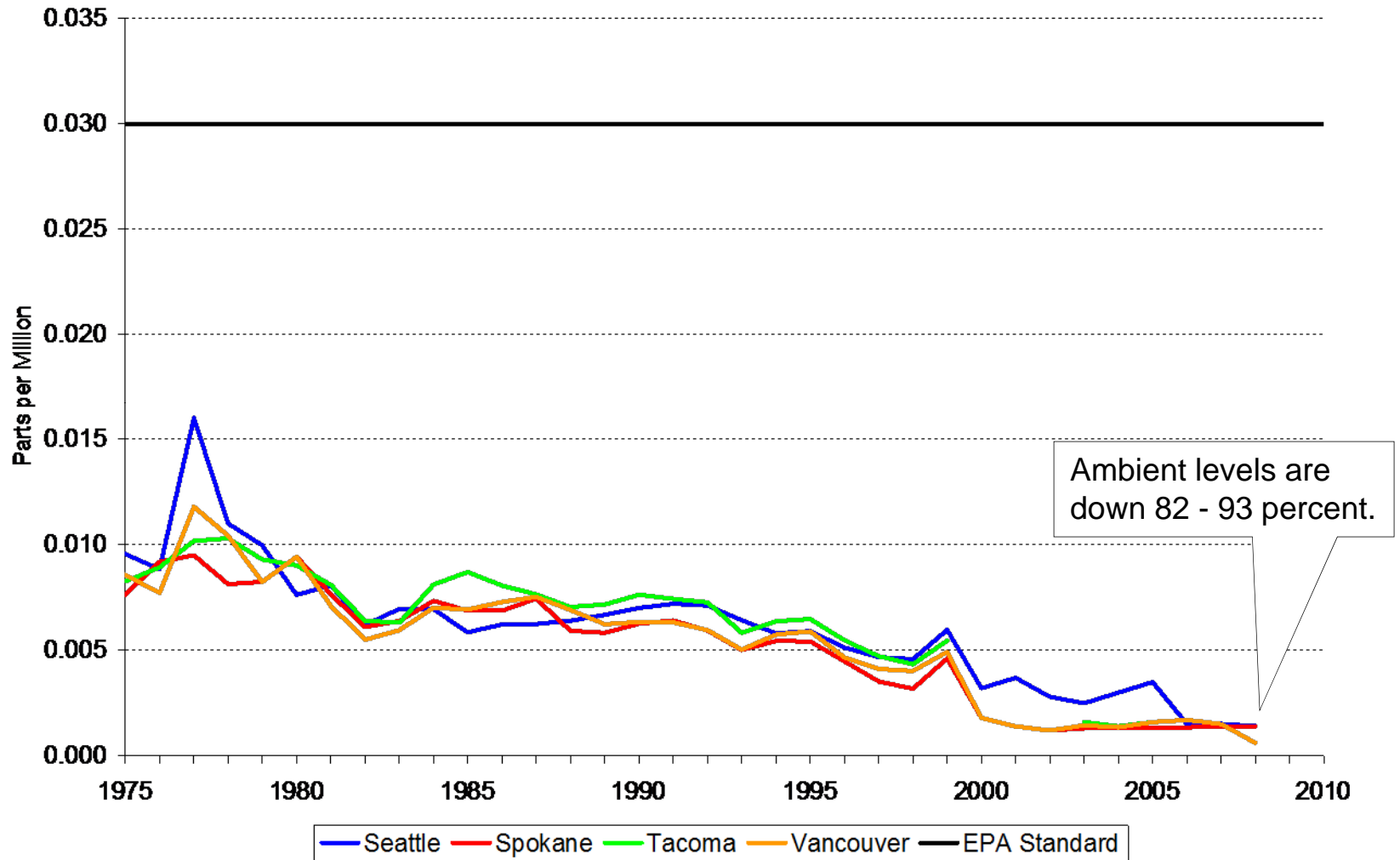
Air Quality – Particulate Matter

Ambient Sulfur Dioxide (SO₂) in Washington's Four Largest Cities: 1975-2008



Air Quality – Particulate Matter

Ambient Sulfur Dioxide (SO₂) in Washington's Four Largest Cities: 1975-2008



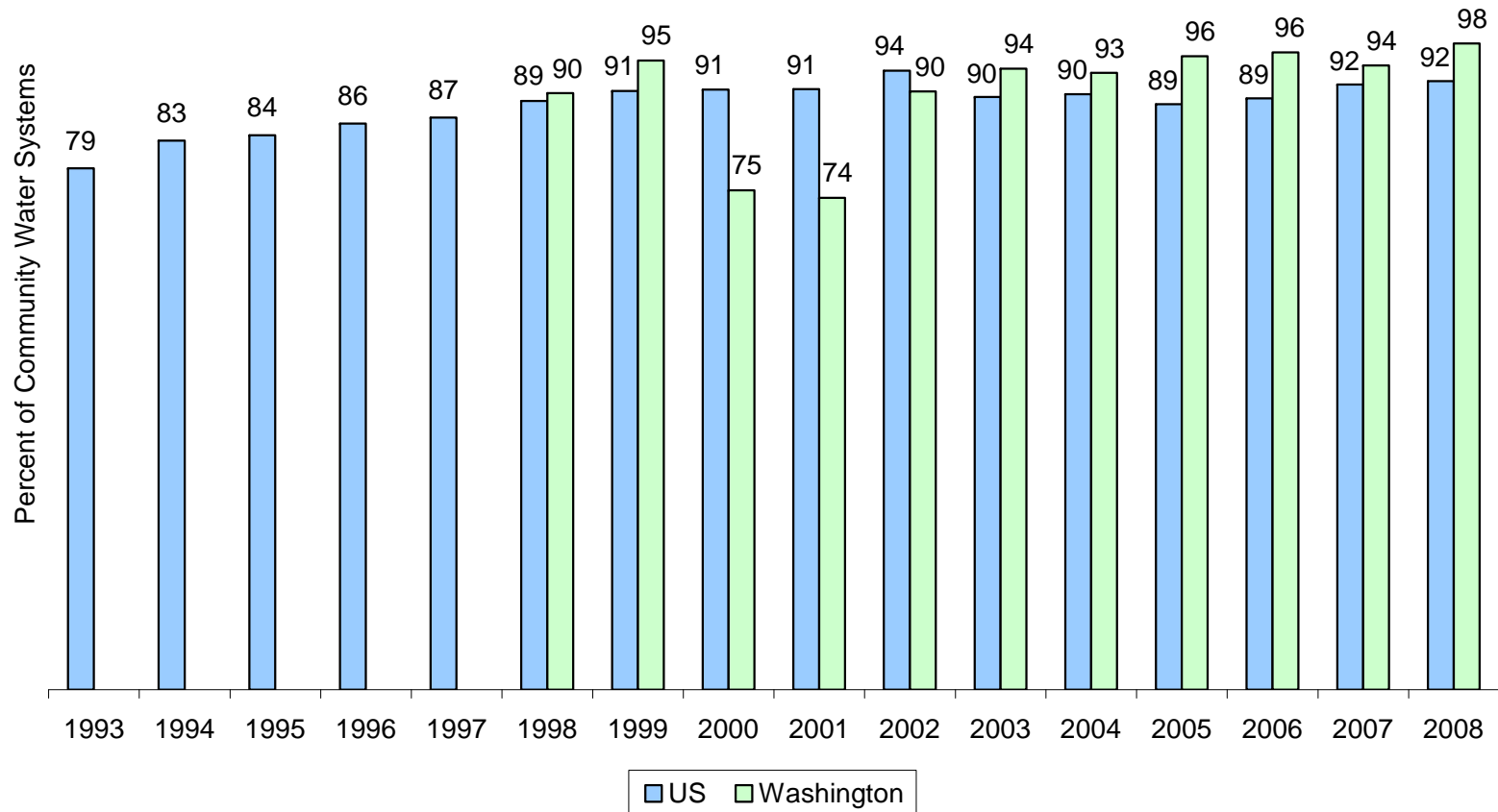
Water Quality

Water Quality

- Many rivers and streams have above-average levels of phosphorus and nitrogen, particularly in agricultural watersheds.
 - Some pesticides are also present in these waters, but few are in excess.
 - Lake and stream acidity are on the decline, with the greatest decreases in the Adirondacks (-52%) and the Northern Appalachian Plateau (-32%).
 - Over 90 percent of the nation's coastal sediments contain no significant toxins.
-

