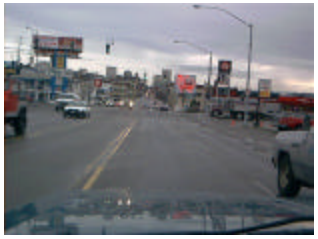
WASHINGTON STATE DEPARTMENT OF ECOLOGY

Washington State Department of Ecology Air Quality Program



2000 - 2002 Air Quality Trends Report

03-02-008

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Air Quality Concerns in Washington

Air quality concerns come in three forms: public health, environment, and quality of life.

Air pollution causes lung disease and worsens existing respiratory and cardiopulmonary disease, sometimes hastening death for persons afflicted with such diseases. It increases chronic respiratory illness, increases the overall death rate, increases the likelihood of contracting cancer, and decreases lung function in children. Hundreds of studies find that short and long-term exposures to air pollution can result in:

- increased respiratory symptoms, emergency room visits, hospitalizations and medication use;
- decreased lung function; and
- school absences, work loss days, and restricted activity days.

Air pollution also affects our environment and quality of life in other ways, including:

- damage to soils, water, crops, vegetation, manmade materials, property, animals, and wildlife;
- impairment of visibility;
- impacts on climate and weather; and
- hazards to transportation.

In addition, when air pollution creates noxious odors or irritating fumes, it can adversely affect the economic value of homes and other types of real estate, as well as personal comfort and well-being.

Since the Washington State legislature expanded statewide air quality efforts in 1991, overall air quality in Washington has greatly improved. Washington citizens save more than $2 billion per year in health costs and through economic benefits related to cleaner air. But even with current air quality efforts, 1,400 people die each year from exposure to fine particle pollution in Washington, according to the Natural Resources Defense Council. Fourteen areas of Washington State have been designated as violating national, health-based, ambient air quality standards for six chemicals known as "criteria" pollutants. Over three million people live within these areas. Additionally, special monitoring studies show the potential for violations in several new areas such as Colville and parts of the Columbia plateau. Although air quality has improved significantly in the state's major urban areas and most are currently meeting healthy air standards, some areas still remain close to violating one or more federal air quality standards.

In addition to the six criteria pollutants, hundreds of other chemicals, known as toxic or hazardous air pollutants enter the atmosphere from a wide variety of sources. These chemicals are not subject to national health-based standards. Because of limited data, the level of public health and environmental damage caused by toxic air pollutants in Washington State is relatively uncertain.

Major Activities of the Air Quality Program

The Department of Ecology's Air Quality Program completed a strategic planning effort during 2000-2001 that established six air quality goals, described below.

Prevent violations of air quality standards

Washington faces continuing growth that threatens to overwhelm the department's current strategies to maintain air quality standards, and in areas of the state that have not been monitored, health risks are a matter of conjecture. Ecology's goal is to reduce ambient air pollutant concentrations to levels that provide less than a one percent chance of triggering violations of health-based National Ambient Air Quality Standards (NAAQS) by 2010.

Reduce motor vehicle emissions

More people, more growth, and more sprawl mean more traffic and more pollution from motor vehicles. Without significant emission reductions in addition to those being provided by existing programs, the department cannot reasonably assure future attainment of federal air quality standards, avoid the imposition of multi-million dollar control costs to businesses and citizens, or prevent more harmful health impacts to citizens from increased air pollution. Ecology's goal is to reduce emissions from mobile sources by 35 percent by 2010.

Improve visibility

Visibility is negatively affected by air pollution levels well below those allowed by the federal health-based standards. Clear views within our national parks and wilderness areas, as well as views from outside these areas, are important to our economy and our quality of life. To enhance and preserve this cherished natural resource, we need to develop and implement strategies that will significantly reduce visibility-impairing emissions. Ecology's goal is to develop and implement control strategies to reduce human-caused visibility-impairing emissions by 25 percent by 2010, and by 50 percent by 2020.

Reduce risk from toxic air pollutants

Although the federal government is beginning to address many toxic air pollutants, they may or may not address those toxics most significant in Washington State in a timeframe that provides satisfactory protection for Washington citizens. Ecology's goal is to reduce emissions of priority toxic air pollutants by 50 percent by 2010, and significantly reduce potential risk to the public of cancer and other serious adverse health effects caused by airborne toxics.

Improve understanding of the risks and costs of air pollution

Citizens, regulators, and elected officials need to be well-informed about the effects of air pollution and pollution reduction strategies in order to take appropriate action to minimize those effects. Ecology's goal is to provide easily accessible and understandable information about the risks and costs of air pollution and air pollution reduction strategies to citizens and elected officials.

Reduce smoke and dust in eastern Washington

Nagging regional smoke and dust pollution plagues many areas in central and eastern Washington. Source-specific air pollution problems are often not resolved quickly and efficiently. Efforts at preventing problems are frequently hit-or-miss. Ecology's goal is to achieve air quality levels in eastern and central Washington that experts agree is sufficient to protect human health by 2010.

Major Air Quality Issues and Challenges

Visibility and regional haze

Citizens complain when their views of Mt. Rainier, the Olympics or the Columbia Gorge are obstructed by air pollution. Regional haze and visibility degradation also affect tourism, restrain economic growth, and diminish the quality of life for Washington residents. Federal law requires Washington State to eliminate human-caused visibility impairment in our national parks and wilderness areas by 2064. Businesses, governments, and citizens who have already controlled emissions to protect public health may have to further reduce emissions if they are found to contribute to degradation of our scenic views.

Redesignation of the Wallula area

The designation "nonattainment" is used to identify areas that do not meet federal health standards for ambient air quality. The Clean Air Act then requires a state to develop and implement a plan to clean up the air. Wallula presents unique challenges for the department, because the area is sparsely populated, and the main cause of pollution is considered to be windblown dust. Businesses and elected officials in the Wallula area are concerned that expensive and unnecessary controls may be imposed that will have little or no effect on solving the air quality problem.

Toxic air pollutants

Air quality regulators have traditionally split air pollutants into two categories: criteria pollutants (six compounds for which federal ambient standards have been set) and toxic pollutants. Hundreds of toxic chemicals (totaling millions of pounds) are released into the air each year in Washington. No ambient standards and few emission limits have been established for these chemicals. We have limited understanding of the sources and quantity of emissions, ambient concentrations, and potential effects on human health and the environment of toxics in Washington's air.

In order to develop a rational strategy for addressing these pollutants, Ecology is now working on a comprehensive evaluation of what is known about air toxics in Washington. We are researching strategies that can be combined with pollution prevention efforts and other voluntary and cost-effective toxics reduction efforts. These strategies will complement EPA's efforts to reduce toxics from some of the large existing sources currently operating in Washington.

Outdoor burning

Burning of unwanted trash and natural debris is a frequent occurrence in many areas of Washington. Our clean air law governs where and what burning is allowable. The regulations implementing the law call for changes in burning programs and prohibitions. This trend for tighter restrictions on burning produces conflict in situations where the pressure or desire to burn is strong. In fact, the pressure to burn is increasing on many fronts. The demand for burning to remove agricultural and horticultural debris (straw, prunings, trunks, and stumps) fluctuates along with changes in

agriculture. Intentional burning in forests is likely to increase as a part of restoring the health of forests. Pressure to reduce burning is also increasing. People don't like to be "smoked-out," and are demanding clean air. Fire safety professionals have increasing concerns about burning and fires getting out of control. We predict that the pattern of frequent changes in burning programs will continue as state and local agencies struggle to find the balance between clean air, reasonable alternatives to burning, and necessary burning.

Motor vehicle Emission Check Program

Emission inspections are required of all gasoline and diesel cars and trucks, five to 25 years old, in the Seattle-Tacoma, Spokane and Vancouver areas. Because the motor vehicle Emission Check Program affects nearly a million vehicle owners each year, Ecology needs to ensure that the program meets both air quality and public service needs. This will be a major challenge as a new contractor takes over the program in 2002, resulting in upgraded inspection procedures and new inspection locations.

The Washington State Legislature did not pass legislation proposed during the 2001 legislative session to increase the Emission Check fee. The lack of a fee increase left potential test contractors unable to meet both air quality and customer service needs. During contract negotiations, Ecology made the choice to err on the side of public health, which may result in some negative impacts on customer service.

Growth issues

Air pollution levels in Washington are within one percent of violating federal standards for smog (ozone), three percent for carbon monoxide and seven percent for fine particles. Population growth, more cars, and economic expansion will continue to push air pollutant emissions higher. It will take vigilance and the combined efforts of citizens, business, and government to sustain our air quality gains.

Washington's Nonattainment and Maintenance Areas

The maps on the following page show nonattainment and maintenance areas in Washington.

Carbon monoxide

Spokane and Yakima remain in nonattainment; however, attainment plans for both of these areas are under review by EPA. Yakima is very close to approval as a maintenance area. Current maintenance areas are Vancouver and Puget Sound.

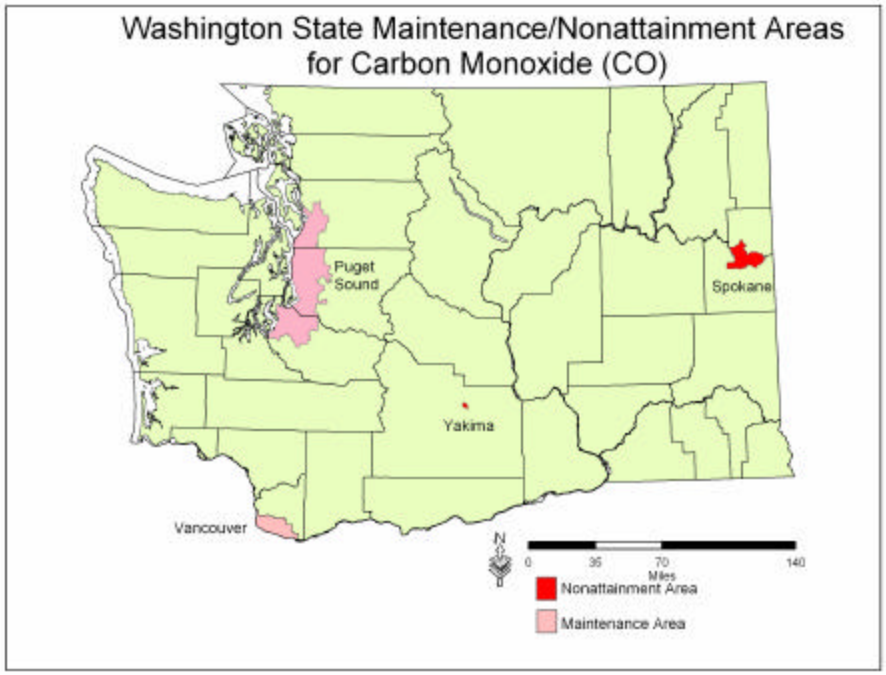
Ozone

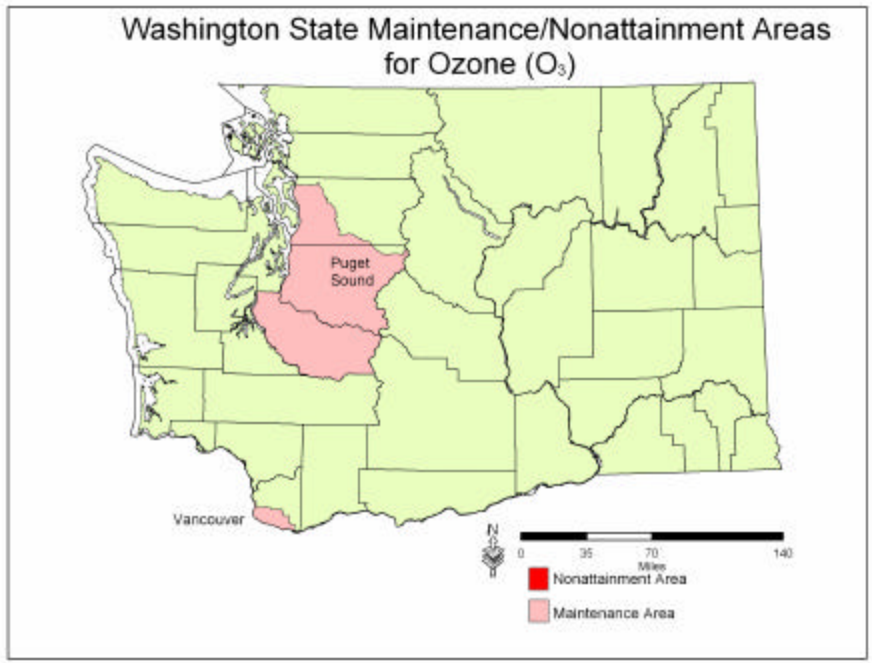
Vancouver and Puget Sound are ozone maintenance areas.

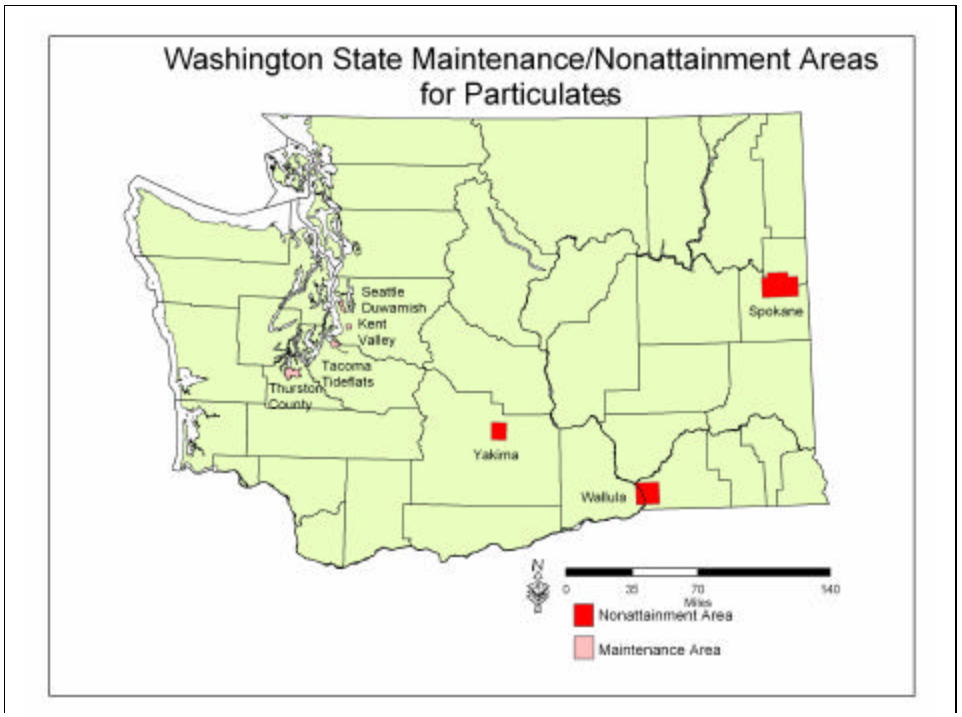
Particulate matter

The Kent Valley, Seattle Duwamish, Tacoma Tideflats, and Thurston County areas are now maintenance areas. Yakima, Wallula, and Spokane are still nonattainment, but are in the process of developing maintenance plans.

Washington's Maintenance and Nonattainment Areas







Ambient Air Quality Standards

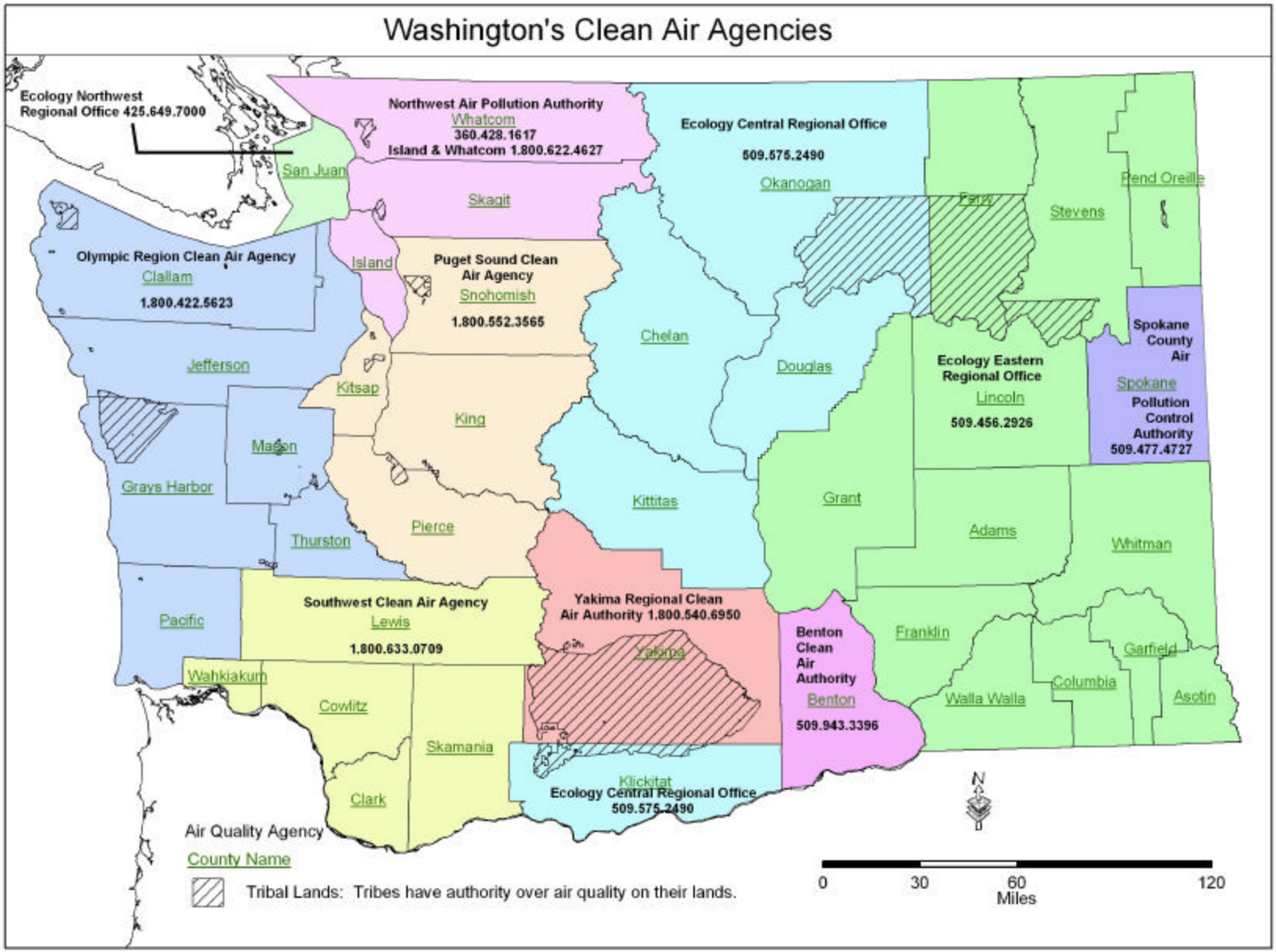
Pollutant	National Primary	National Secondary	Washington State
Total Suspended Particulates			
Annual Geometric Mean	No Standard	No Standard	60 µg/m^3
24 - Hour Average	No Standard	No Standard	150 µg/m^3
Lead (Pb)			
Quarterly Average	1.5 µg/m^3	1.5 µg/m^3	No Standard
Particulate Matter (PM_{10})			
Annual Arithmetic Mean	50 µg/m^3	50 µg/m^3	50 µg/m^3
24 - Hour Average	150 µg/m^3	150 µg/m^3	150 µg/m^3
Particulate Matter ($PM_{2.5}$)			
24-Hour	65 µg/m^3	65 µg/m^3	65 µg/m^3
Annual Arithmetic Mean	15 µg/m^3	15 µg/m^3	15 µg/m^3
Sulfur Dioxide (SO_2)			
Annual Average	0.03 ppm	No Standard	0.02 ppm
24 - Hour Average	0.14 ppm	No Standard	0.10 ppm
3 - Hour Average	No Standard	0.50 ppm	No Standard
1 - Hour Average	No Standard	No Standard	0.40 ppm [A]
Carbon Monoxide (CO)			
8 - Hour Average	9 ppm	9 ppm	9 ppm
1 - Hour Average	35 ppm	35 ppm	35 ppm
Ozone (O_3)			
1 - Hour Average	0.12 ppm	0.12 ppm	0.12 ppm
8 - Hour Average [B]	0.08 ppm	0.08 ppm	No Standard
Nitrogen Dioxide (NO_2)			
Annual Average	0.053 ppm	0.053 ppm	0.05 ppm

[A] 0.25 not to be exceeded more than two times in any 7 consecutive days.
Primary standards are listed in this table as they appear in the federal regulations.

[B] Eight-hour ozone standard went into effect on September 16, 1997. But implementation is limited.

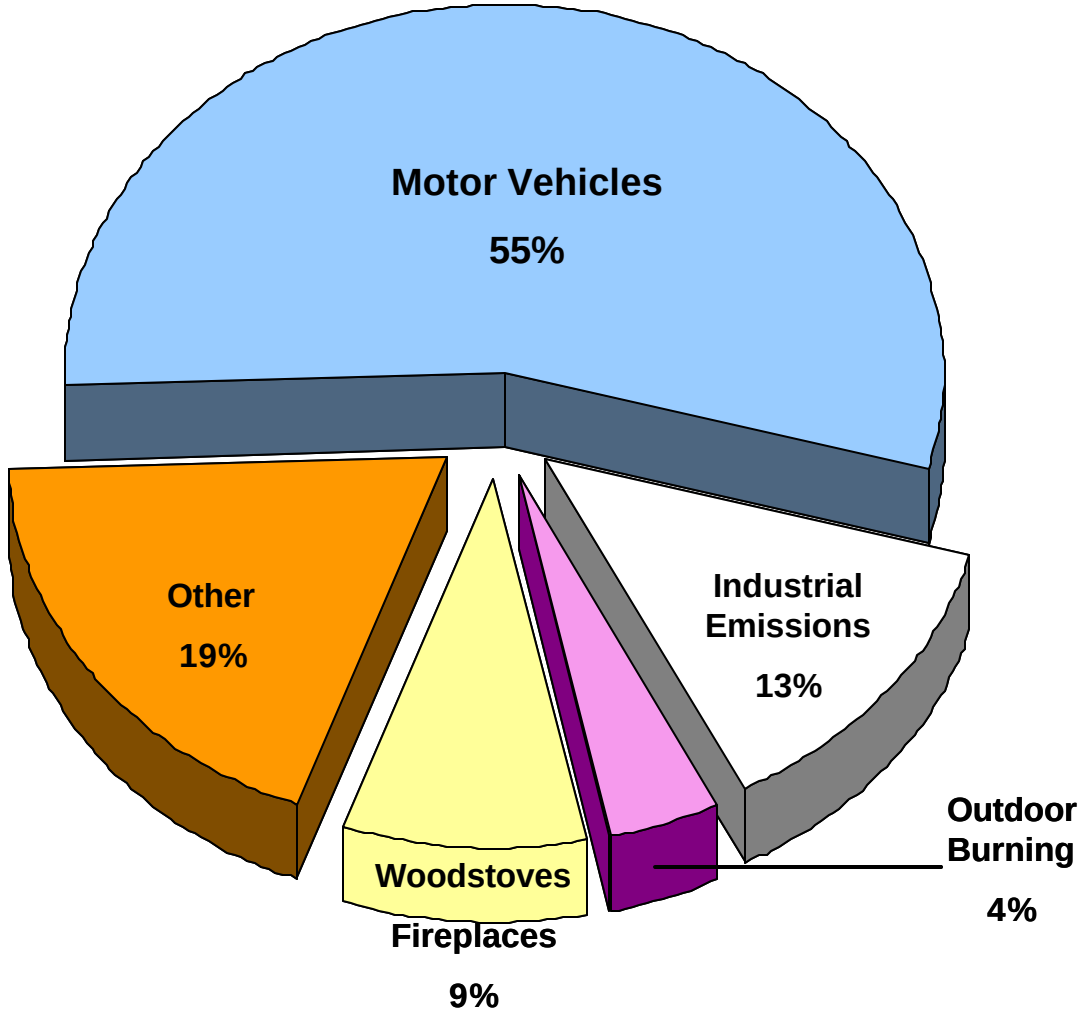
- ppm = parts per million
- µg/m^3 = micrograms per cubic meter
- Ambient concentrations are rounded using the next higher decimal place to determine whether a standard has been exceeded. The data charts in this report are shown with these unrounded numbers.
- Details of the National Standards are available in 40 CFR Part 50.