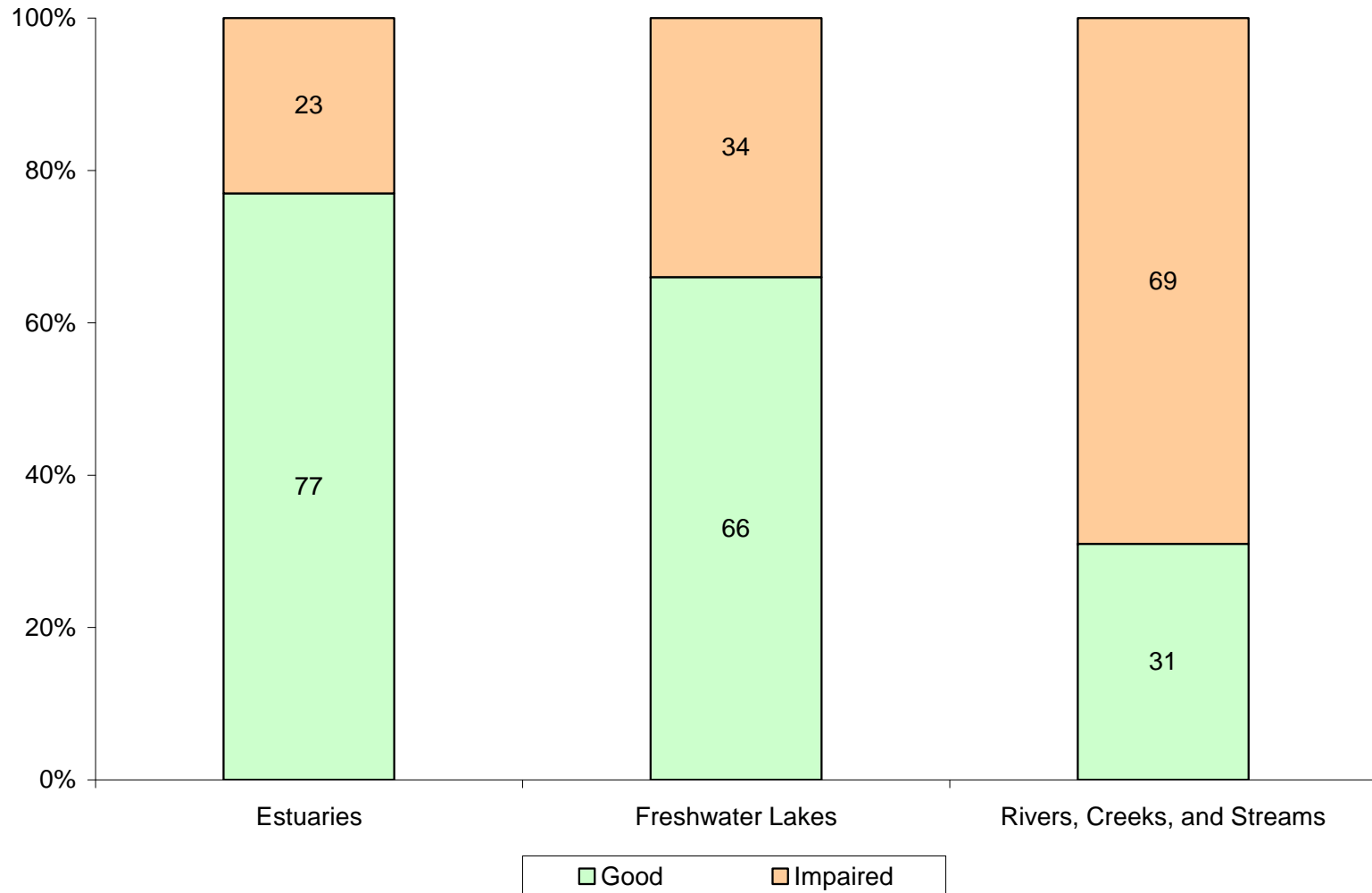
Water Quality – Drinking Water

Population Served by Community Water Systems with No Reported Violations of EPA Health-Based Standards, by State, Fiscal Years 1993-2008