Available on-line at: http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfr50_99.html


Washington's Clean Air Agencies
Ecology Northwest Regional Office 425.649.7000
Northwest Air Pollution Authority
Whatcom
360.428.1617
Island & Whatcom 1.800.622.4627
Ecology Central Regional Office
509.575.2490
San Juan
Skagit
Okanogan
Ferry
Stevens
Pend Oreille
Olympic Region Clean Air Agency
Clallam
1.800.422.5623
Island
Puget Sound Clean Air Agency
Snohomish
1.800.552.3565
Chelan
Douglas
Spokane County Air Pollution Control Authority
Spokane
509.477.4727
Jefferson
Kitsap
King
Ecology Eastern Regional Office
Lincoln
509.456.2926
Mason
Grays Harbor
Kittitas
Grant
Thurston
Pierce
Adams
Whitman
Pacific
Southwest Clean Air Agency
Lewis
1.800.633.0709
Yakima Regional Clean Air Authority 1.800.540.6950
Yakima
Benton Clean Air Authority
Benton
509.943.3396
Franklin
Garfield
Wahkiakum
Cowlitz
Columbia
Walla Walla
Asotin
Skamania
Klickitat
Ecology Central Regional Office
509.575.2490
Clark
N
Air Quality Agency
County Name
Tribal Lands: Tribes have authority over air quality on their lands.
0
30
60
120
Miles

Air Pollution Sources in Washington

Statewide - Annual Average



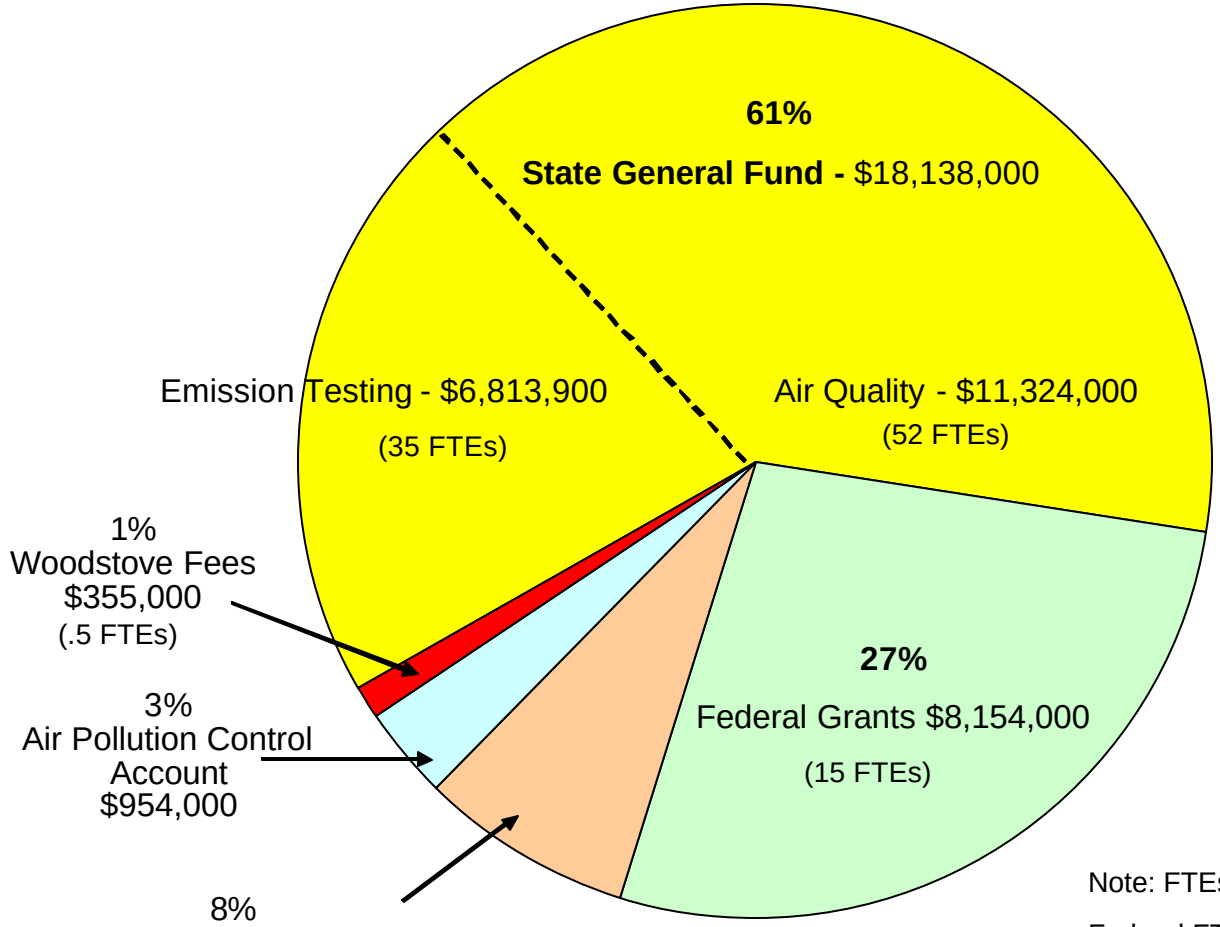
Source: Department of Ecology

April 18, 2002

Department of Ecology

Air Quality Program - Governor's Proposed Budget

(01-03)



Total: $29,865,000

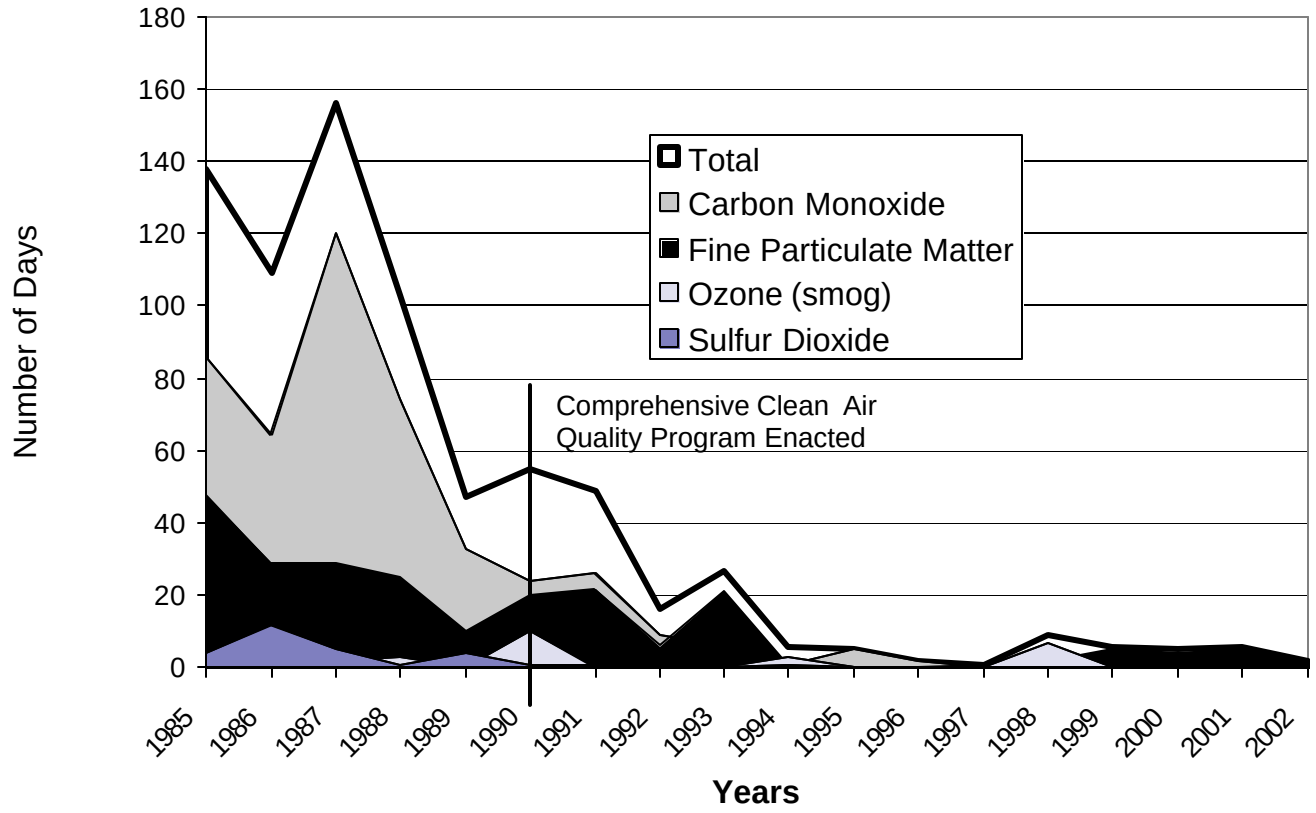
Note: FTEs are approximate

Federal FTEs include PM2.5 (6)

Air Quality Trends:
All Pollutants

"Data for 2002 is incomplete and has not been validated."

Days With Unhealthy Air Quality
1985 - 2002



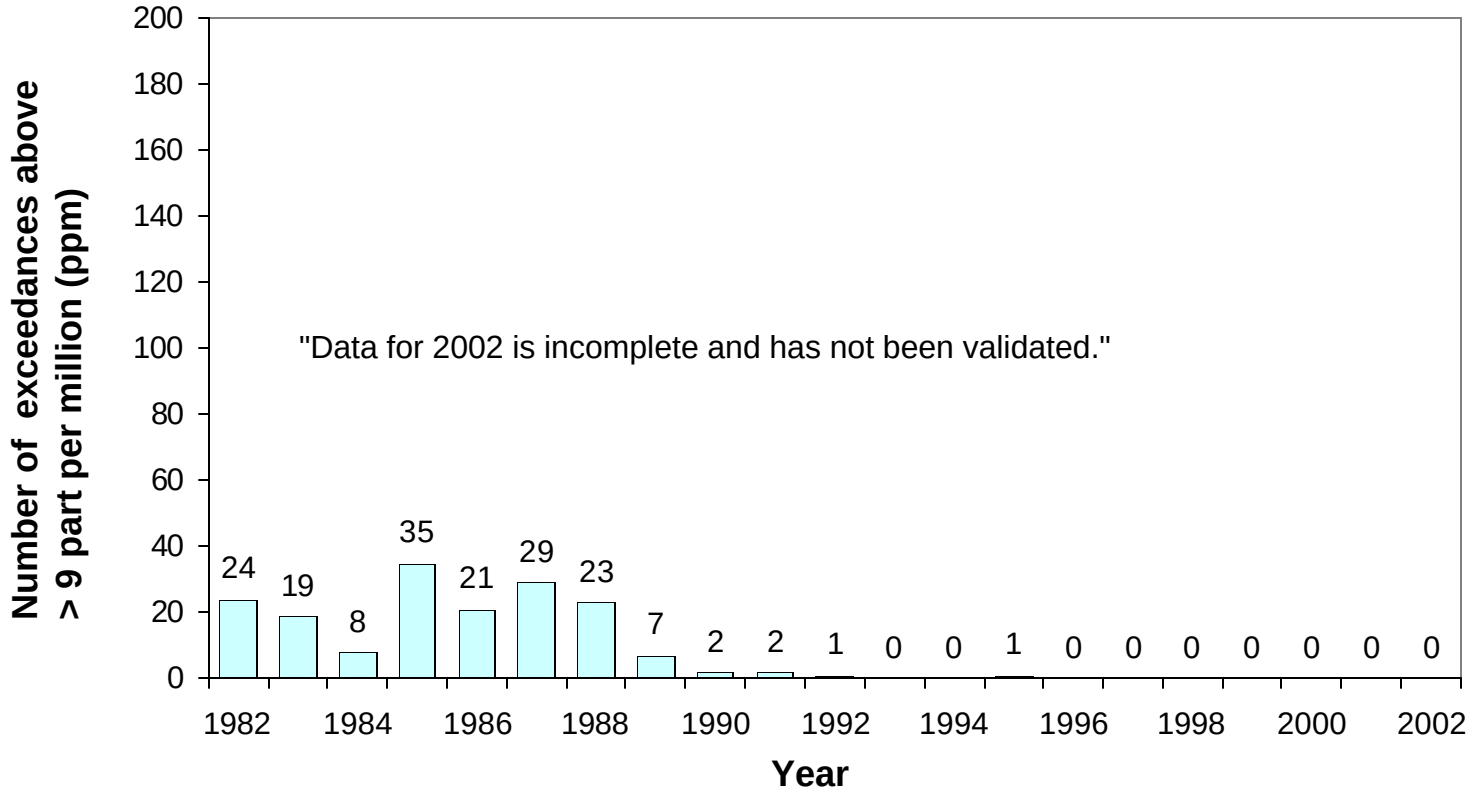
Source: Department of Ecology

December 9, 2002

Air Quality Trends:
Carbon Monoxide

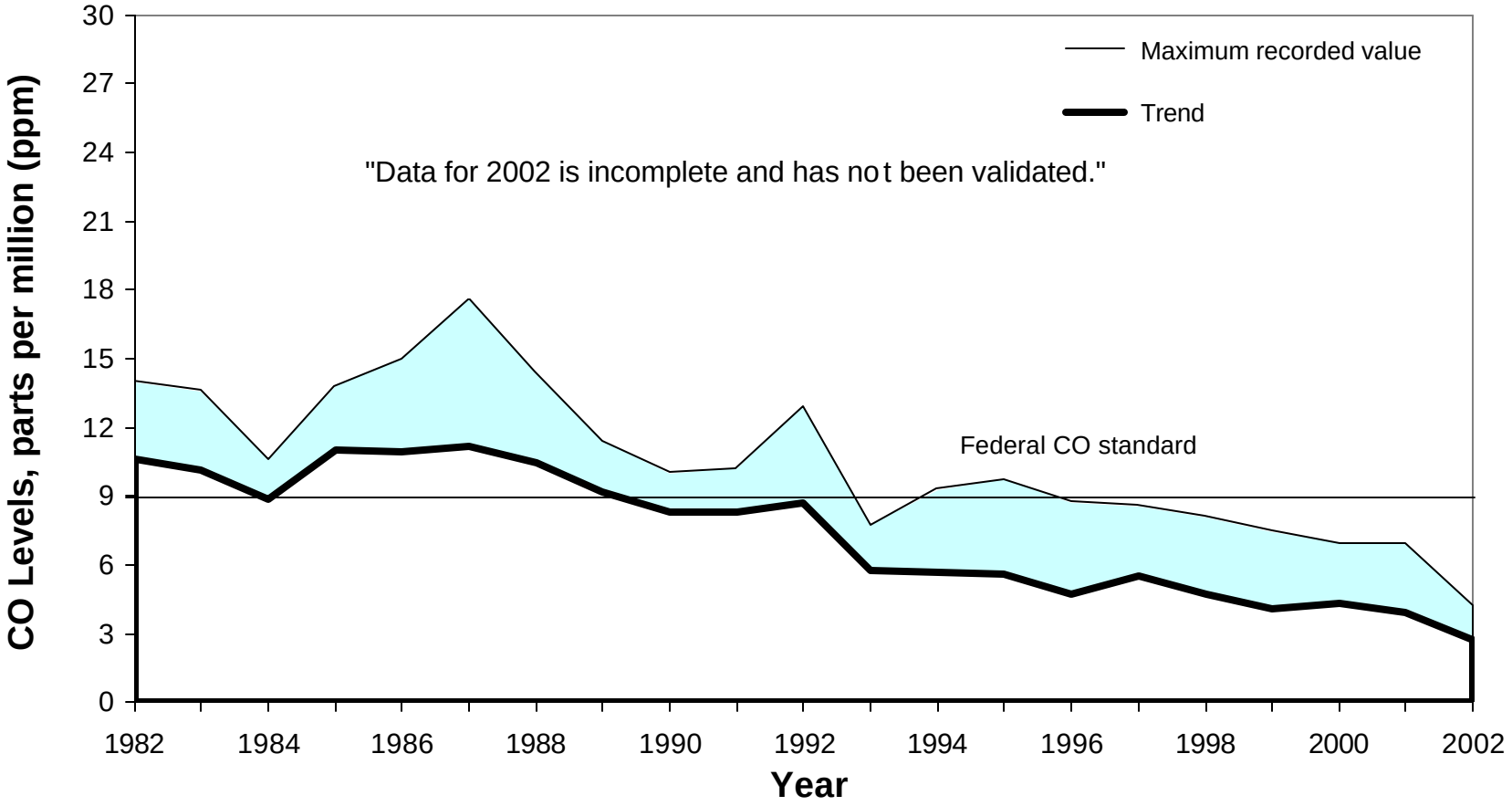
"Data for 2002 is incomplete and has not been validated."

Puget Sound Carbon Monoxide
1982 - 2002



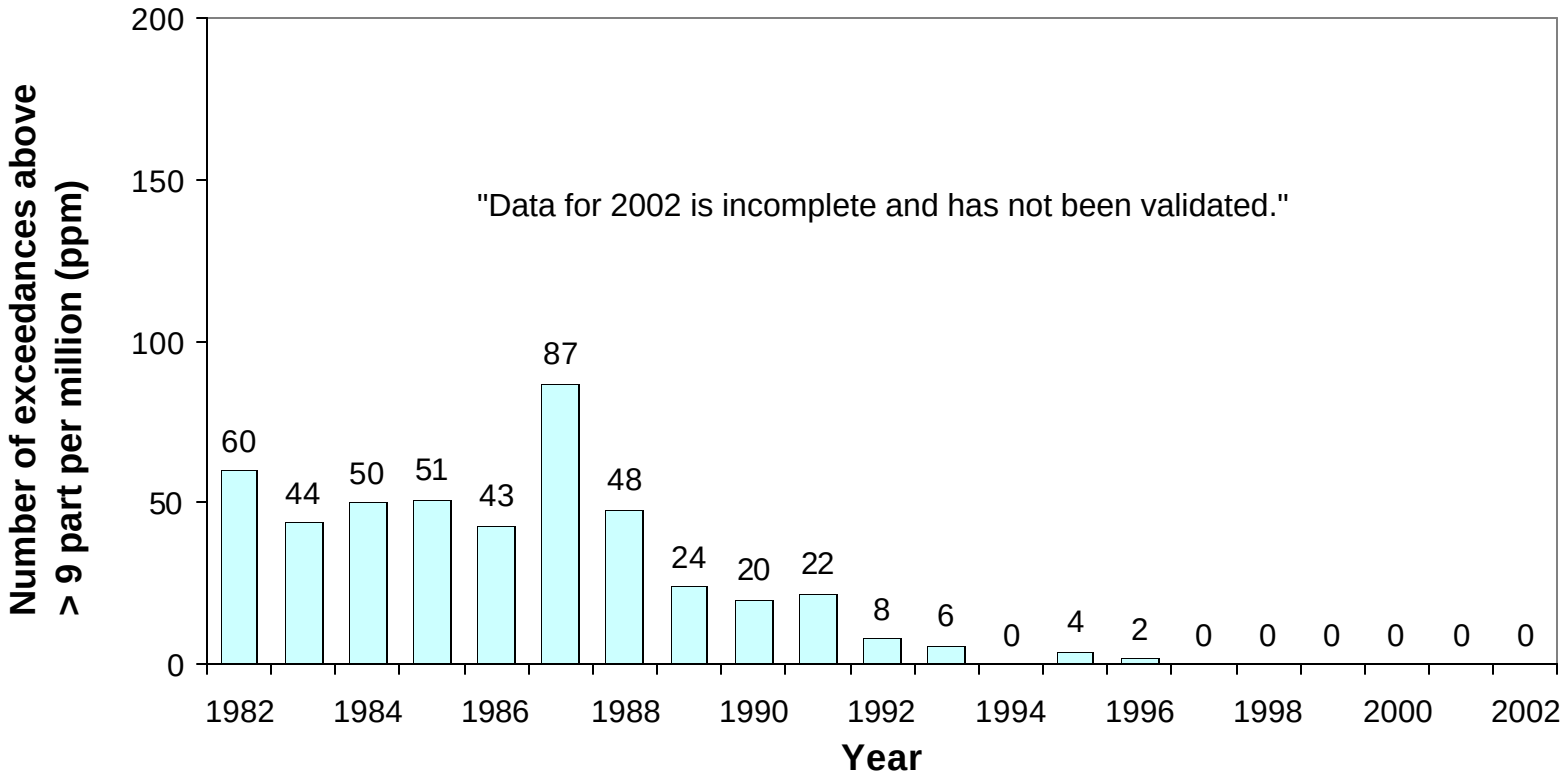
Note:
More than one exceedance during a single year is a violation of the federal carbon monoxide standard of 9 ppm.