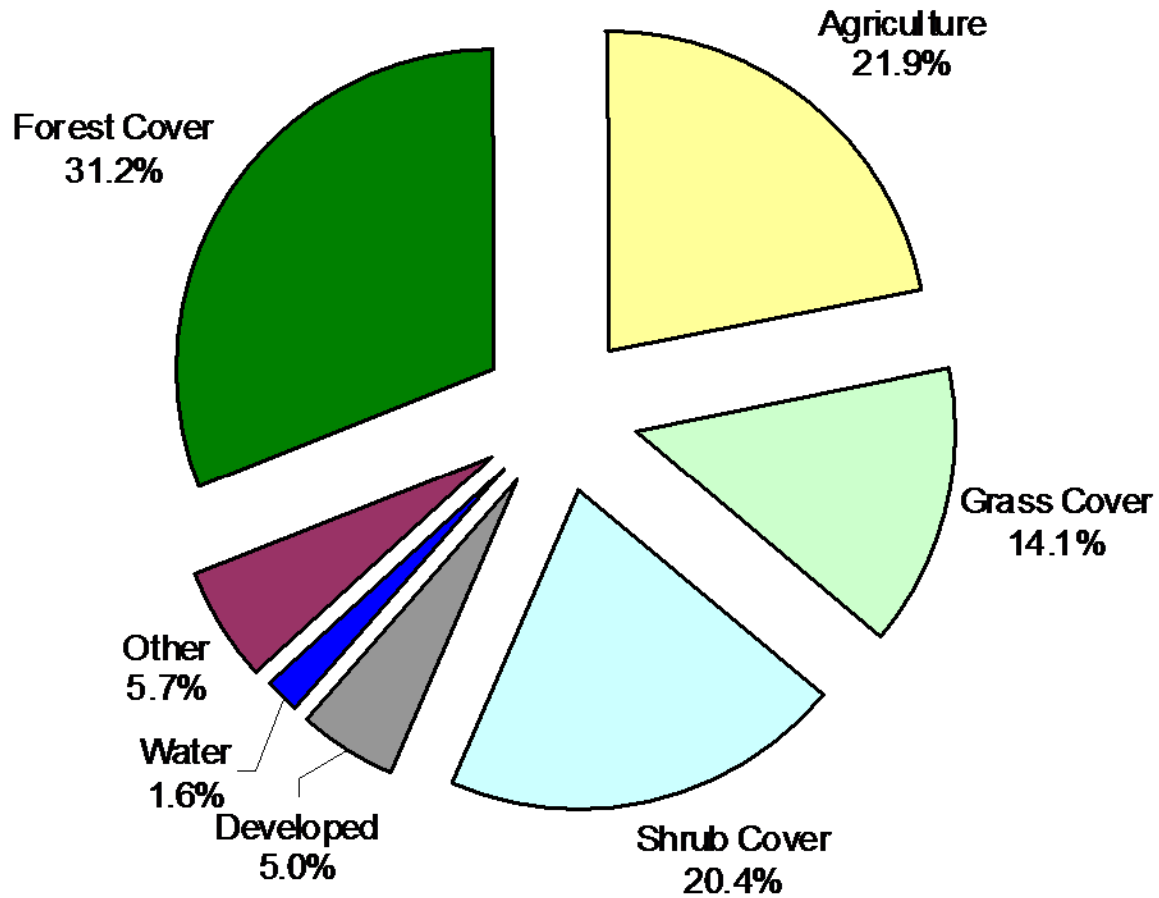


Water Quality – Puget Sound

Water Quality in Puget