Puget Sound Carbon Monoxide Trends
1982 - 2002



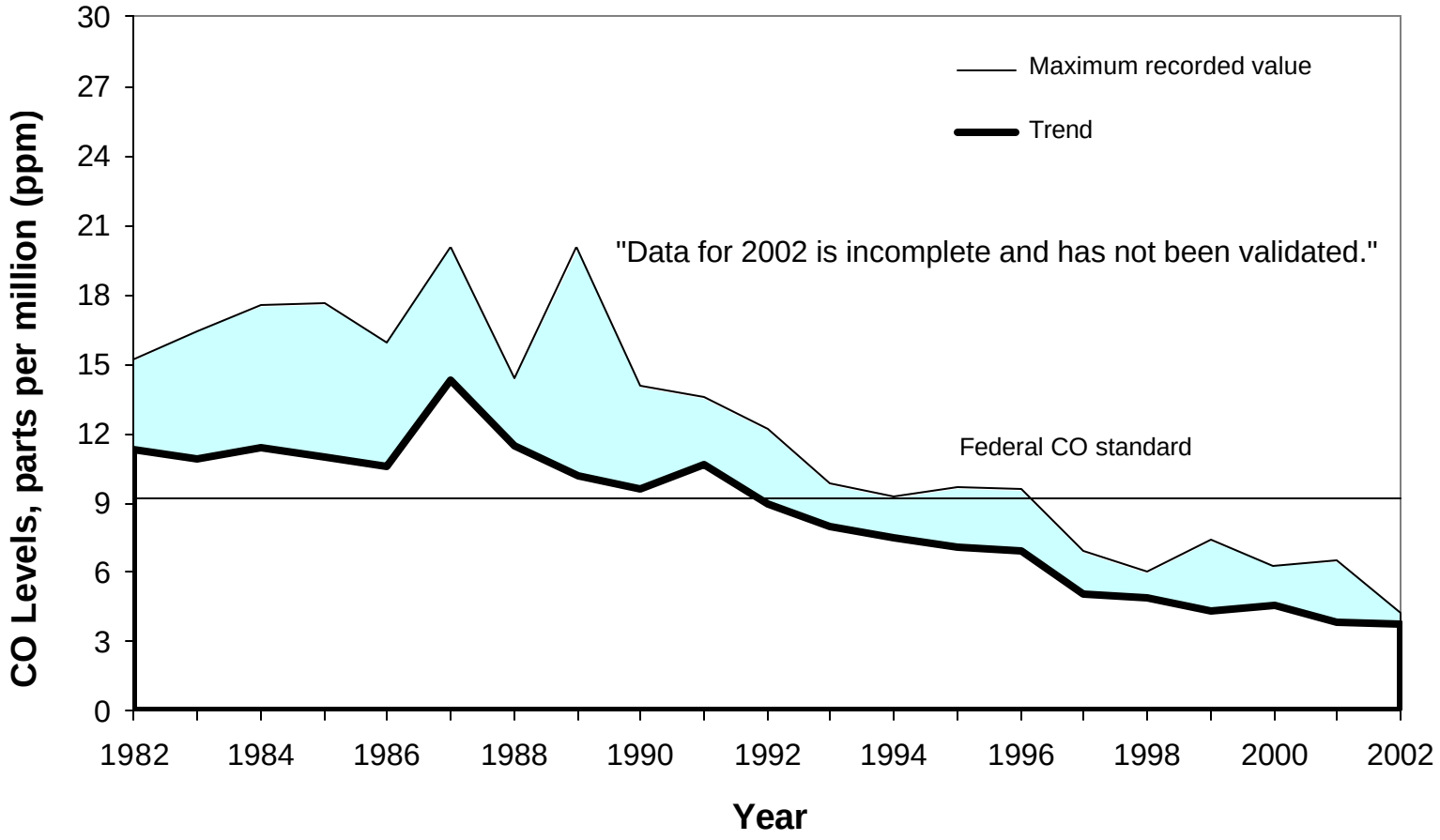
Note:
The trend line represents the average of the carbon monoxide values that fall within the upper one percent of the observations.

Spokane Carbon Monoxide
1982 - 2002



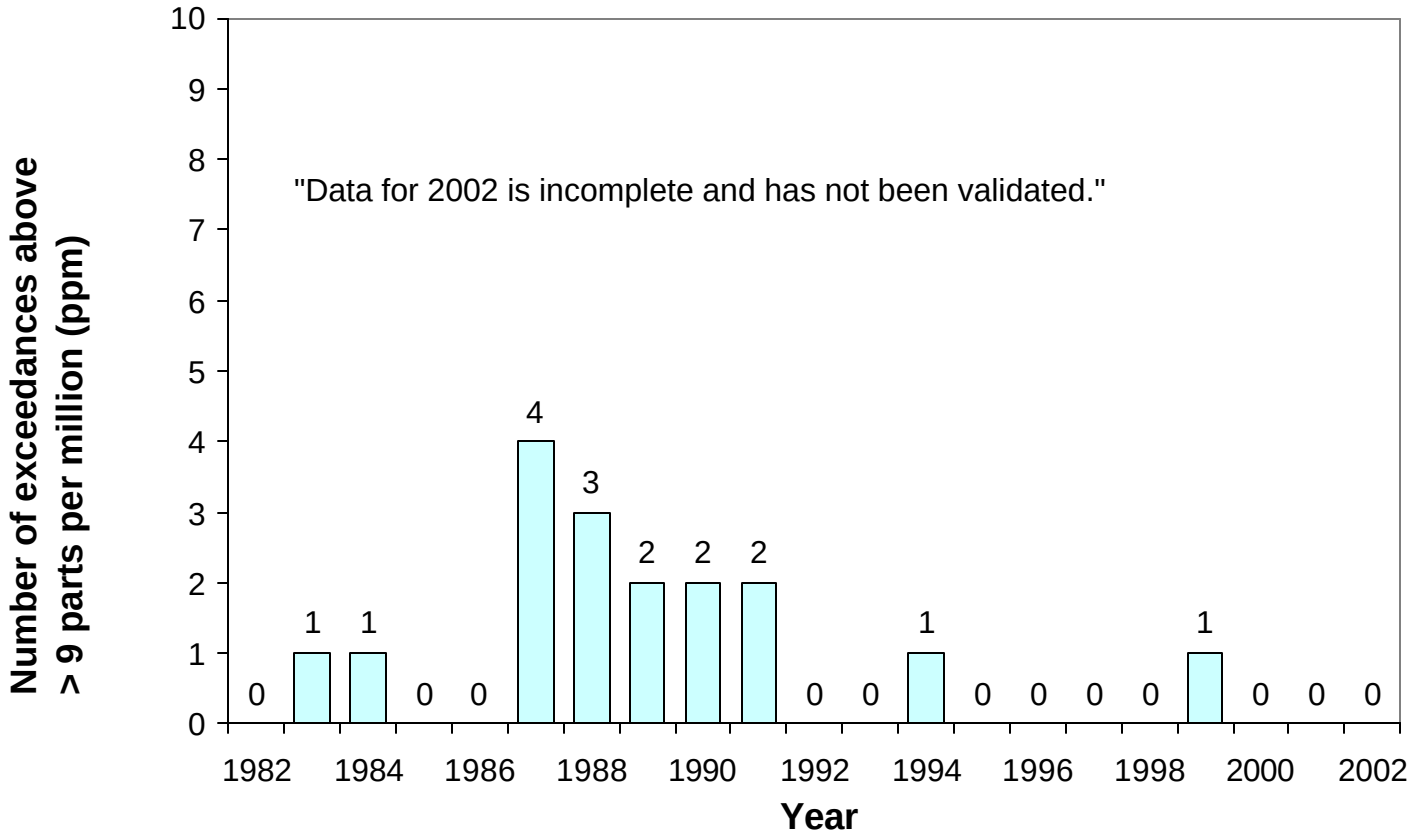
Note:
More than one exceedance during a single year is a violation of the federal carbon monoxide standard of 9 ppm.

Spokane Carbon Monoxide Trends
1982 - 2002



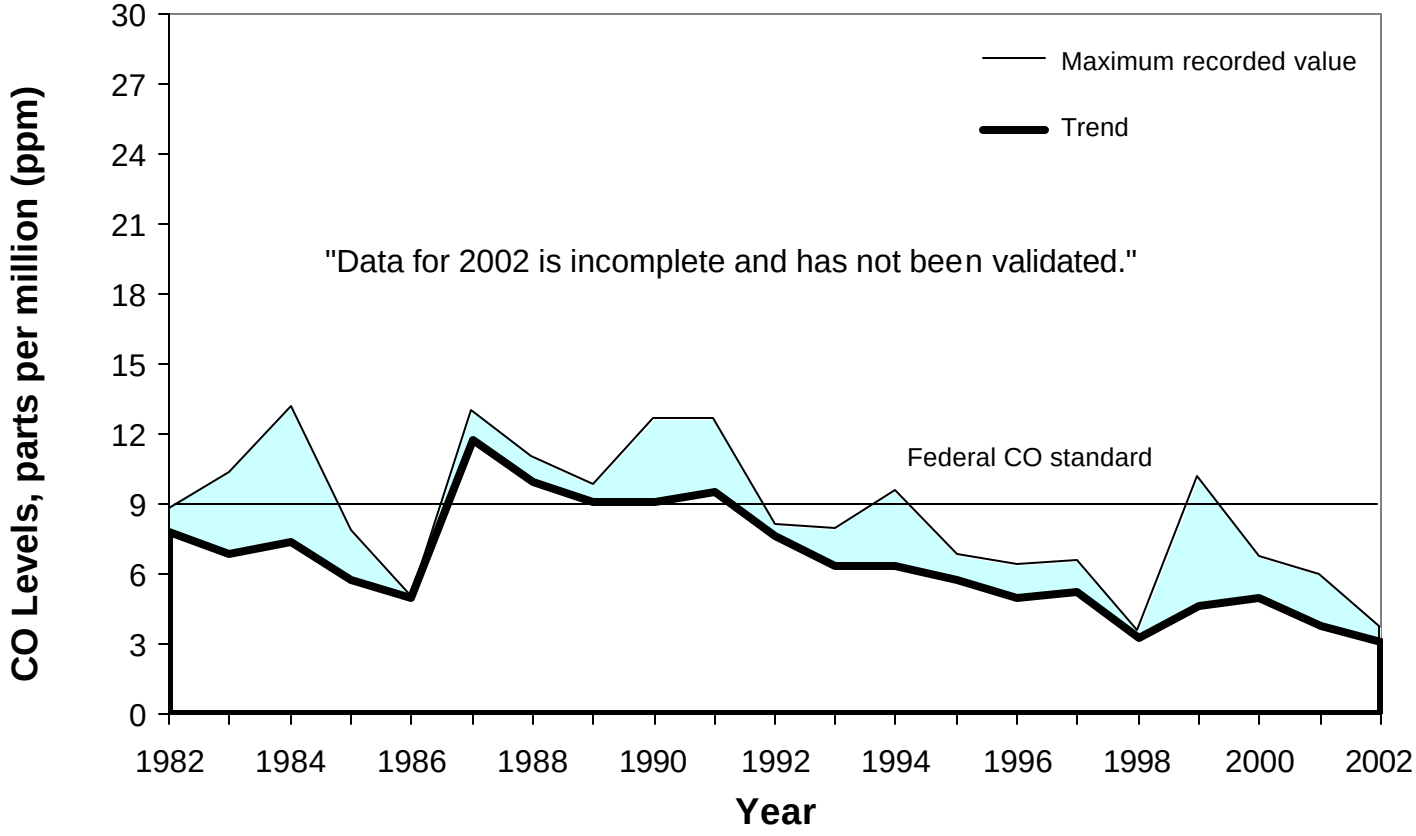
Note:
The trend line represents the average of the carbon monoxide values that fall within the upper one percent of the observations.

Vancouver Carbon Monoxide
1982 - 2002



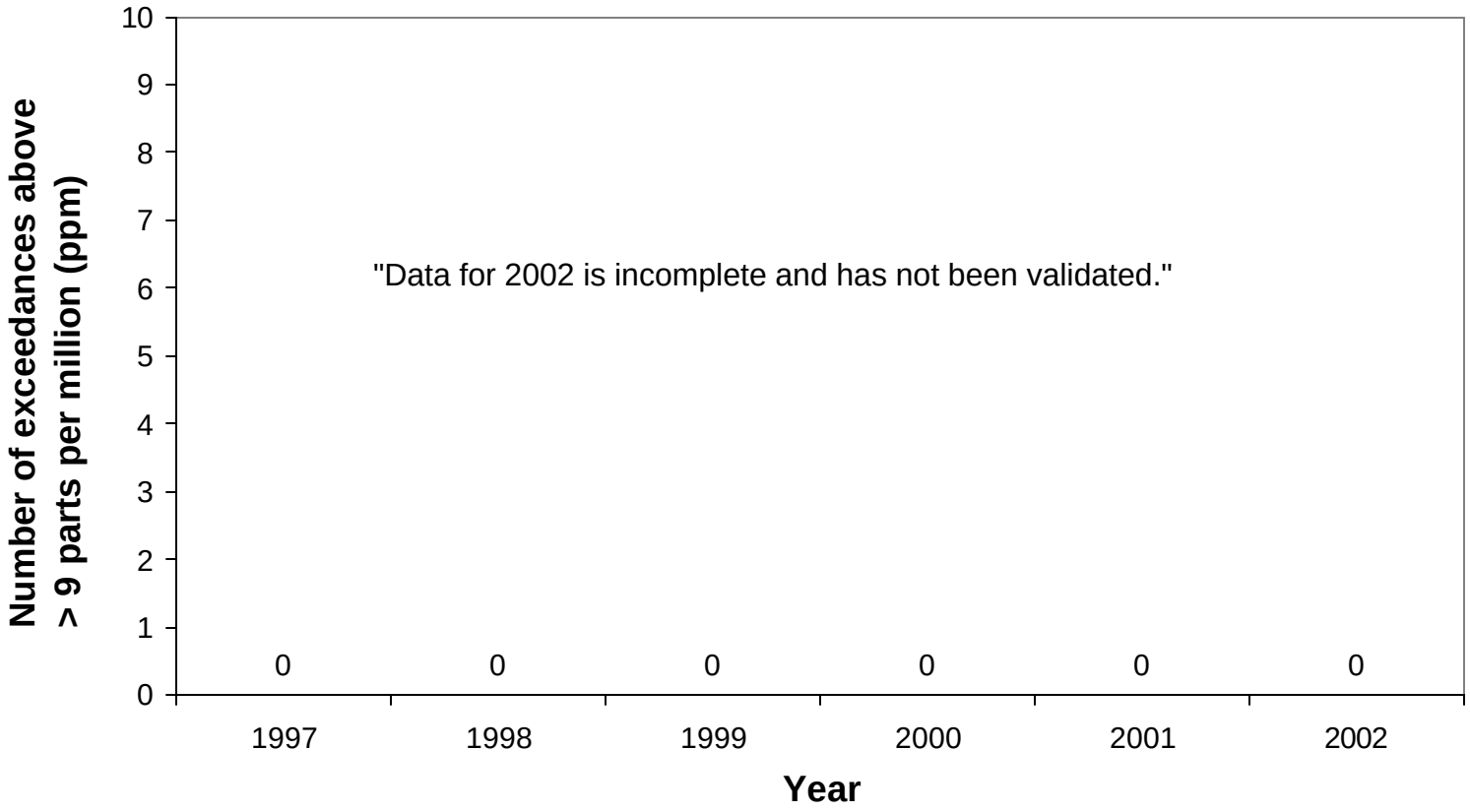
Note:
More than one exceedance during a single year is a violation of the federal carbon monoxide standard.

Vancouver Carbon Monoxide Trends
1982 - 2002



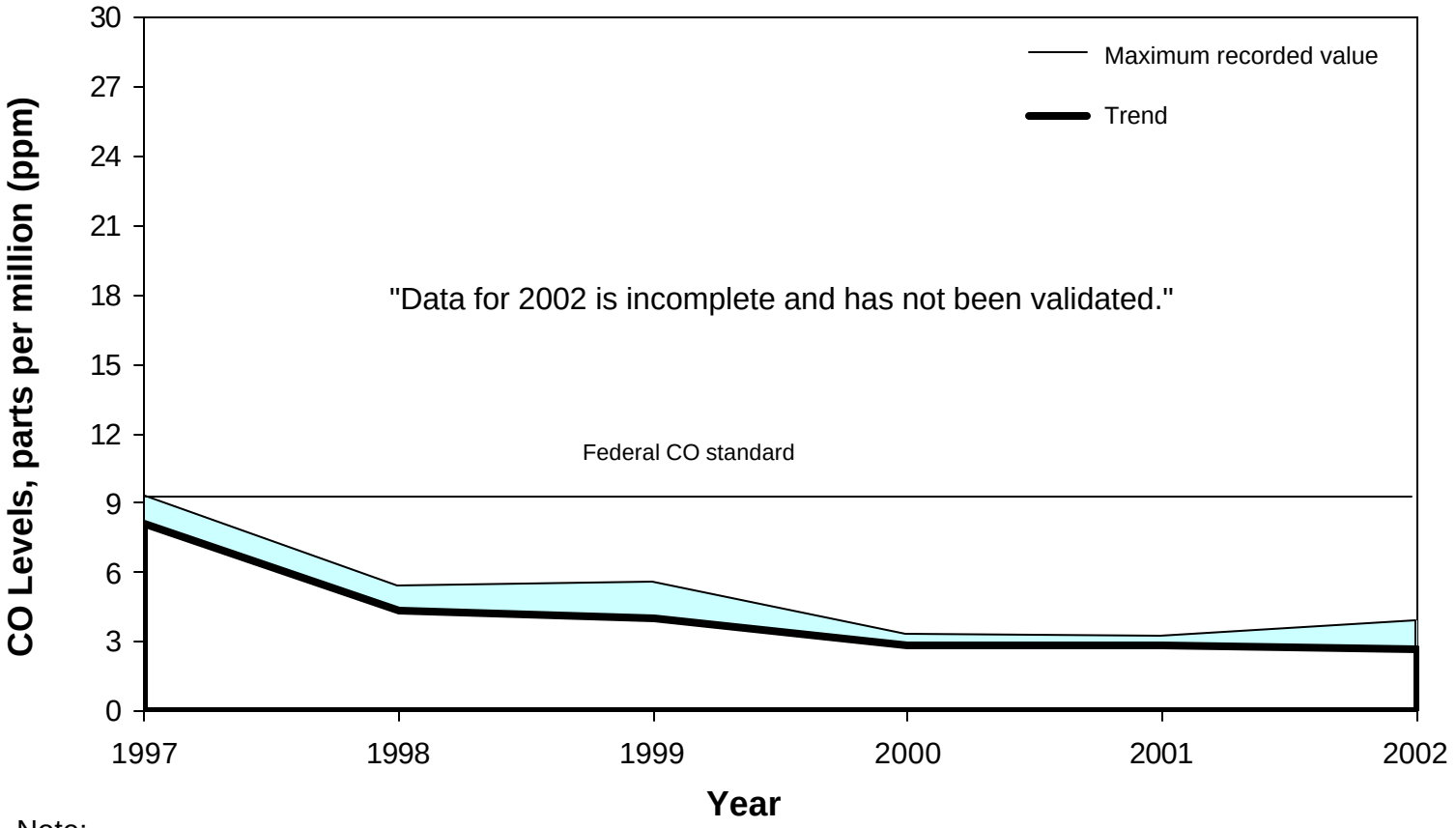
Note:
The trend line represents the average of the carbon monoxide values that fall within the upper one percent of the observations.

Yakima Carbon Monoxide
1997 - 2002



Note:
More than one exceednace during a single year is a violation of the federal carbon monoxide standard.

Yakima Carbon Monoxide Trends
1997 - 2002

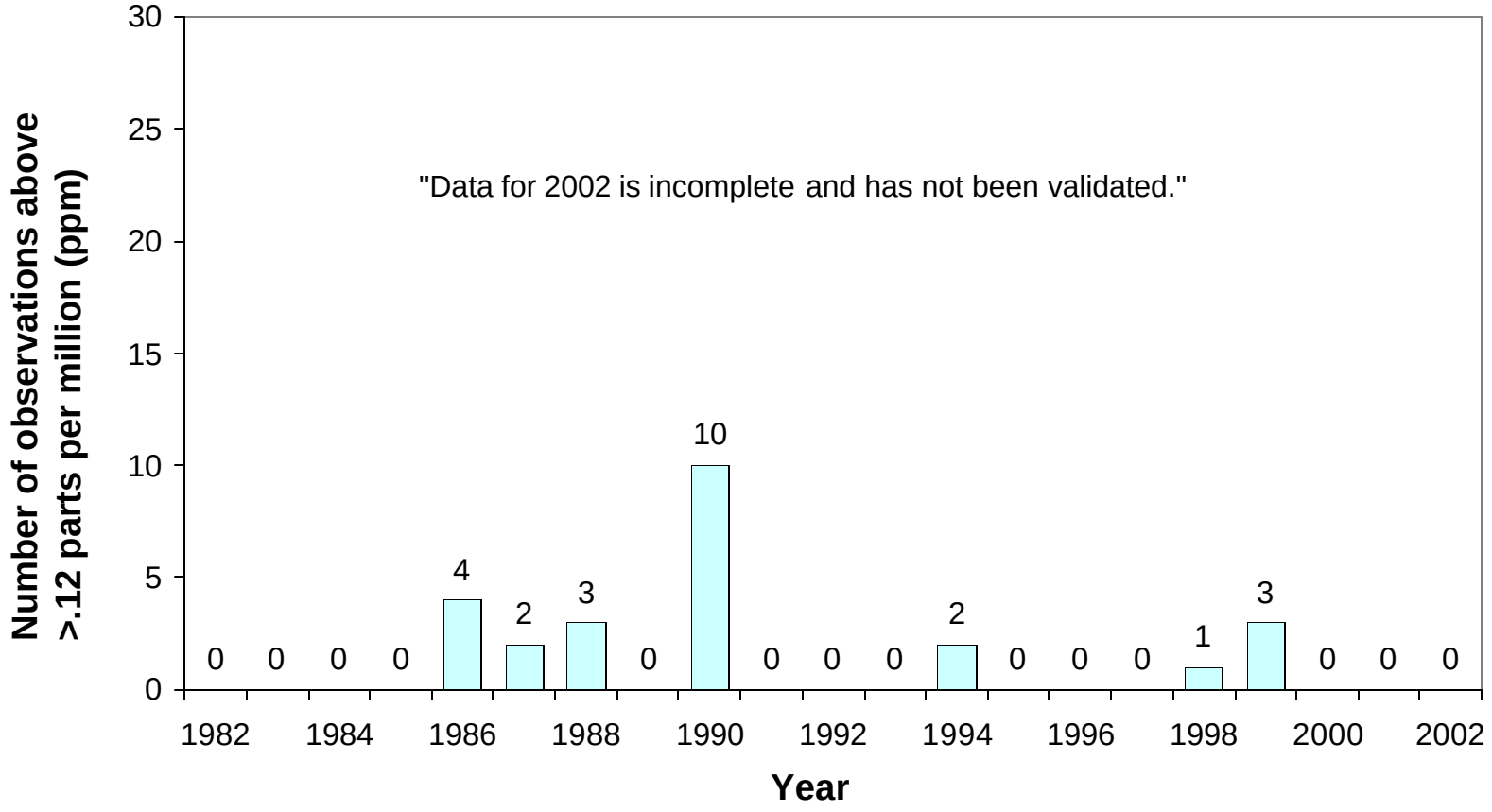


Note:
The trend line represents the average of the carbon monoxide values that fall within the upper one percent of the observations.

Air Quality Trends:
Ozone

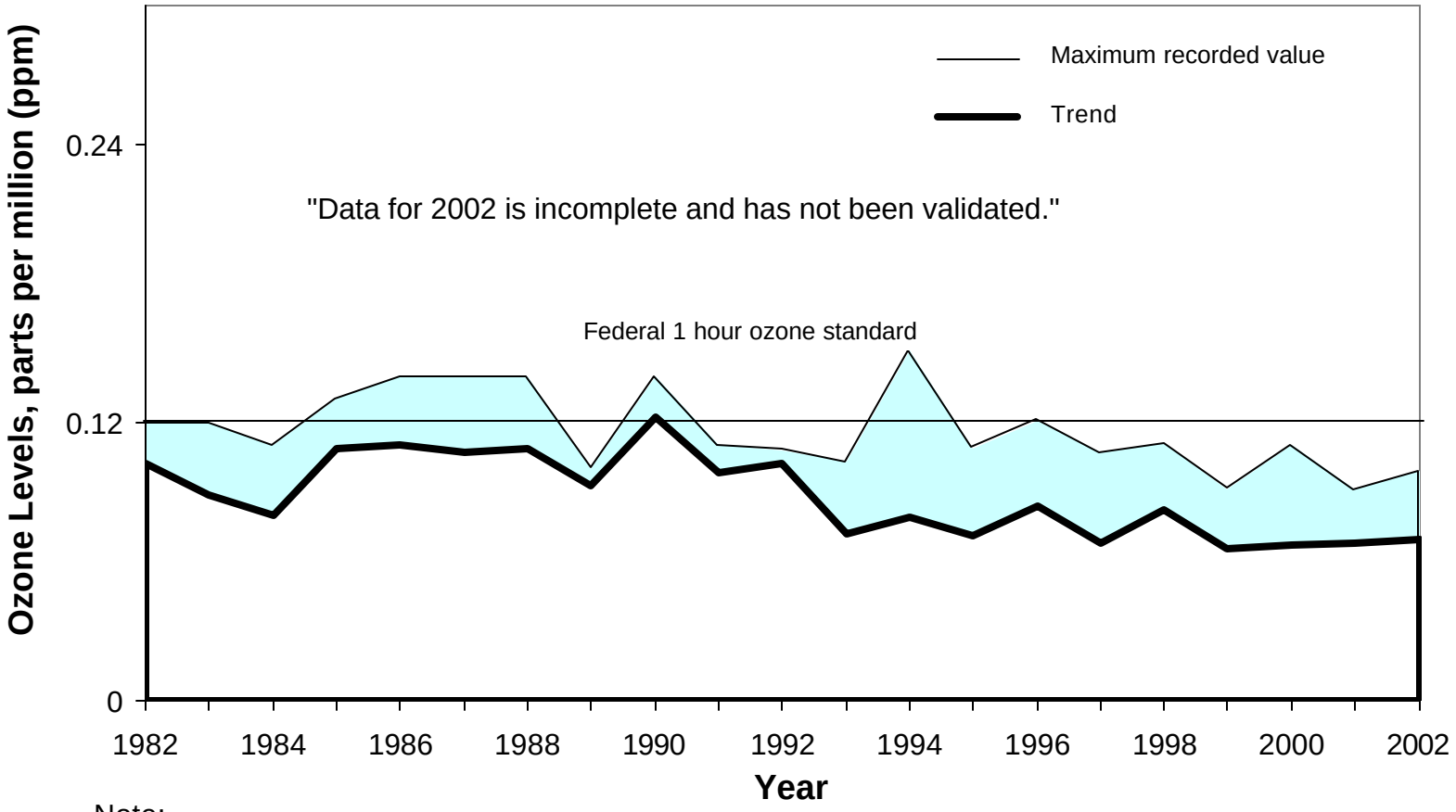
"Data for 2002 is incomplete and has not been validated."

Puget Sound 1 Hour Ozone
1982 - 2002



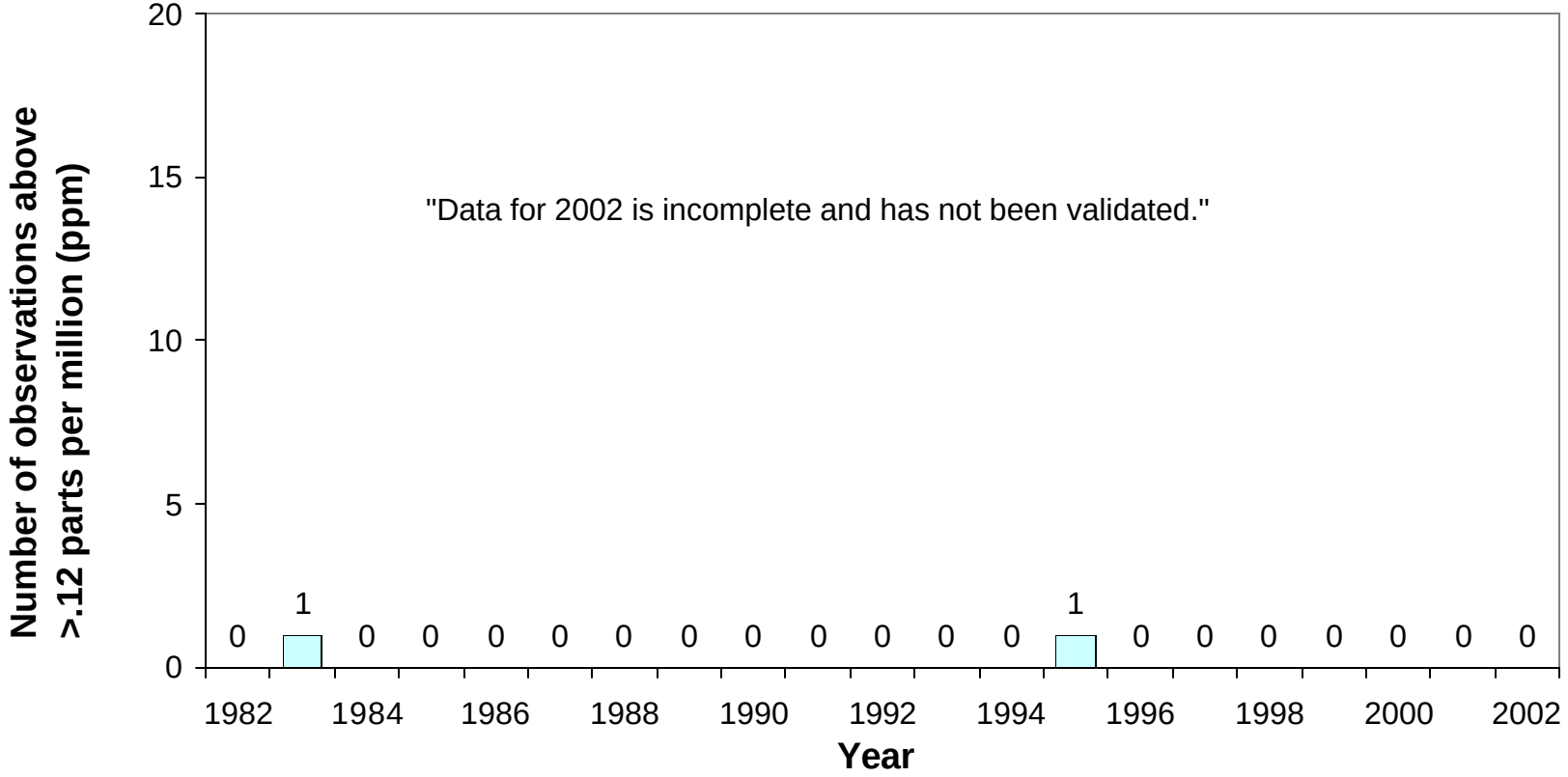
Note:
More than three observations above .12 ppm during a three-year period is a violation of the federal ozone standard.

Puget Sound 1 Hour Ozone Trends
1982 - 2002



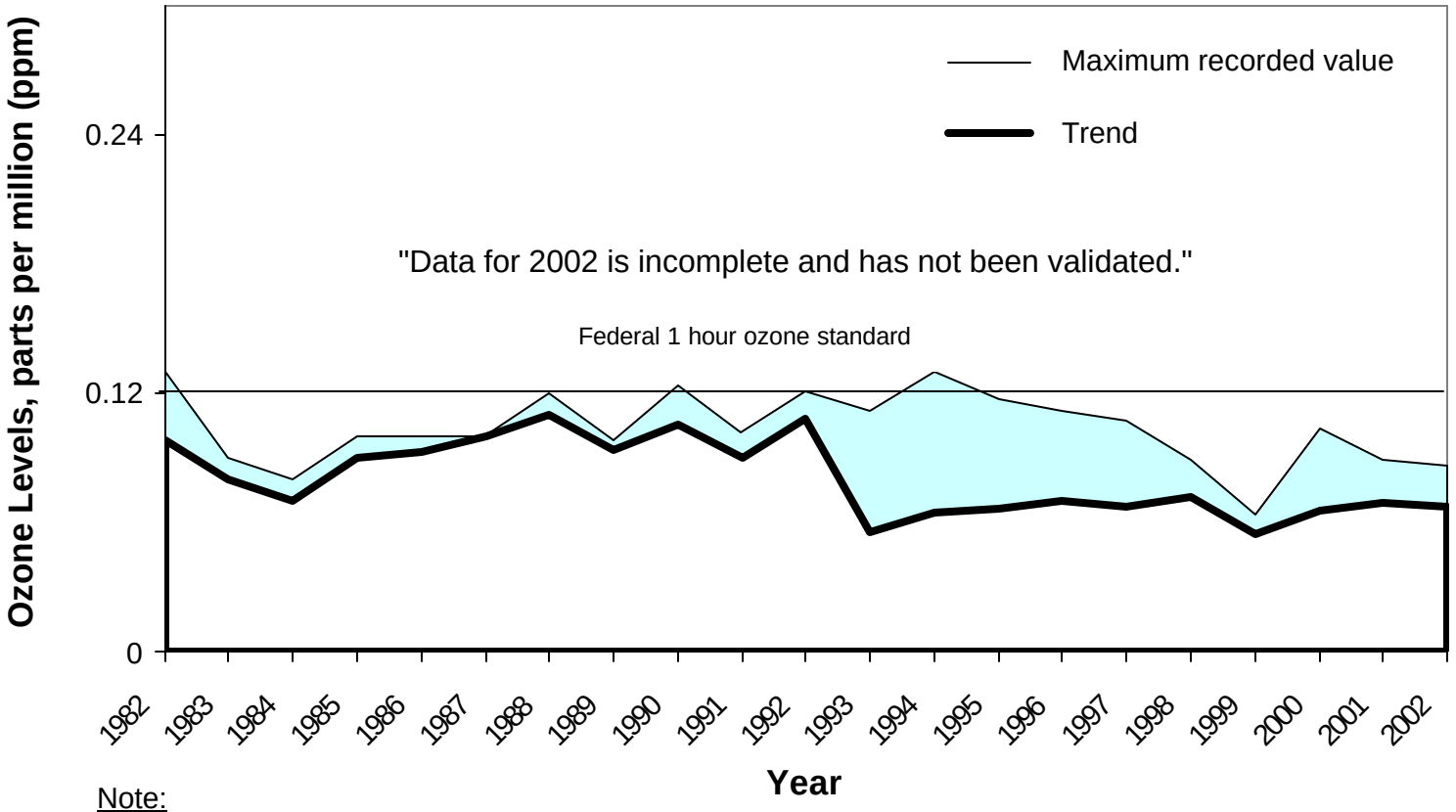
Note:
The trend line represents the average of the ozone values that fall within the upper one percent of the observations.

Vancouver
1 Hour Ozone
1982 - 2002



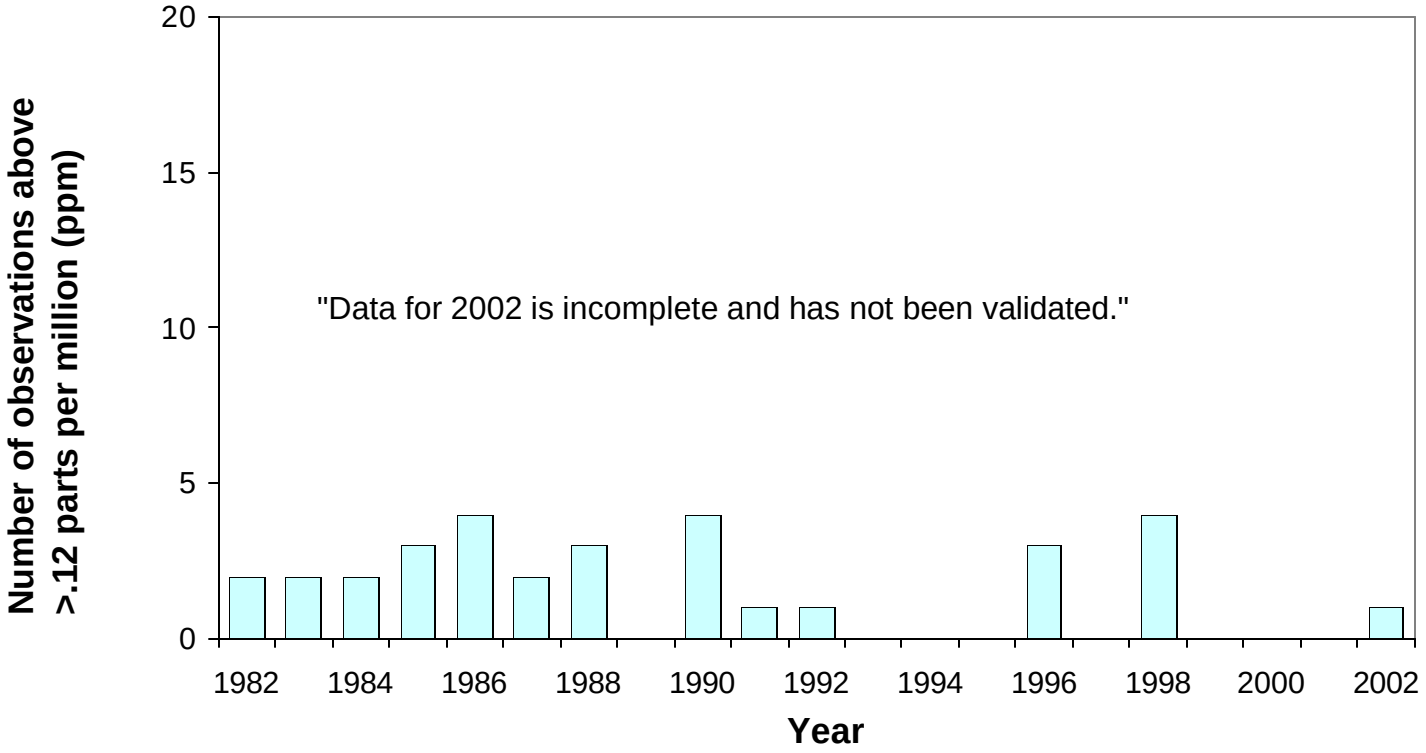
Note:
More than three observations above .12 ppm during a three-year period is a violation of the federal ozone standard.

Vancouver 1 Hour Ozone Trends
1982 - 2002



Note:
The trend line represents the average of the ozone values that fall within the upper one percent of the observations.

Oregon Portion of the Portland/Vancouver
1 Hour Ozone
1982 - 2002

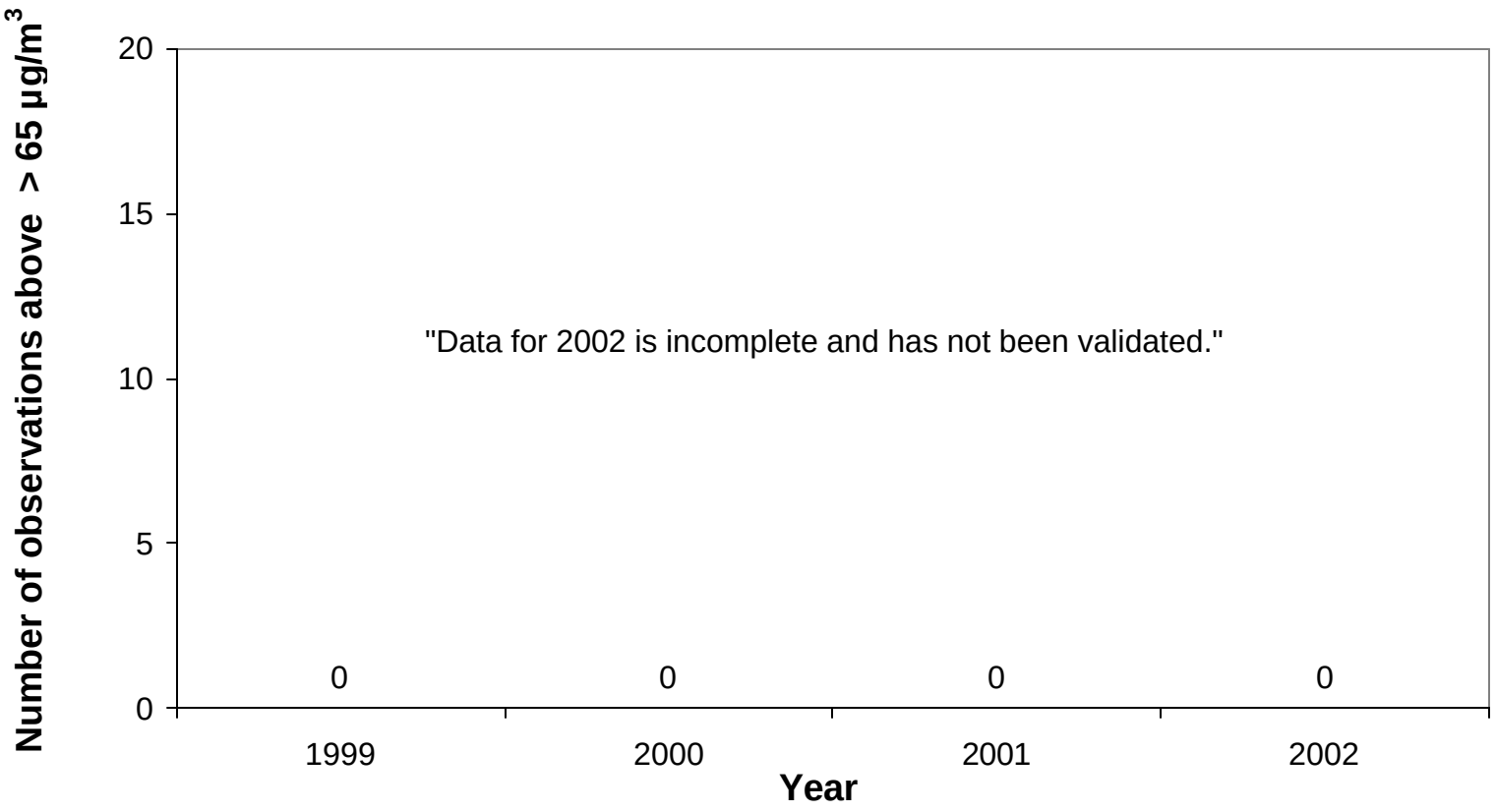


Note:
More than three observations above the .12 ppm during a three-year period is a violation of the federal ozone standard.

Air Quality Trends: Particulate Matter ($PM_{2.5}$, PM_{10})

"Data for 2002 is incomplete and has not been validated."

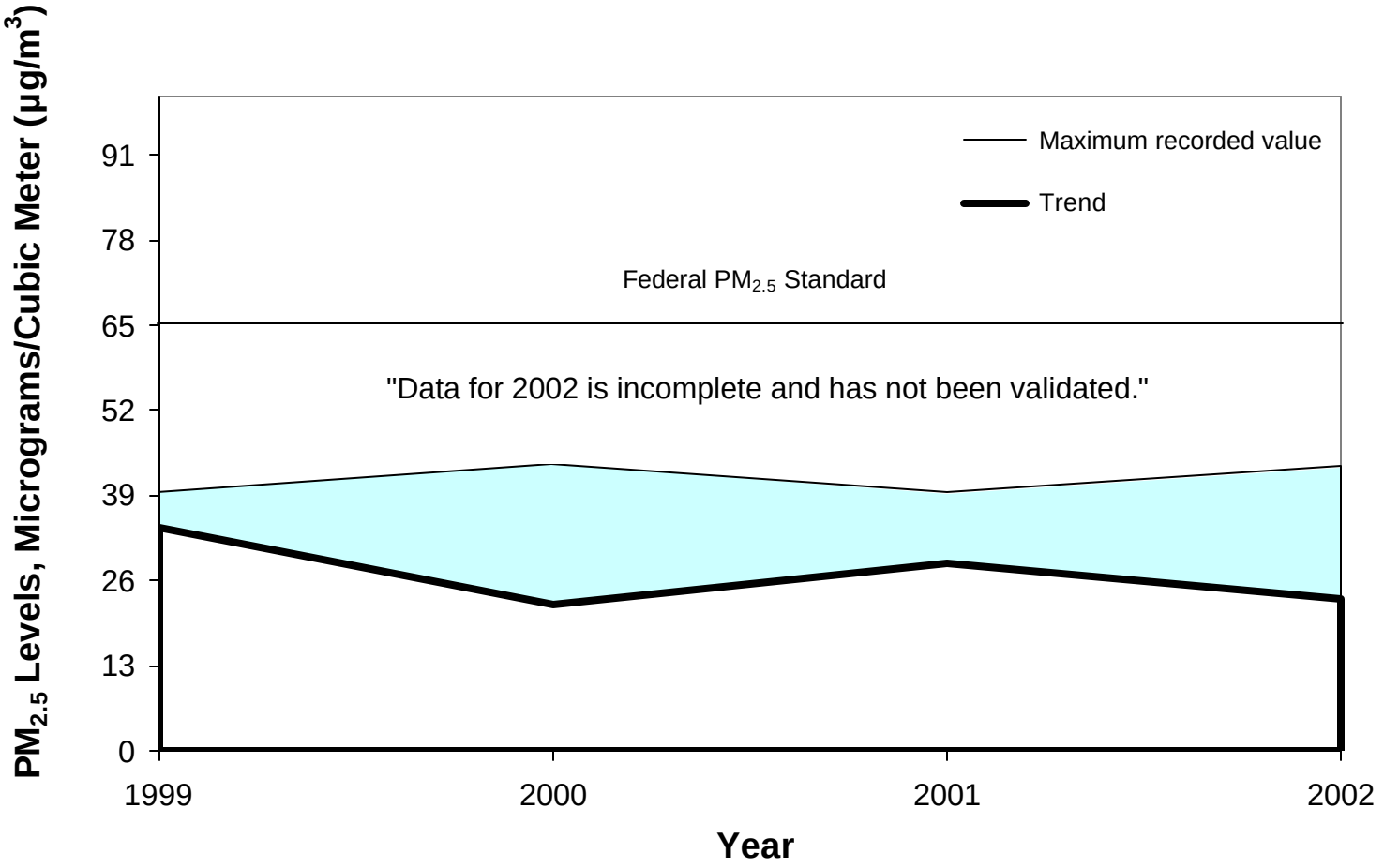
Kent $PM_{2.5}$
1999 - 2002



Note:

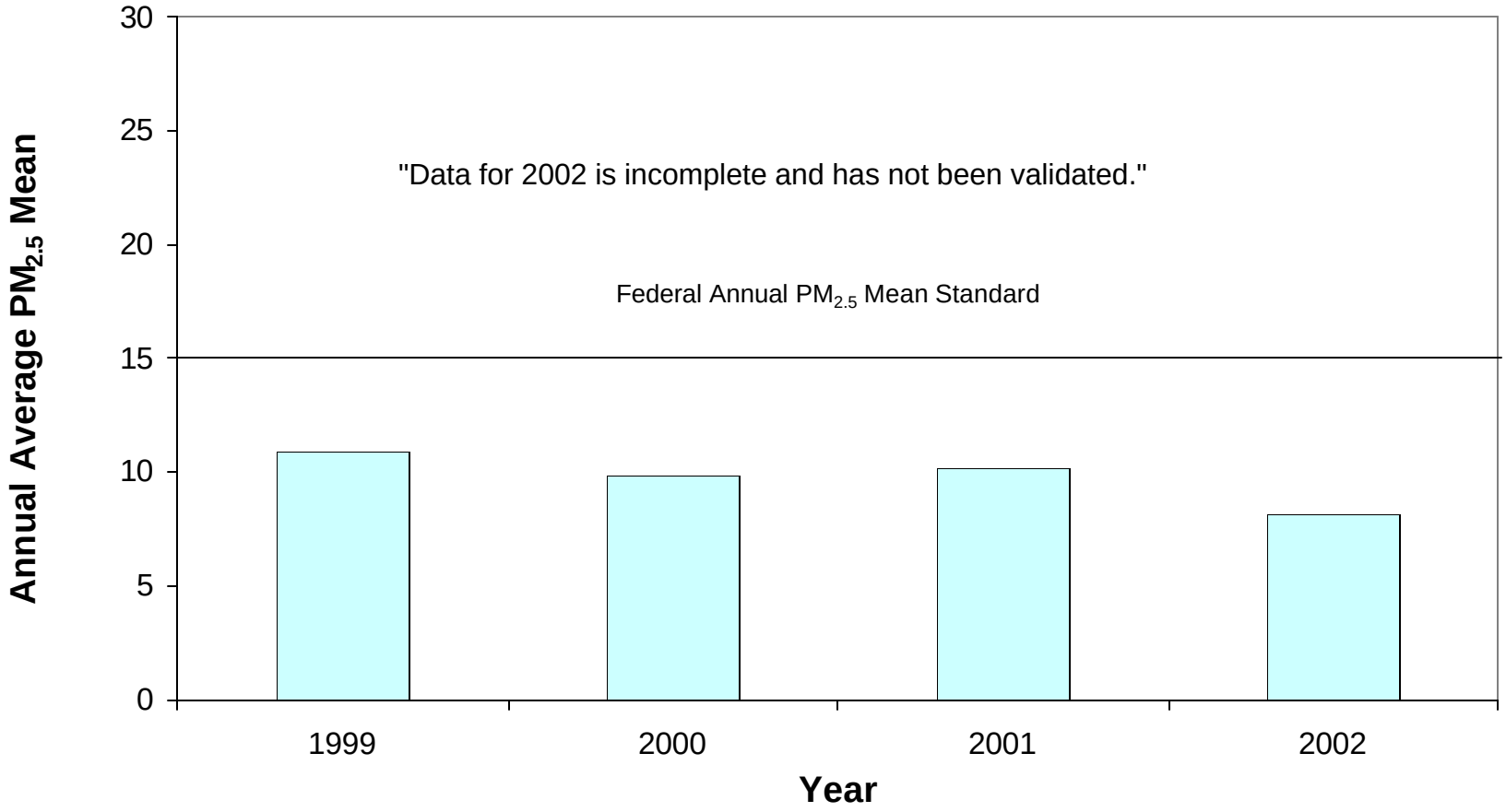
More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Kent $PM_{2.5}$ Trends
1999 - 2002



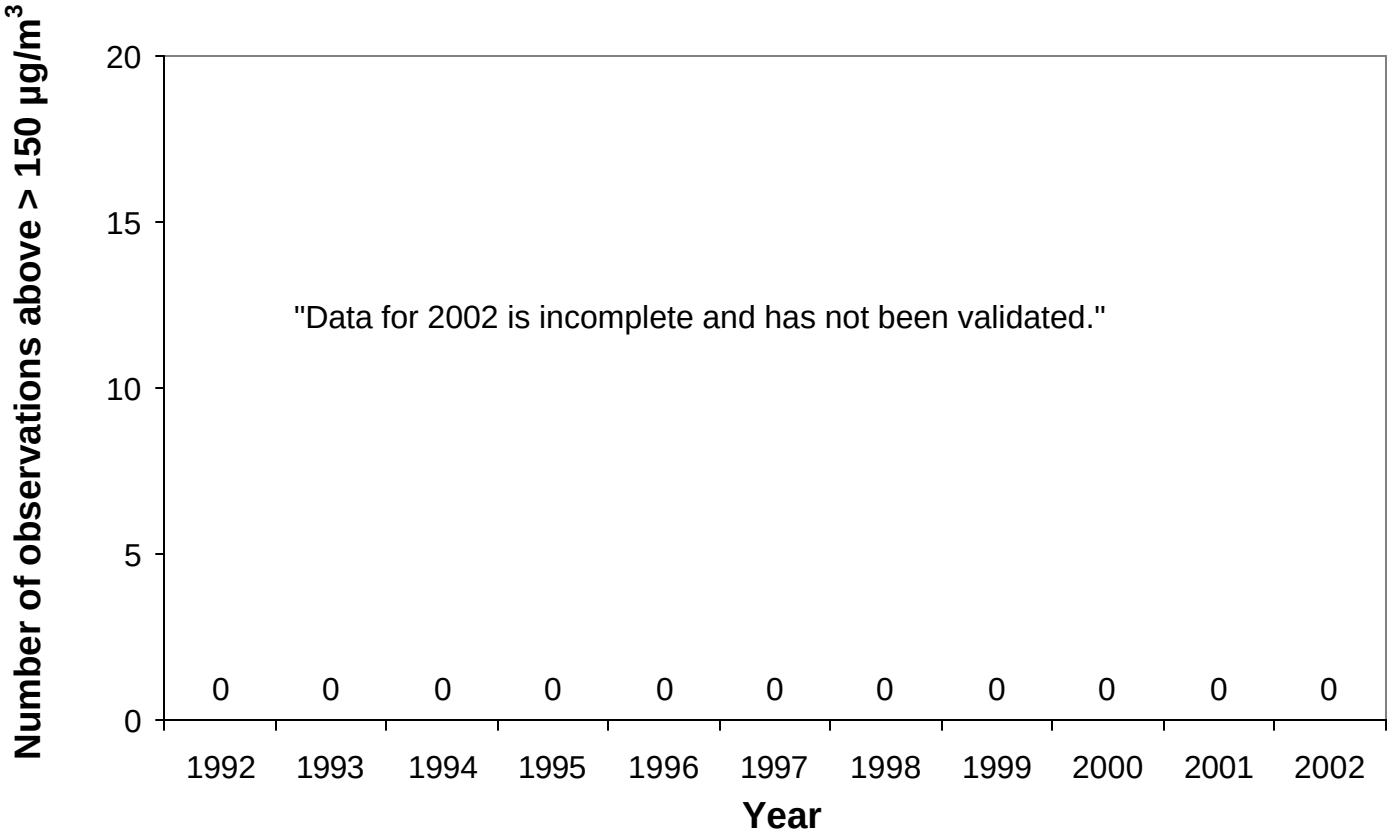
Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.

Kent $PM_{2.5}$ Annual Mean
1999 - 2002



Note:
Annual Mean is calculated by averaging the quarterly averages.

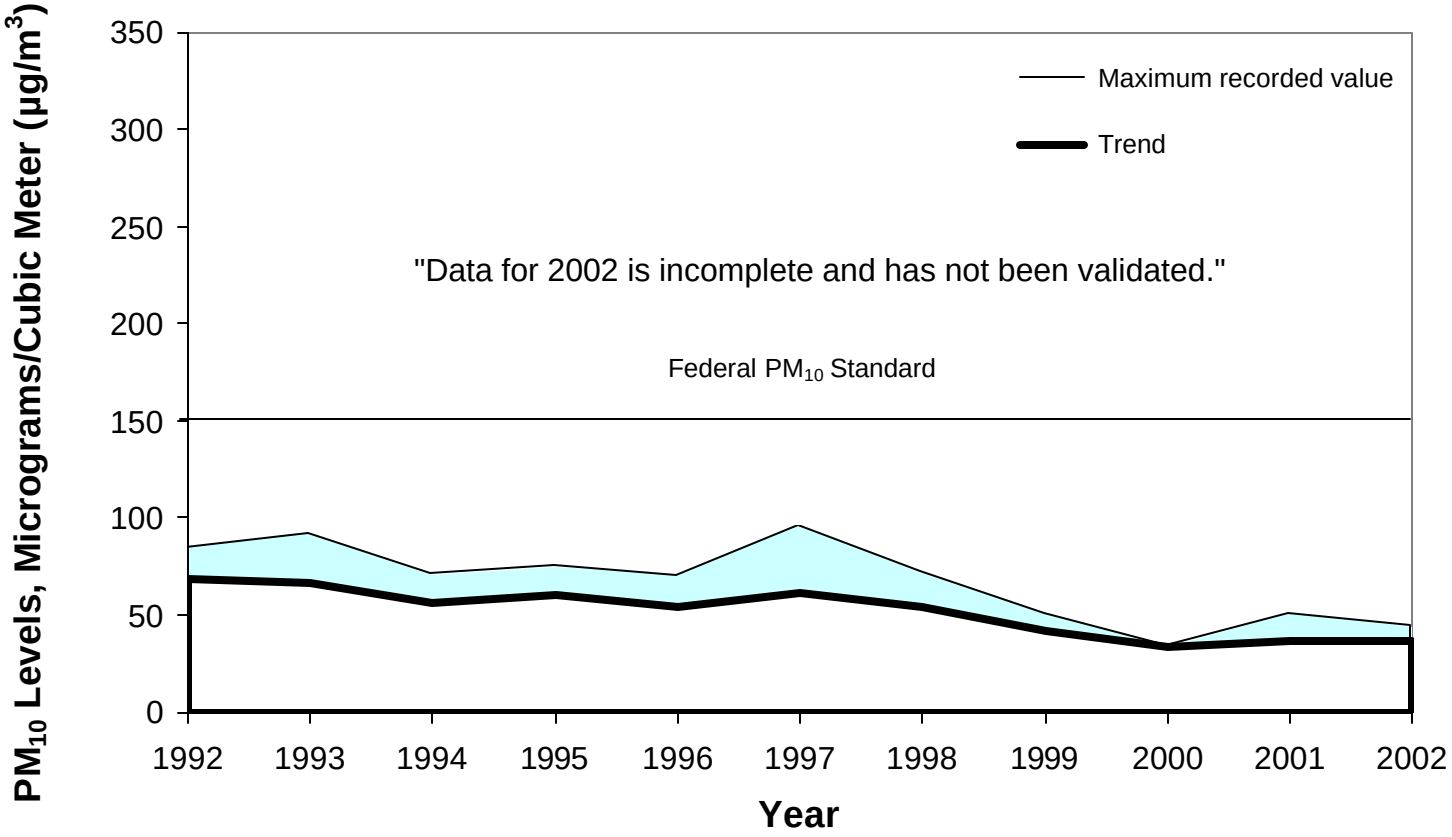
Kent PM_{10}
1992 - 2002



Note:

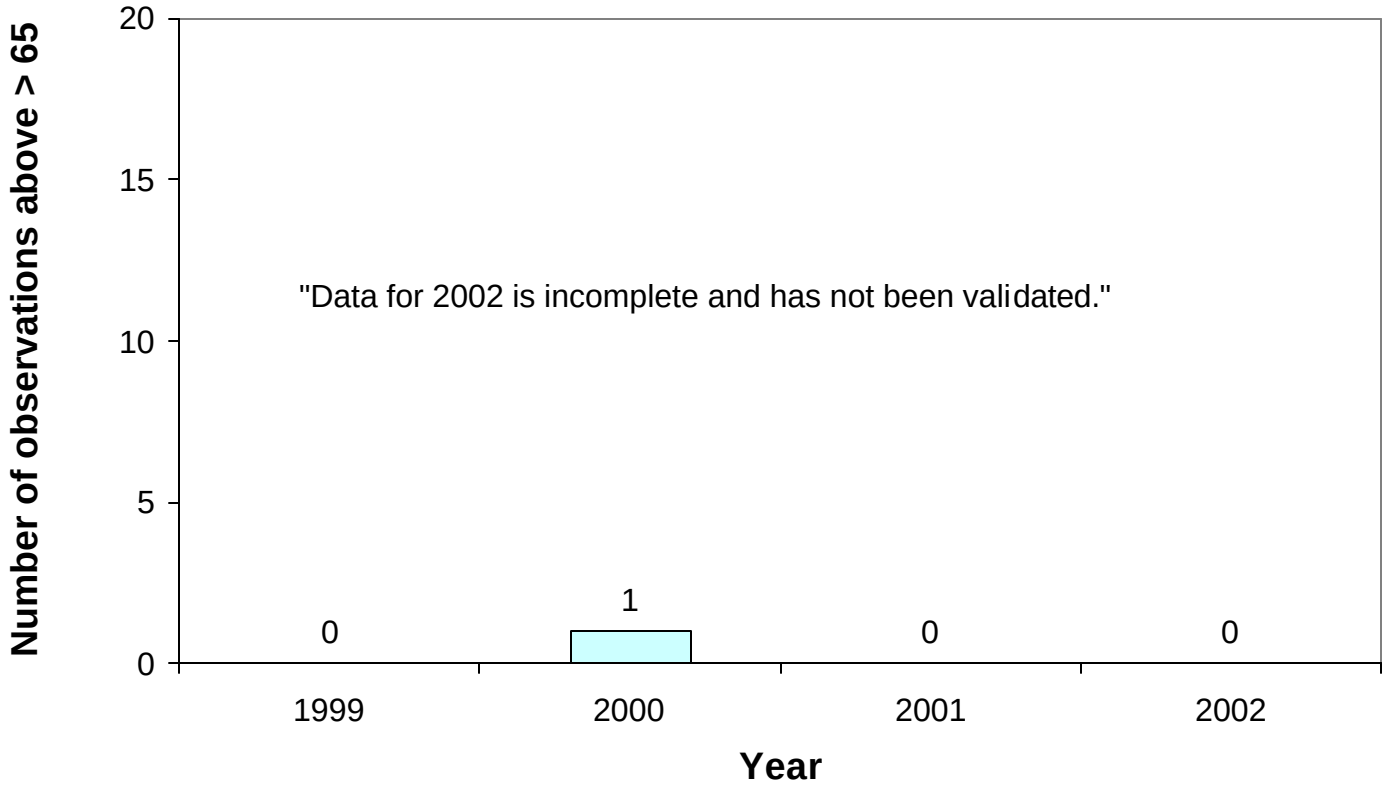
More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Kent PM_{10} Trends
1992 - 2002



Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

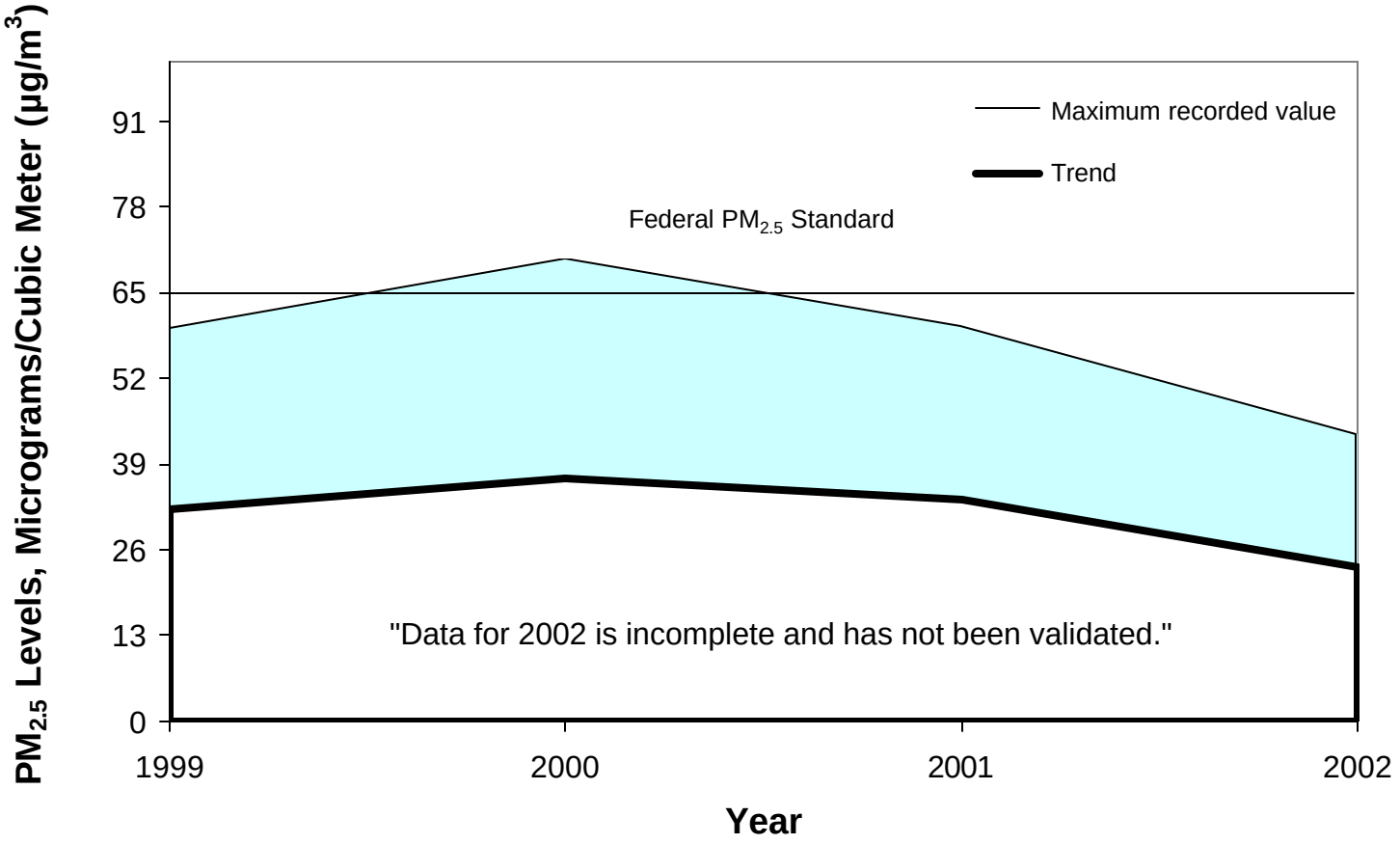
Puget Sound $PM_{2.5}$
1999 - 2002



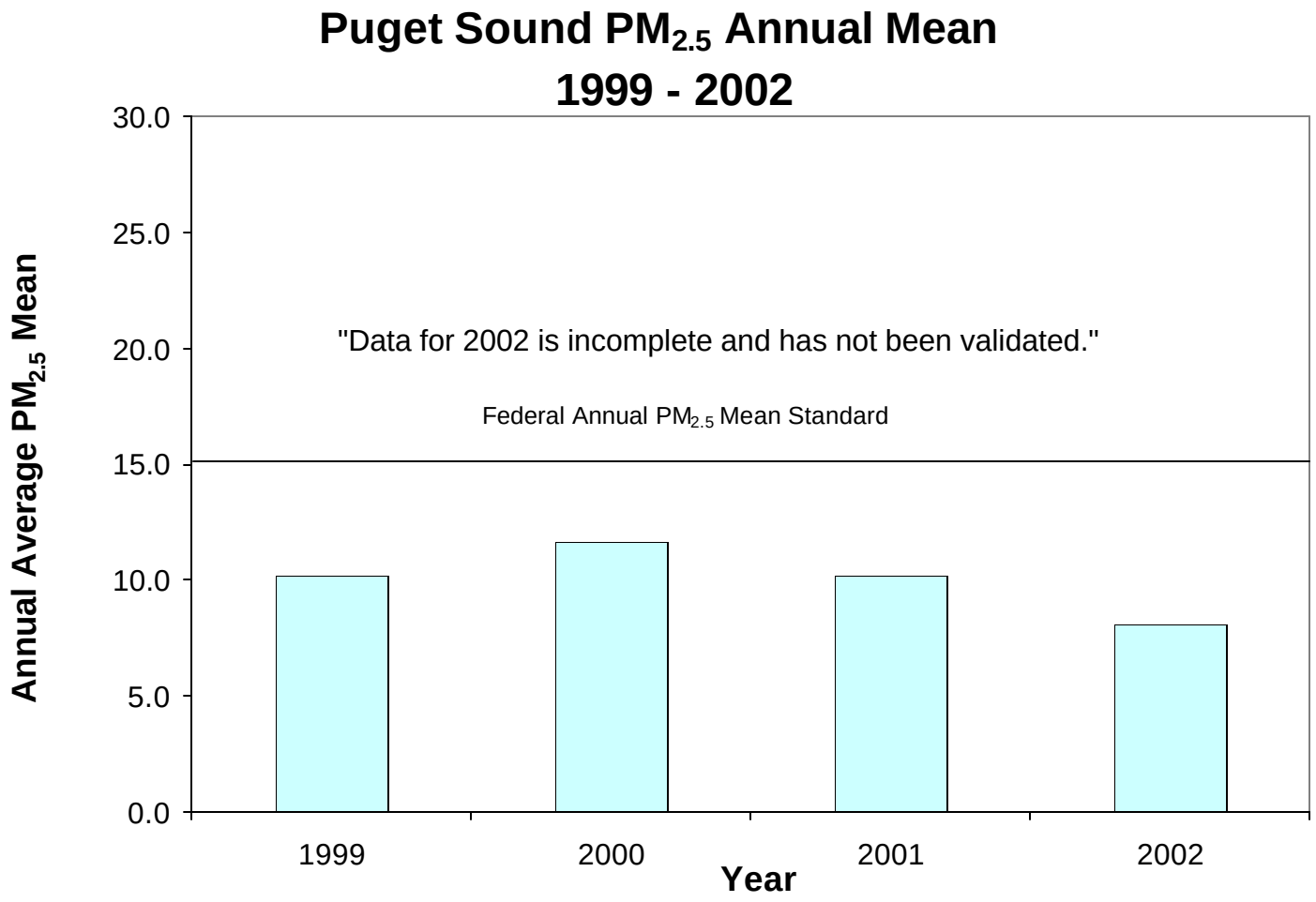
Note:

More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Puget Sound $PM_{2.5}$ Trends
1999 - 2002

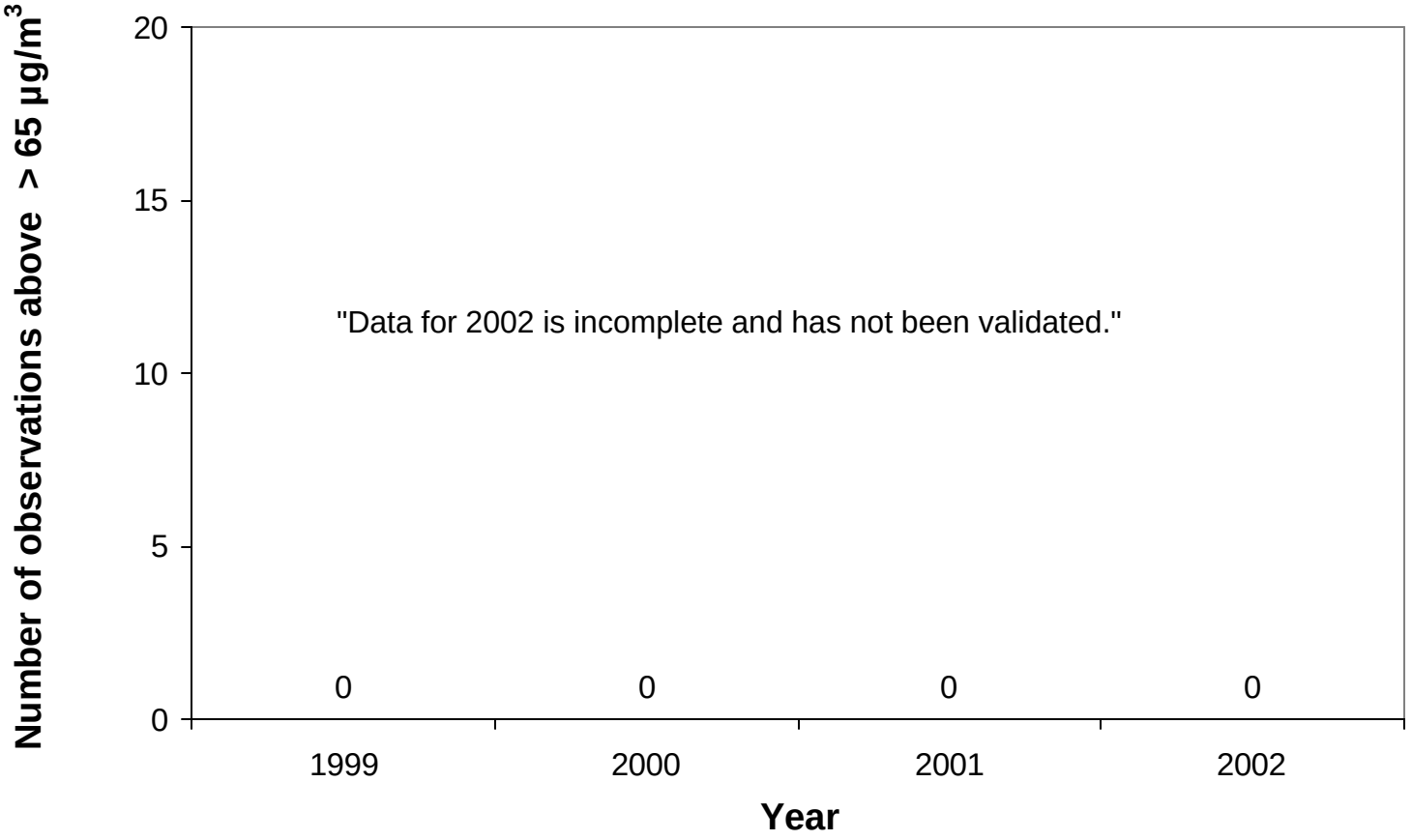


Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.