Sound Watershed, by Type: 2004

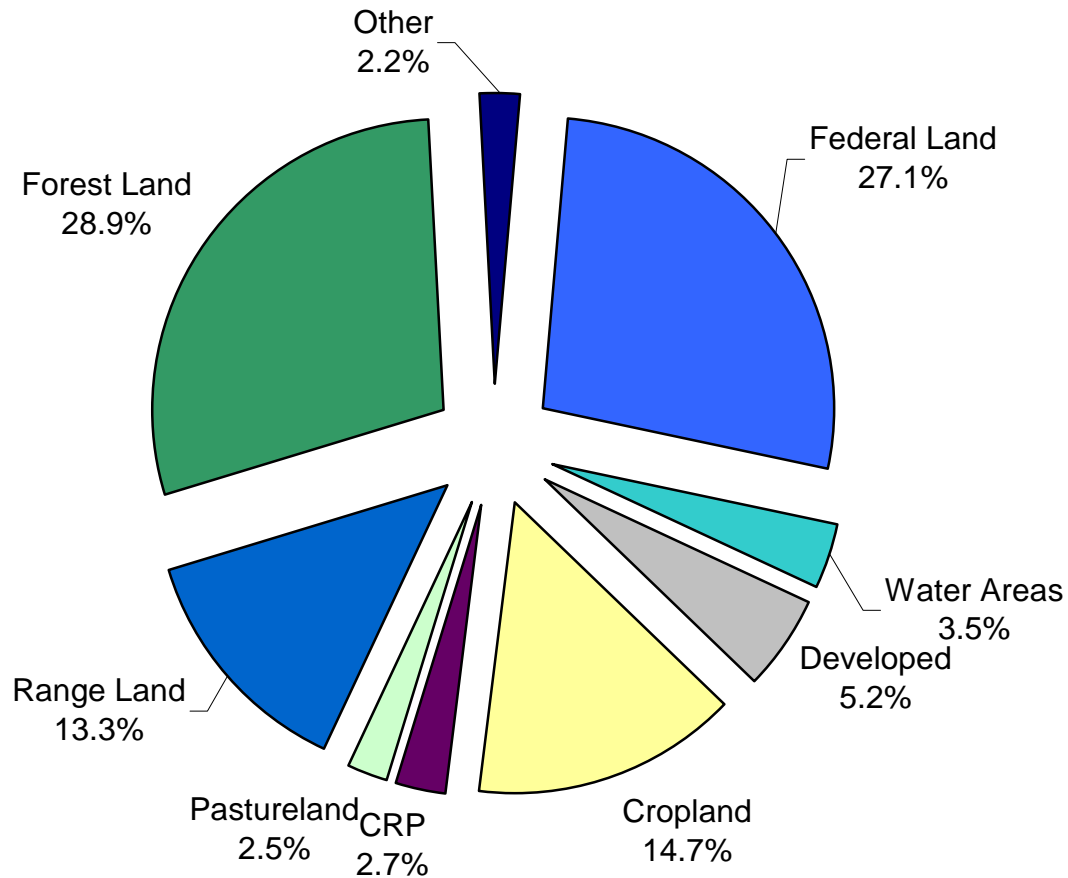


Land Use: U.S.



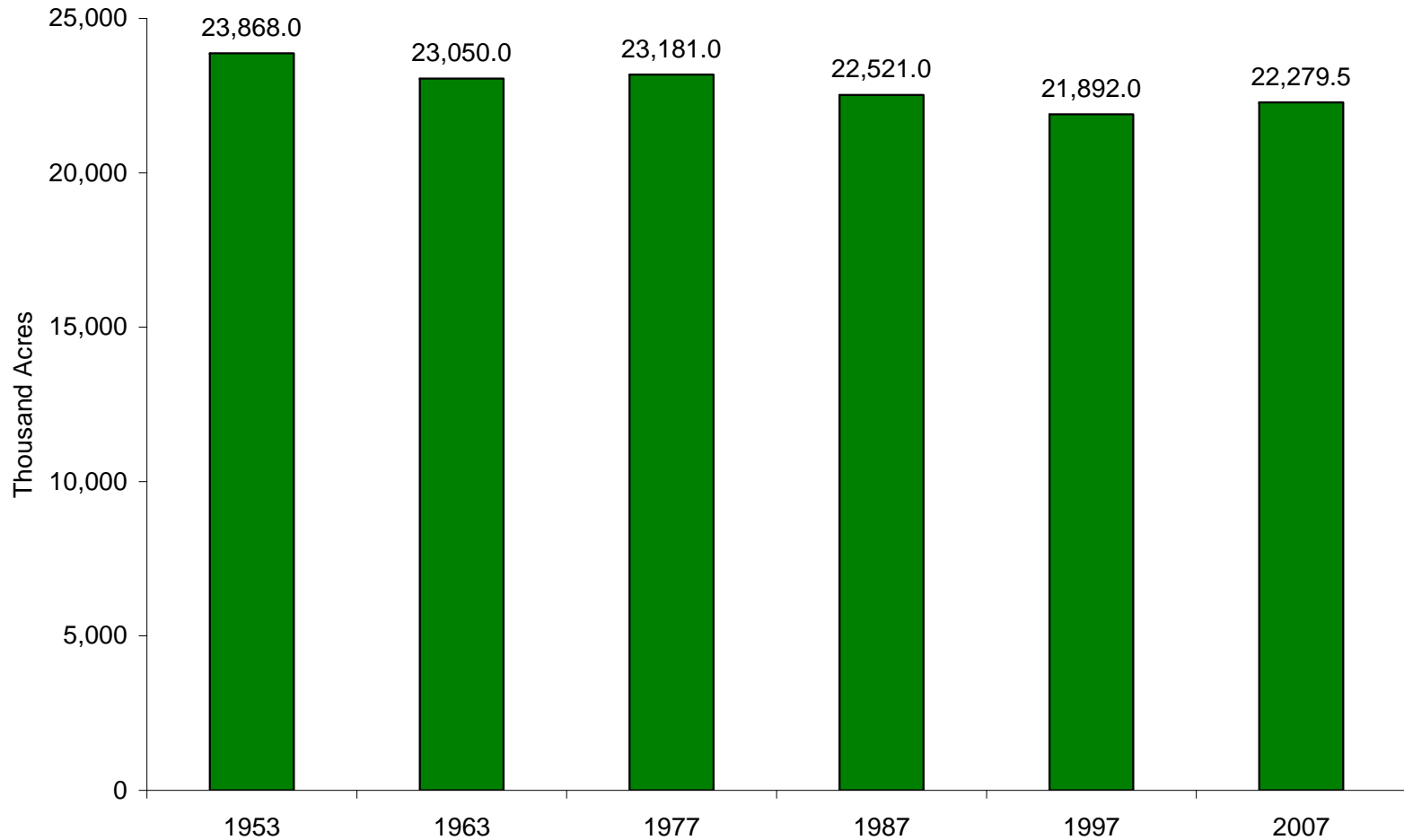
Land Use: Washington

Land Use in Washington: 2003



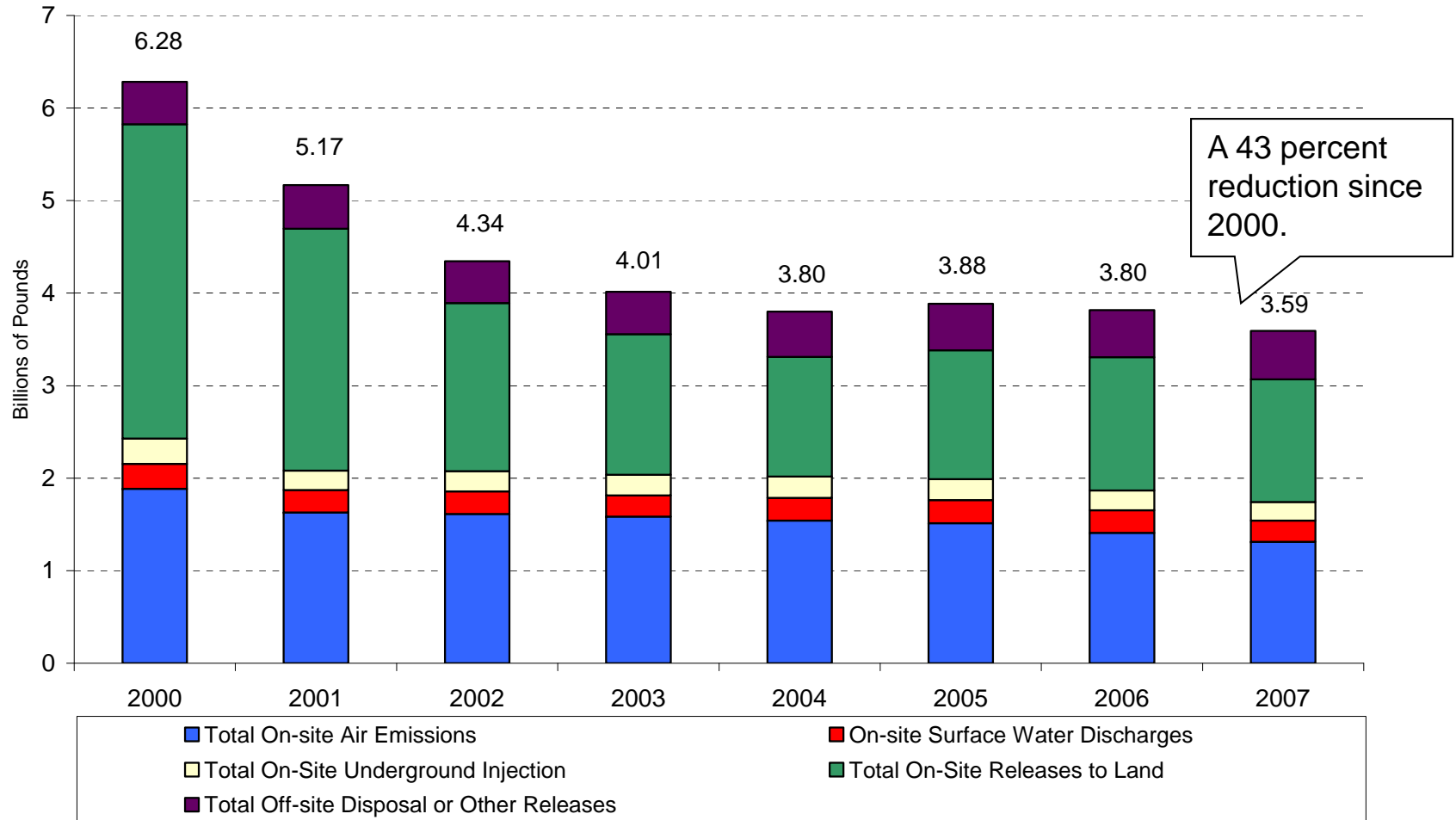
Land Use: Forests

Change in Forest Land Coverage in Washington: 1953-2008