Note:
Annual mean is calculated by averaging the quarterly averages.

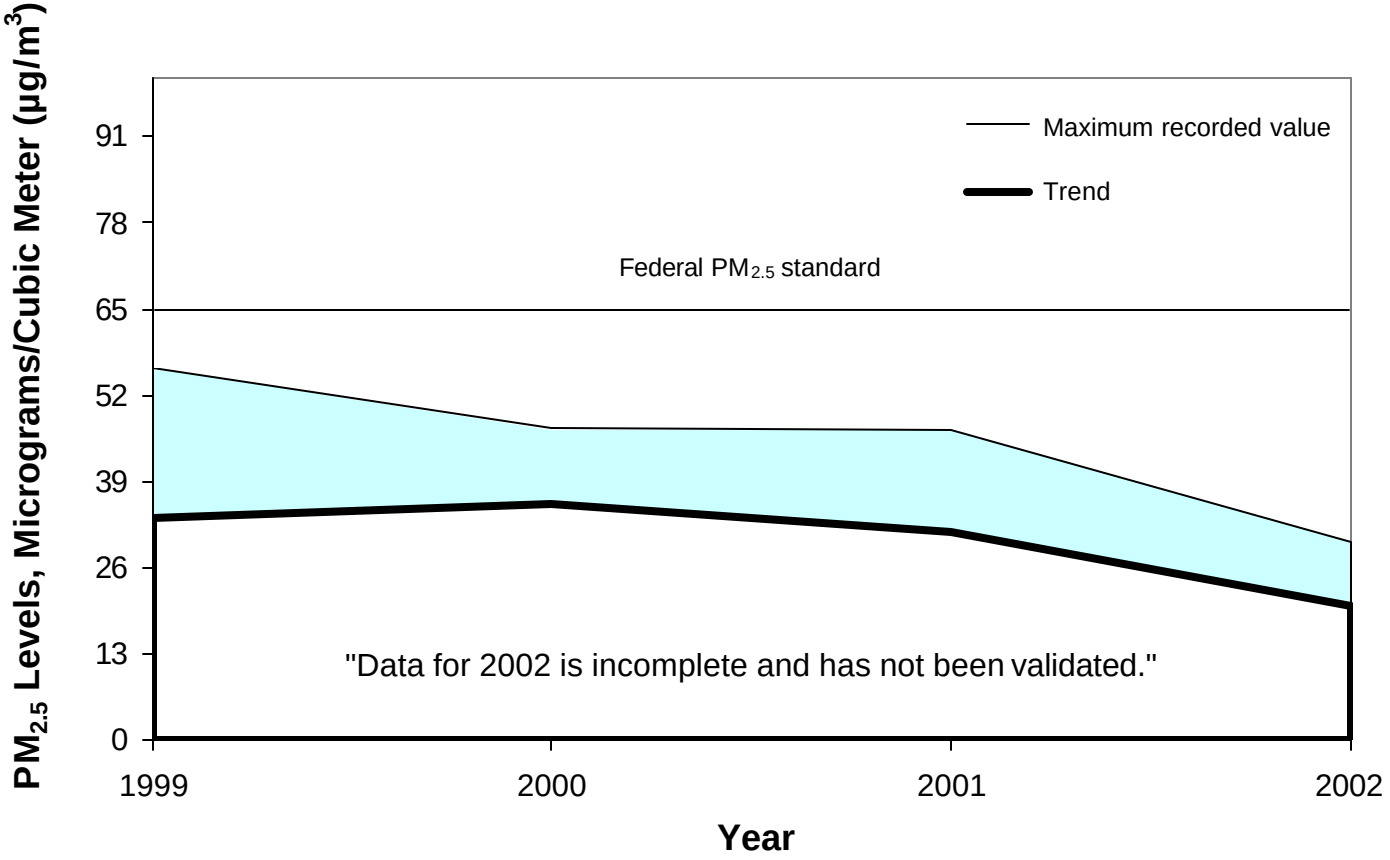
Seattle-Duwamish $PM_{2.5}$
1999 - 2002



Note:

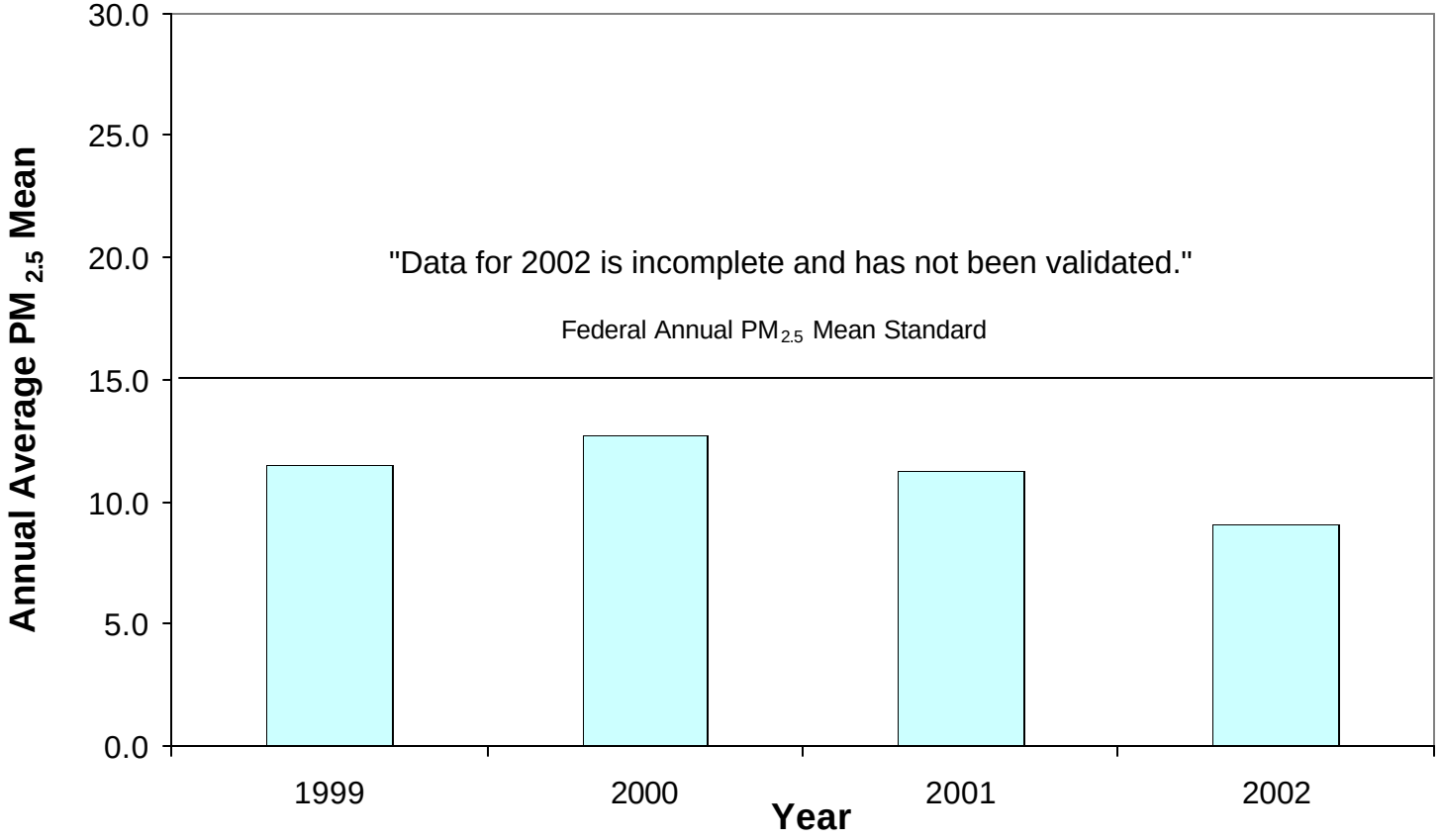
More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Seattle - Duwamish $PM_{2.5}$ Trends
1999 - 2002



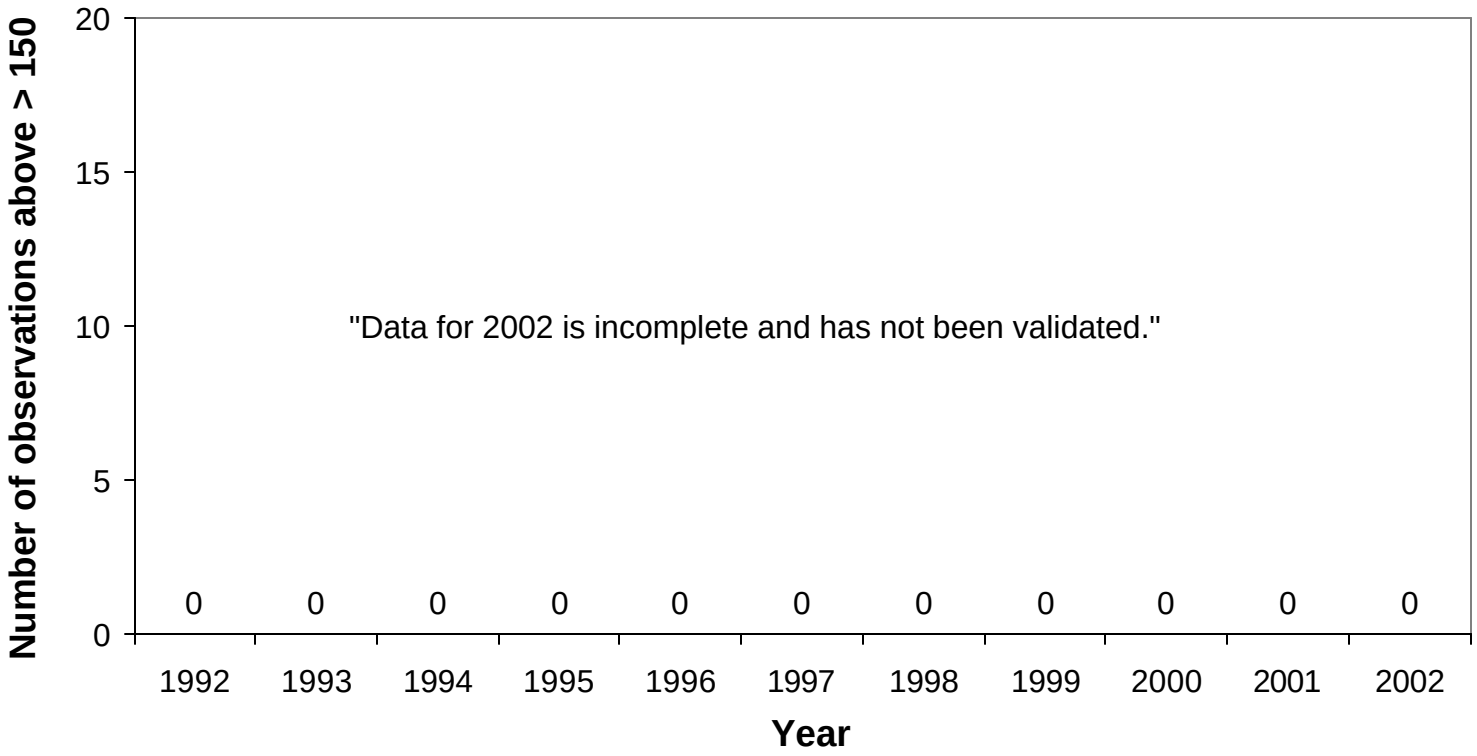
Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.

Seattle-Duwamish $PM_{2.5}$ Annual Mean
1999 - 2002



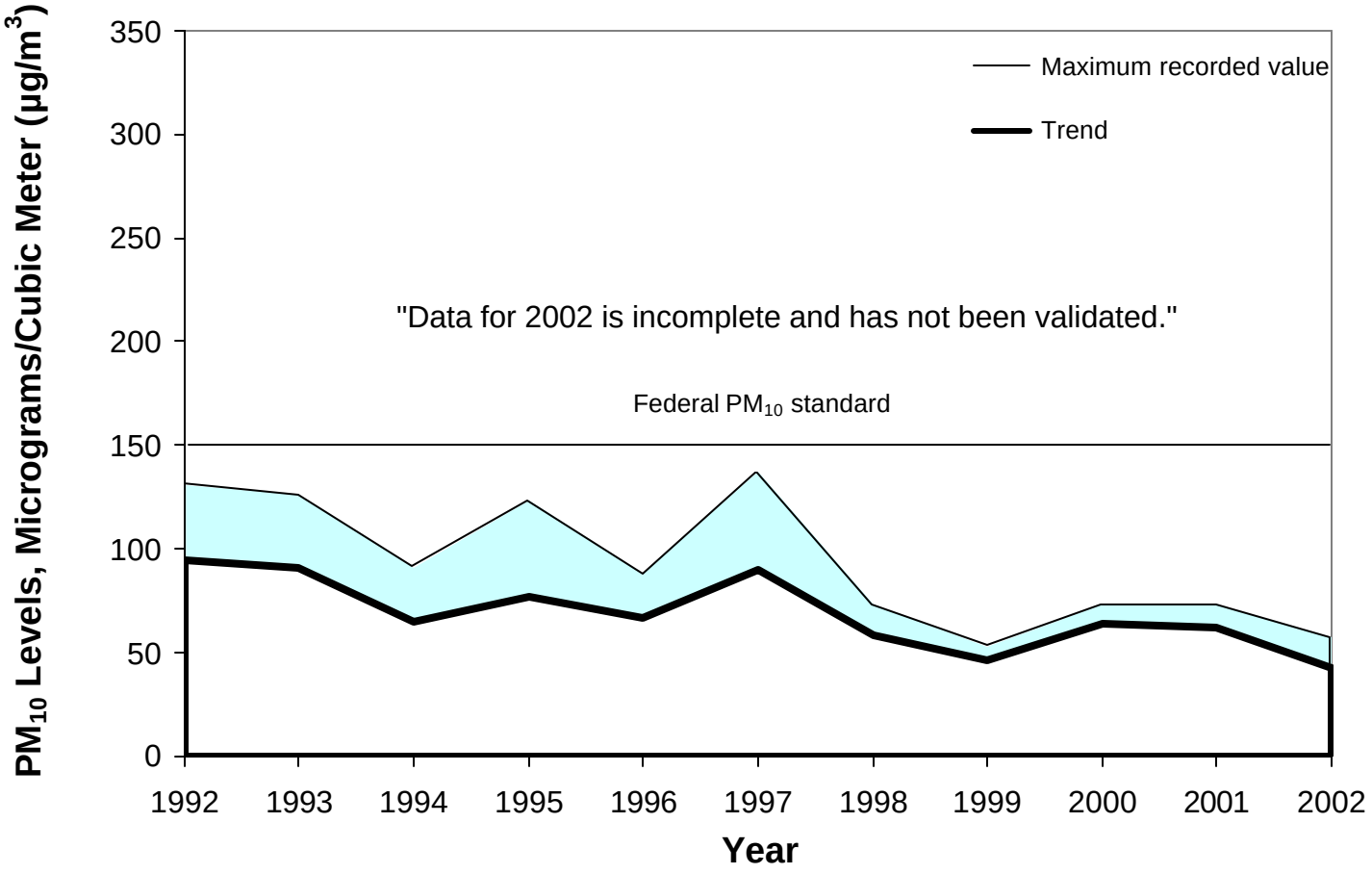
Note:
Annual Mean is calculated by averaging the quarterly averages.

Seattle/Duwamish PM_{10}
1992 - 2002



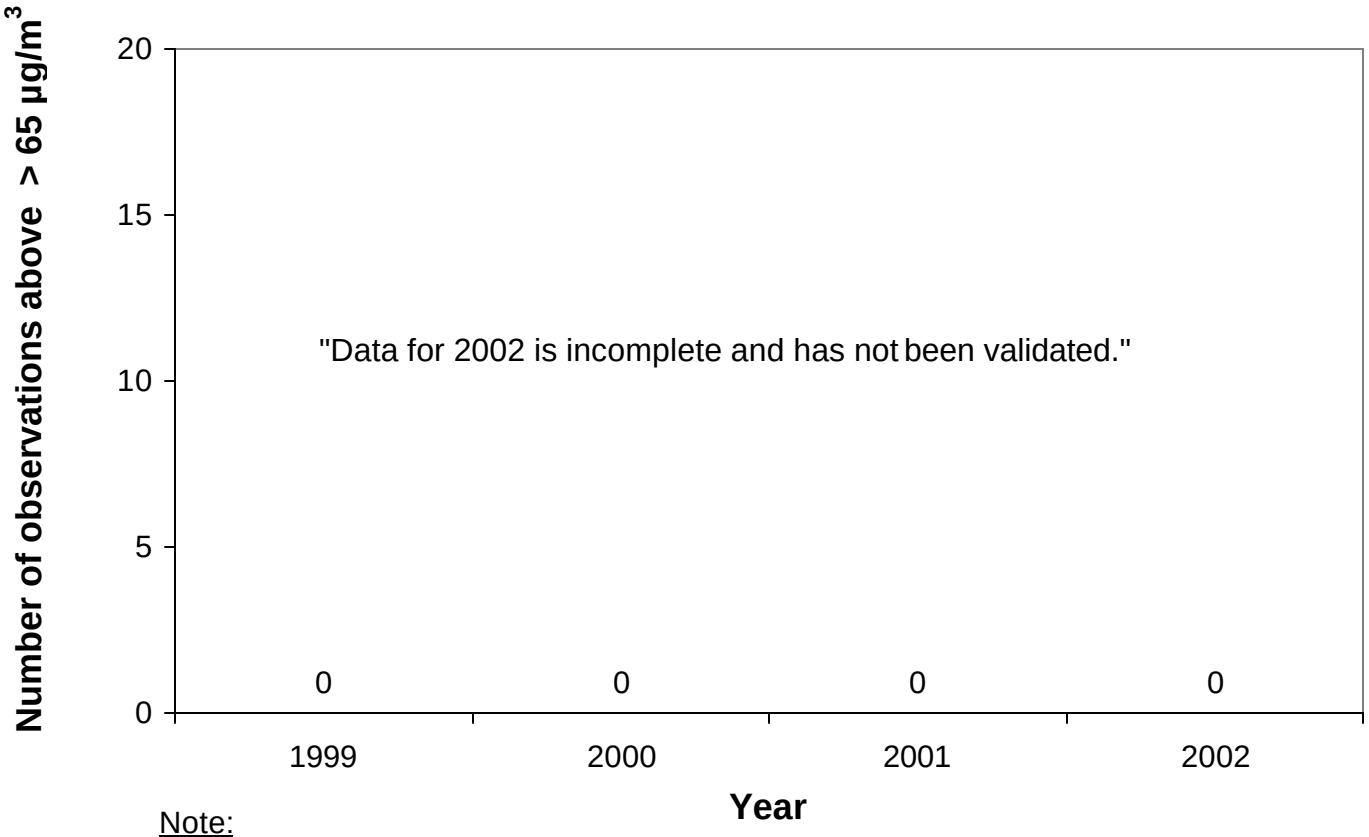
Note:
More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Seattle/Duwamish PM_{10} Trends
1992 - 2002



Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

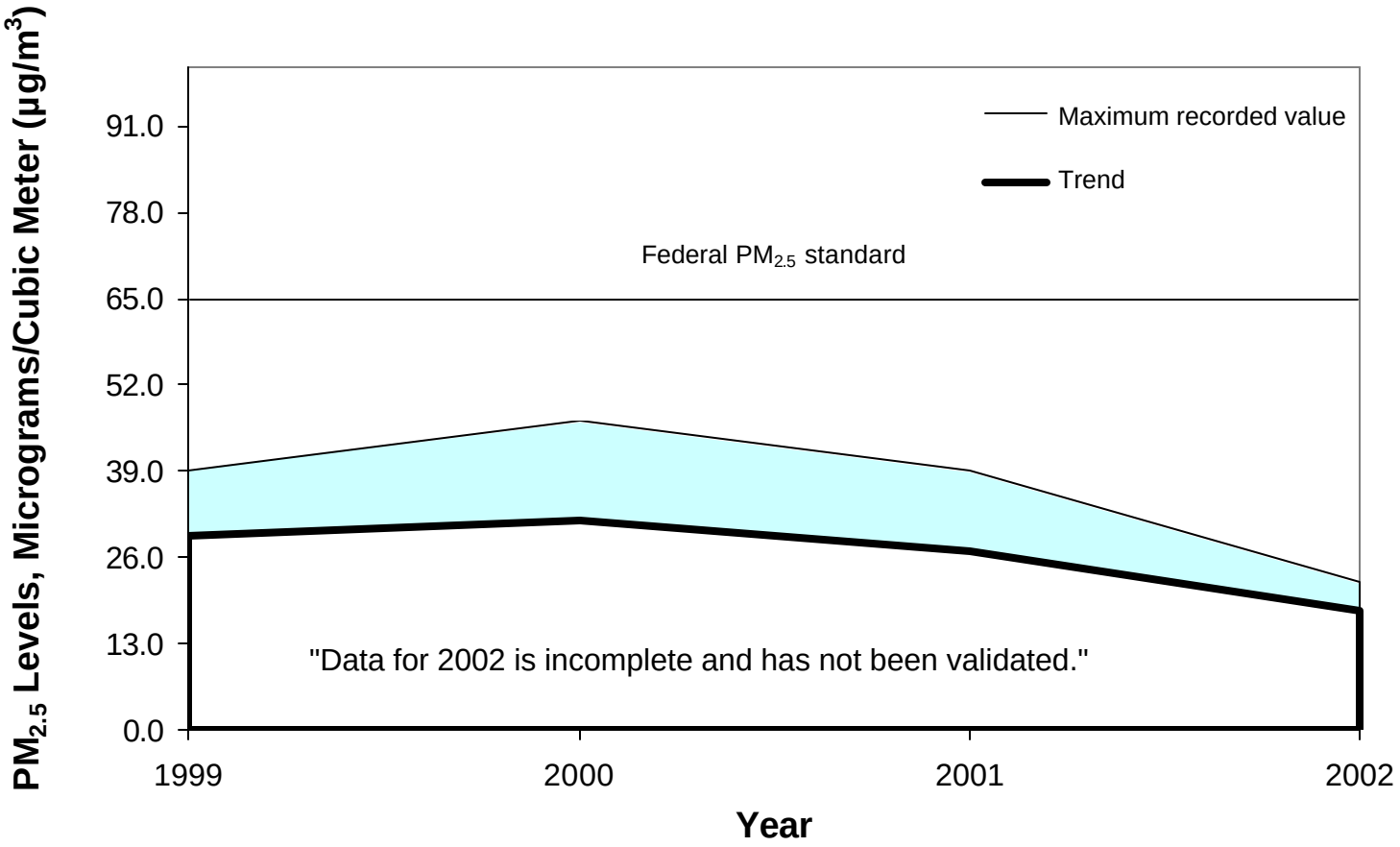
Spokane $PM_{2.5}$
1999 - 2002



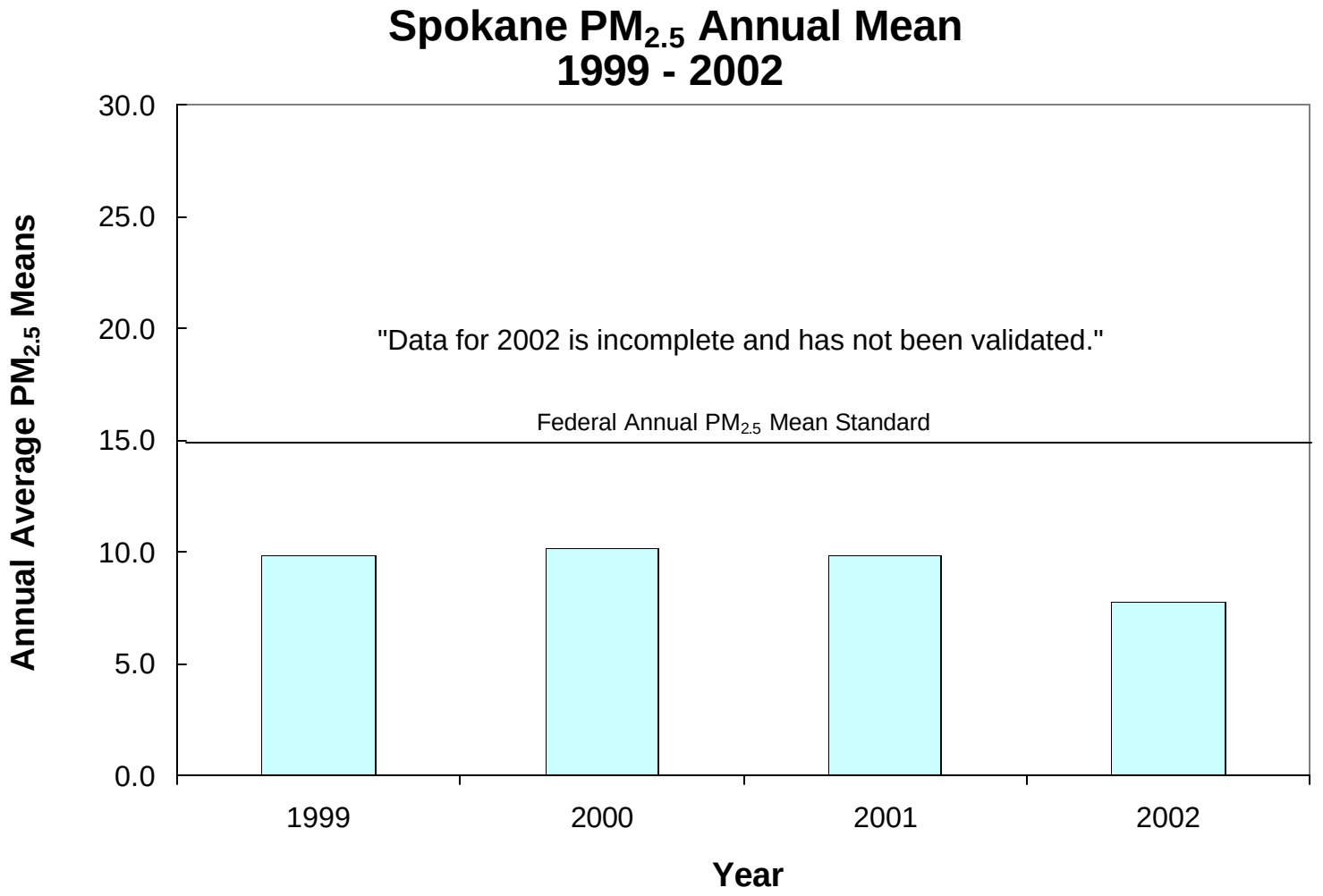
Note:

More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Spokane $PM_{2.5}$ Trends
1999 - 2002

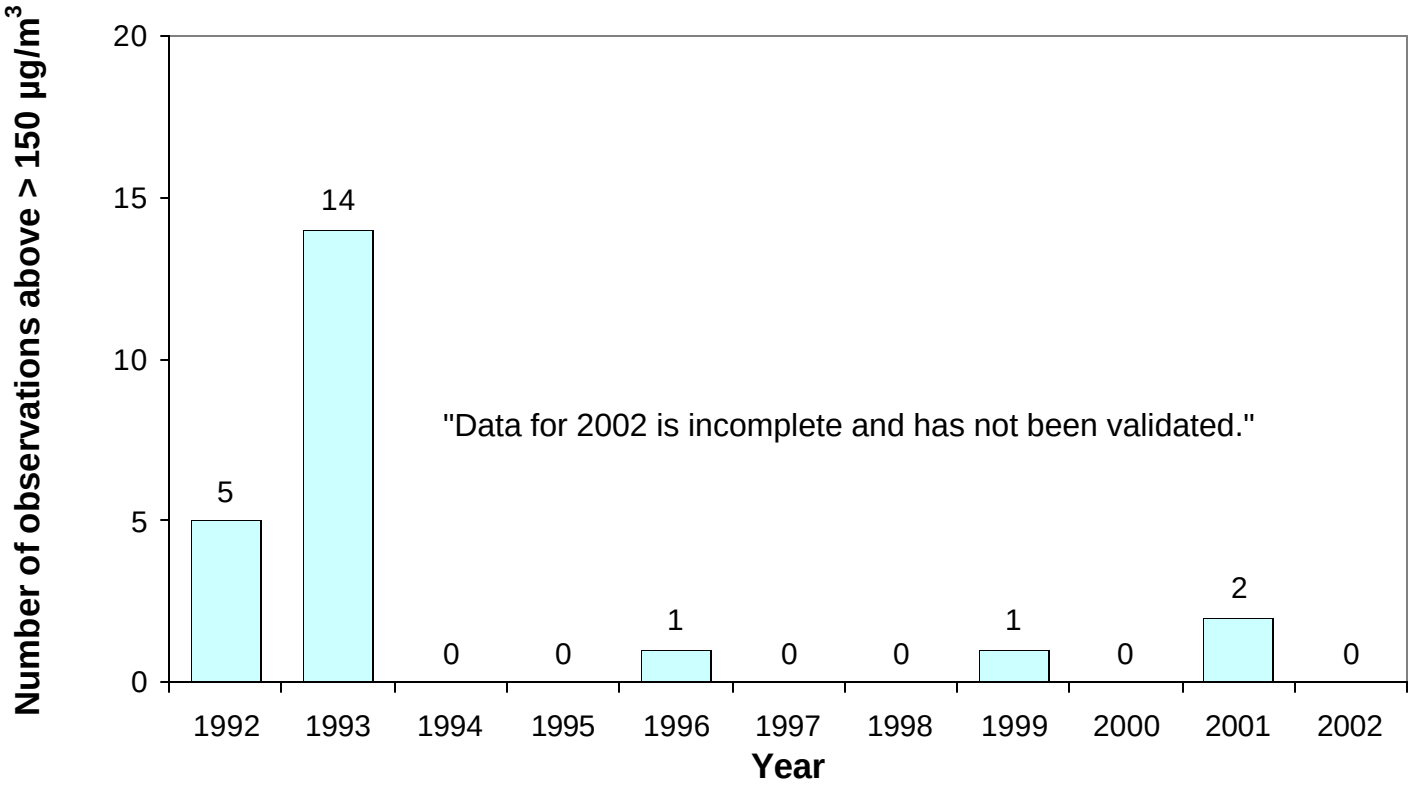


Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.



Note:
Annual Mean is calculated by averaging the quarterly averages.

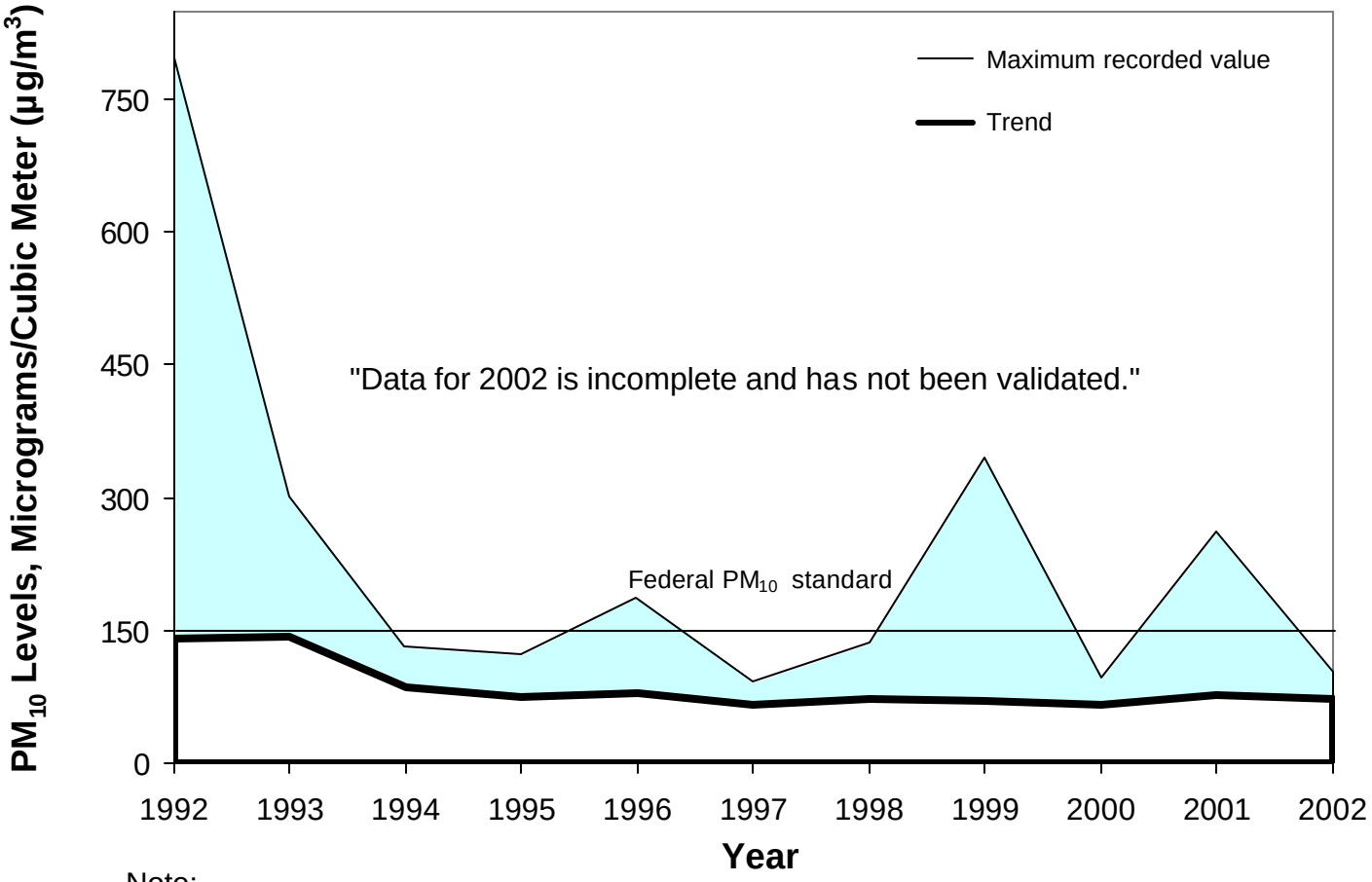
Spokane PM_{10}
1992 - 2002



Note:

More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

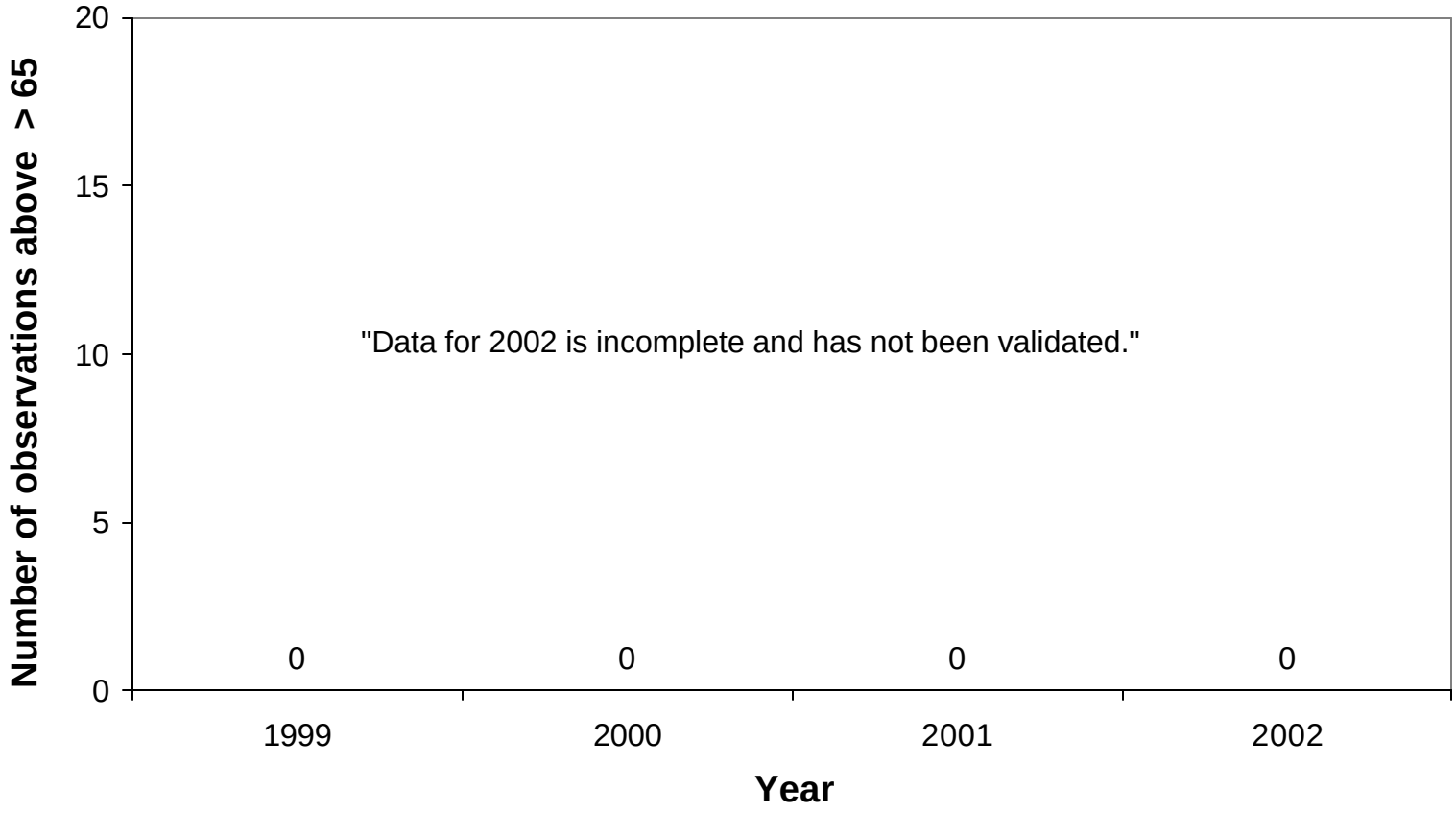
Spokane PM_{10} Trends
1992 - 2002



Note:

The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

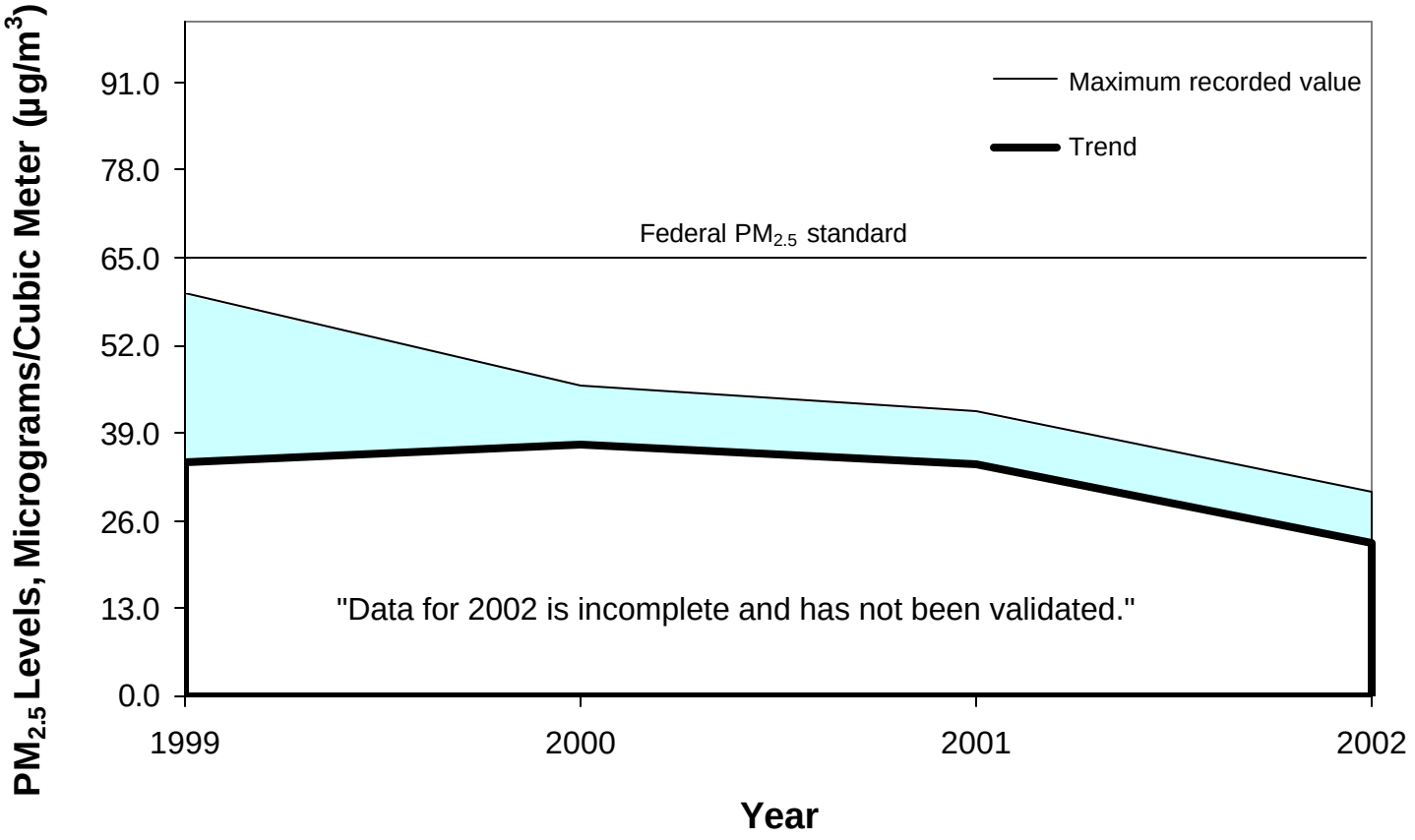
Tacoma Tideflats $PM_{2.5}$
1999 - 2002



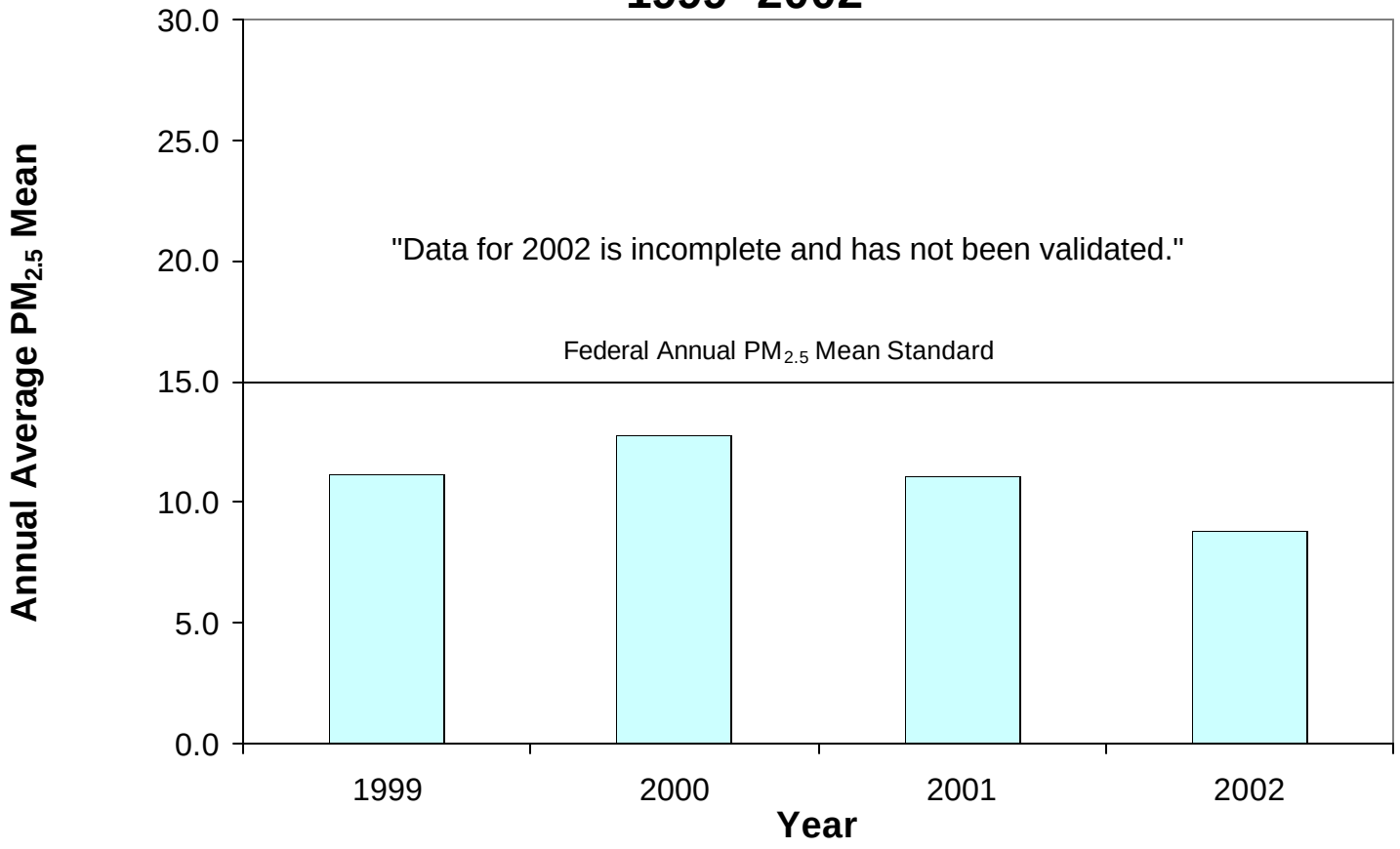
Note:

More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Tacoma Tideflats $PM_{2.5}$ Trends
1999 - 2002



Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.