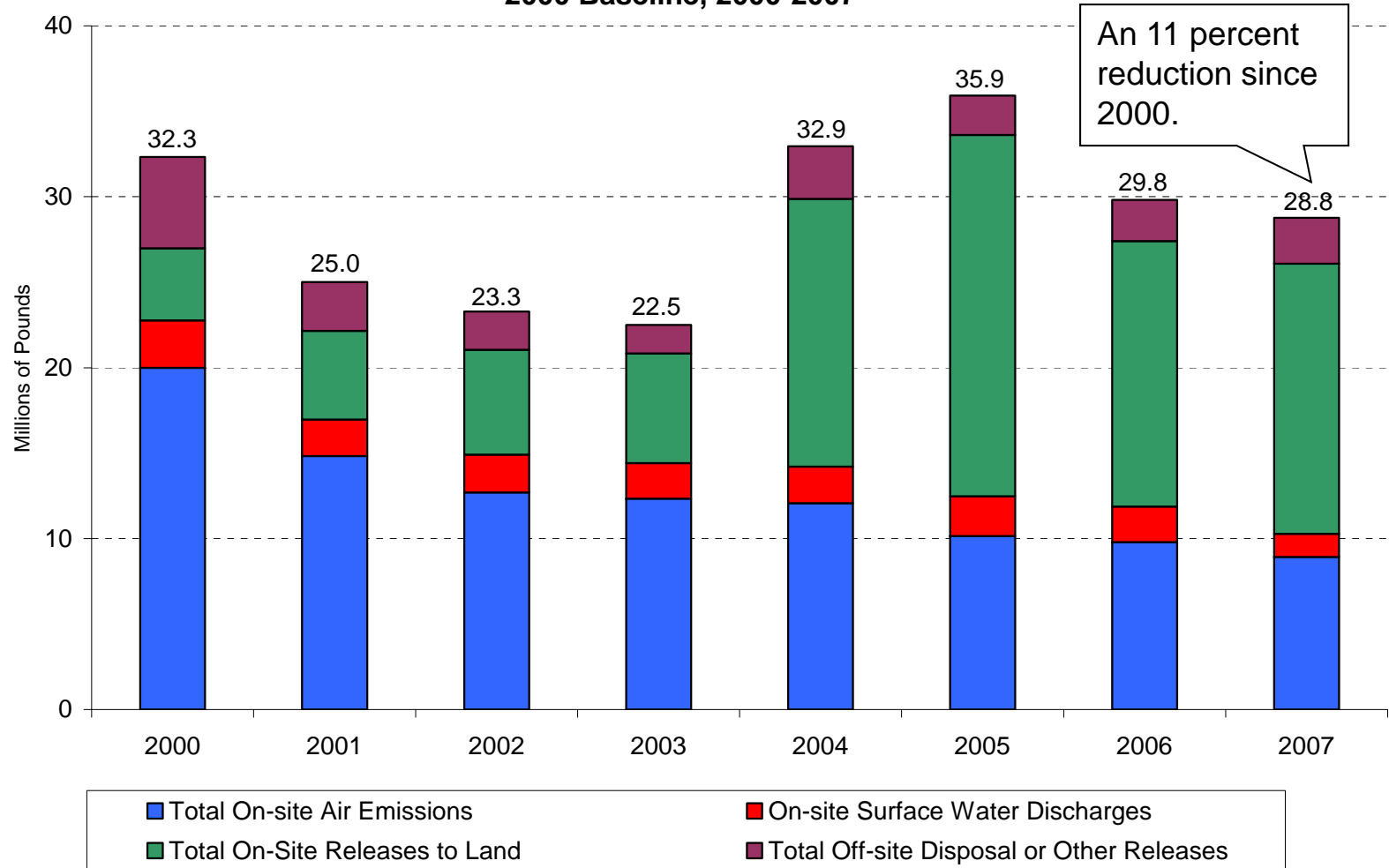
Waste Management: Toxics Releases

Total On- and Off-Site Disposal and Other Releases in the U.S.:
2000 Baseline, 2000-2007



Waste Management: Toxics Releases

Total On- and Off-Site Disposal and Other Releases in Washington:
2000 Baseline, 2000-2007



Local Air Pollution Program Development

Growth of Municipal, County, and State Air Pollution Programs, 1880-1980