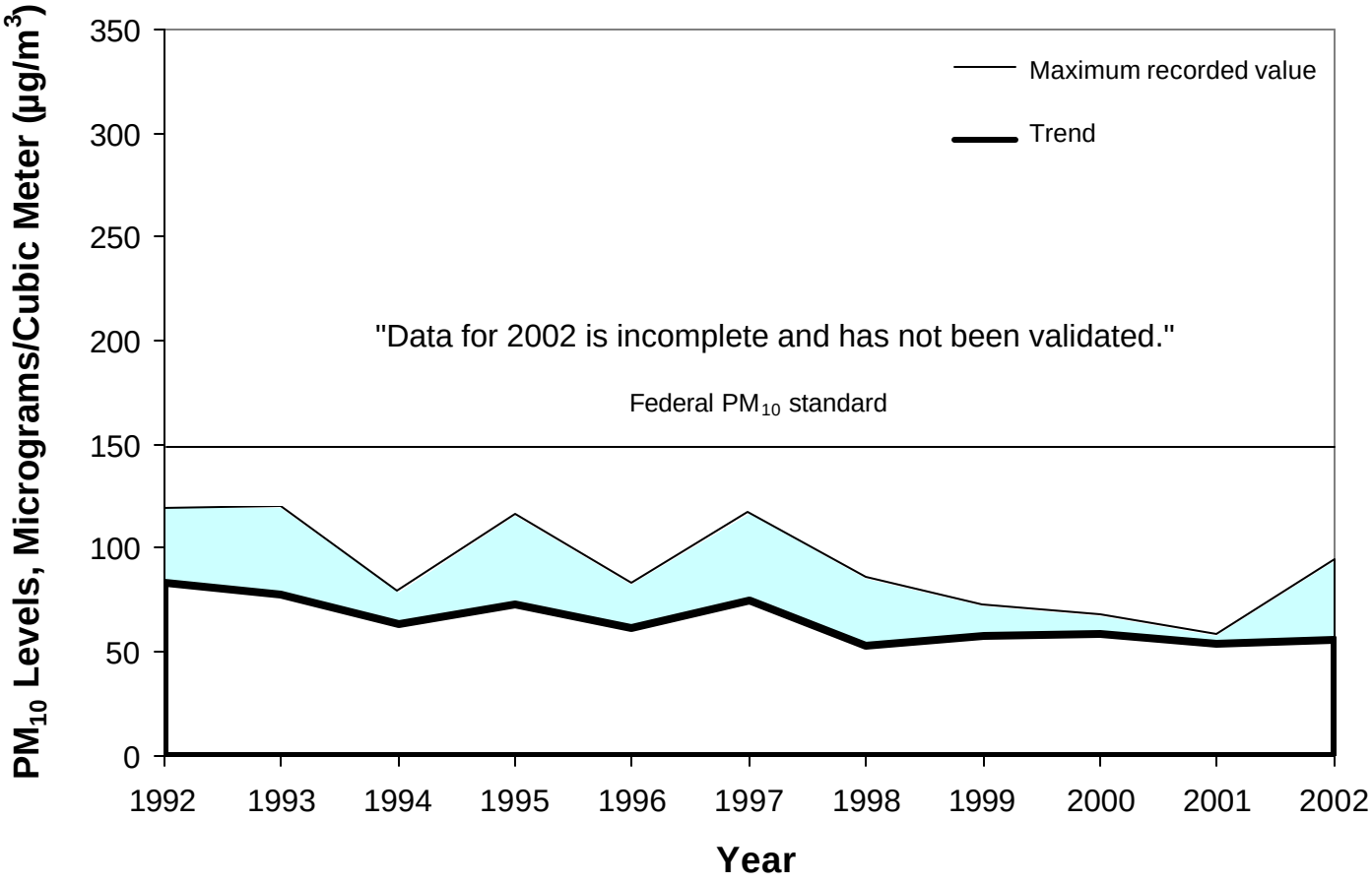
Note:
Annual Mean is calculated by averaging the quarterly averages.

Tacoma Tideflats PM_{10}
1992 - 2002

Note:

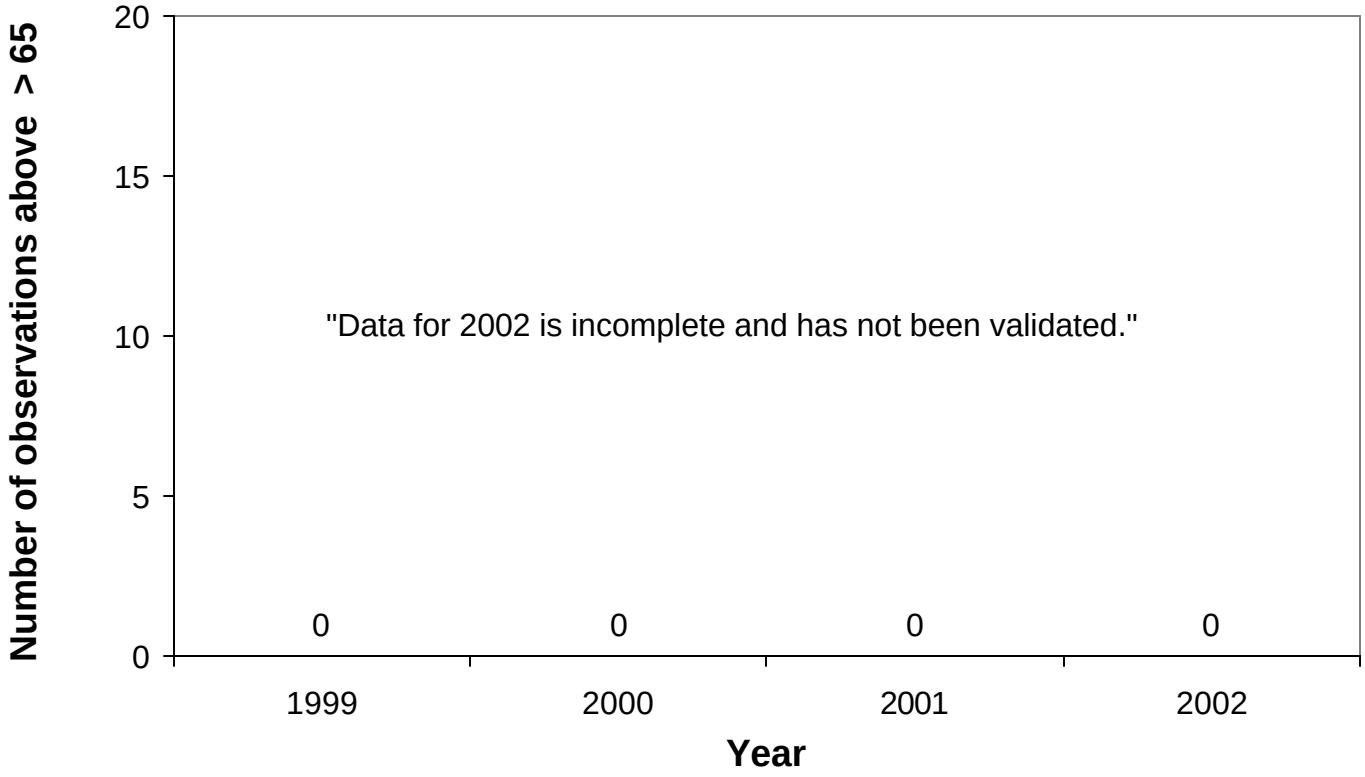
More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Tacoma Tideflats PM_{10} Trends
1992 - 2002



Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

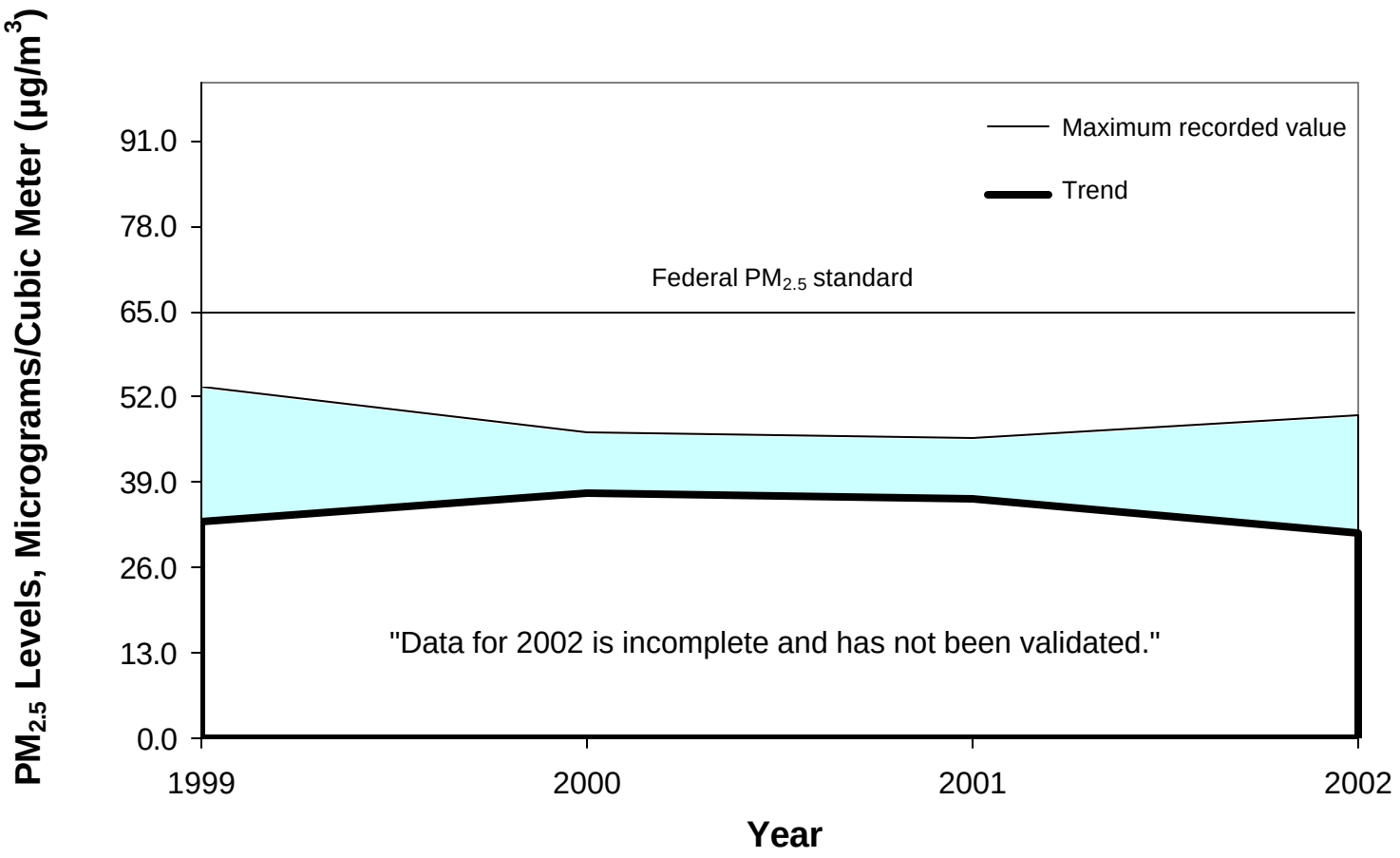
Thurston County $PM_{2.5}$
1999 - 2002



Note:

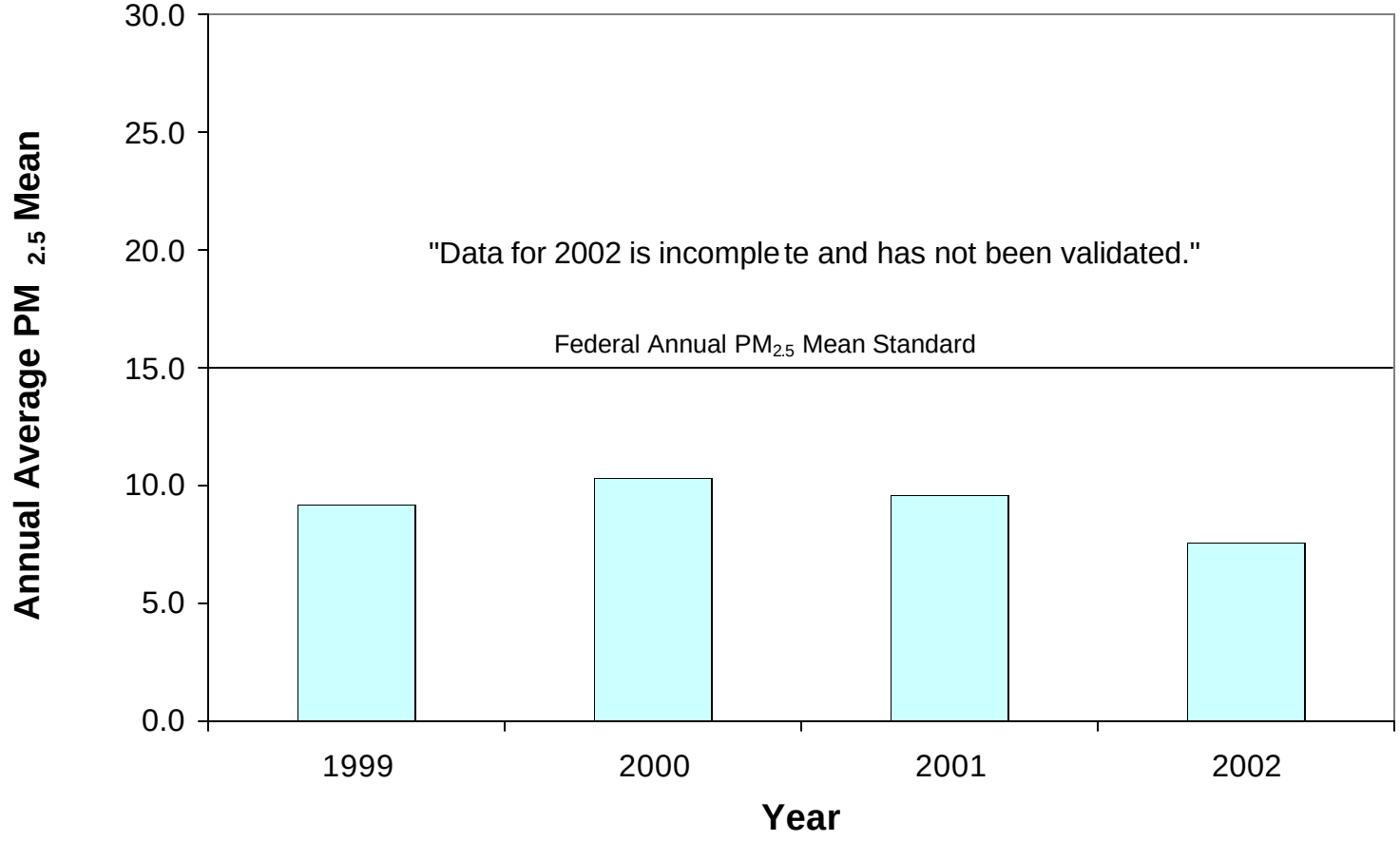
More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Thurston County $PM_{2.5}$ Trends
1999 - 2002



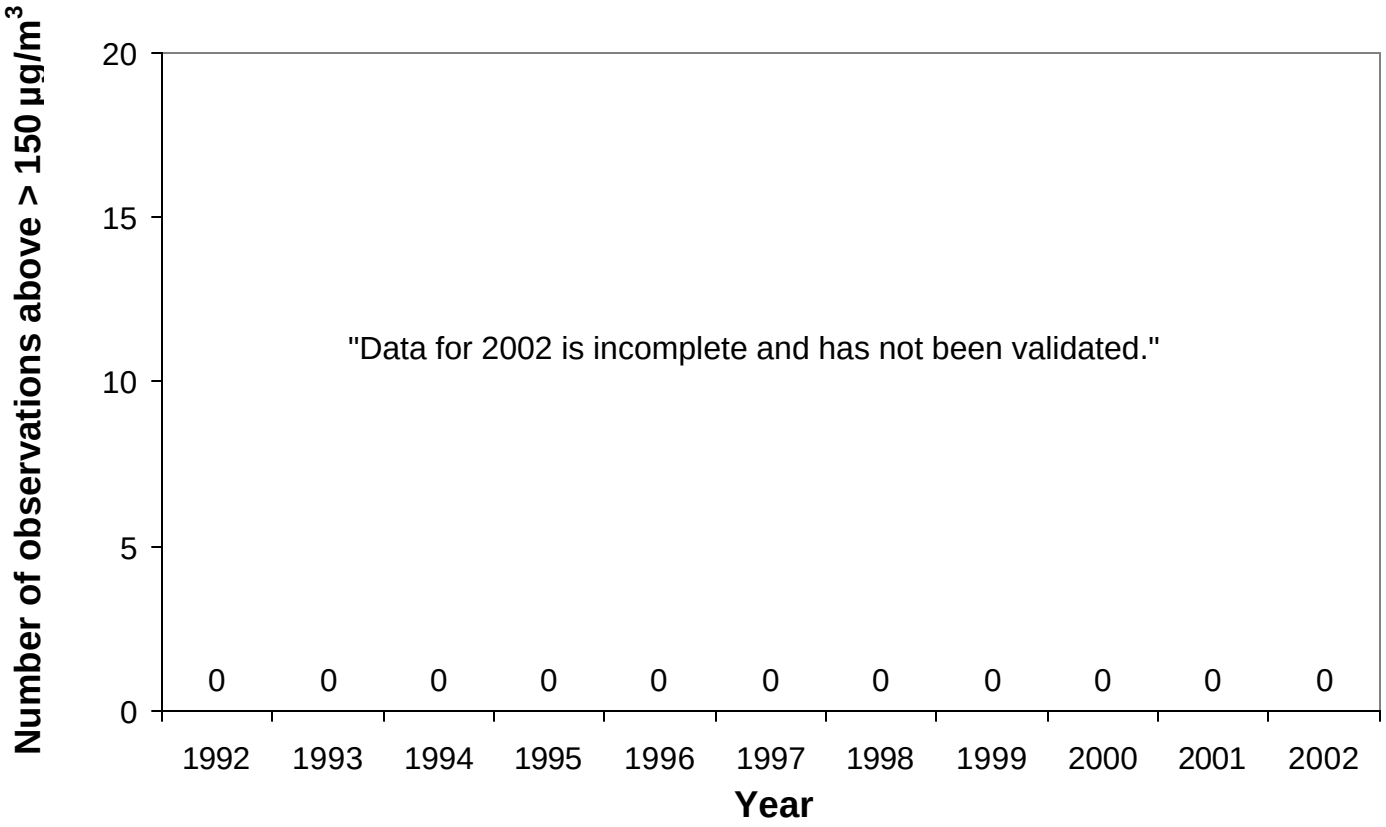
Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.

Thurston County $PM_{2.5}$ Annual Mean
1999 - 2002



Note:
Annual Mean is calculated by averaging the quarterly averages.

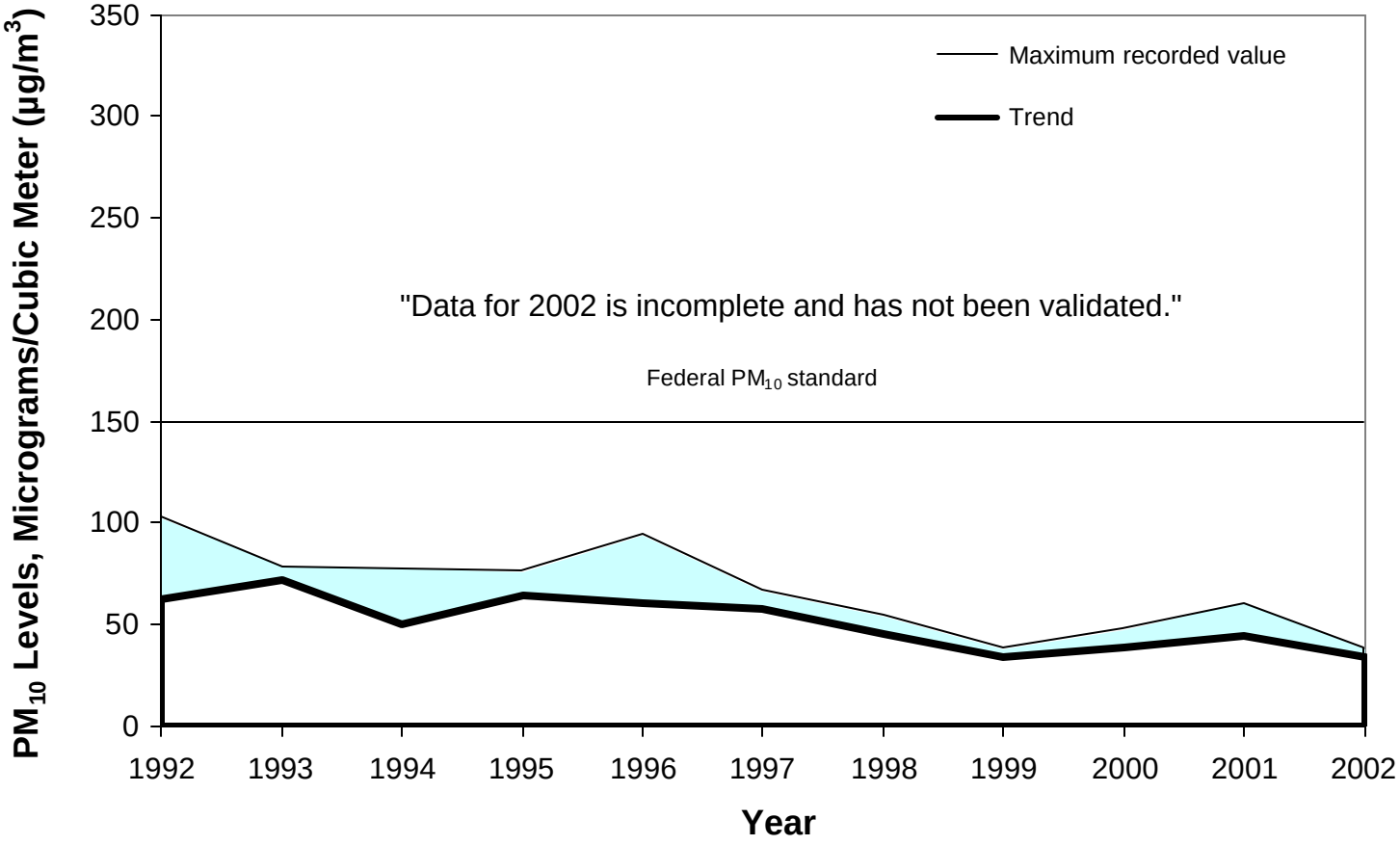
Thurston County PM_{10}
1992 - 2002



Note:

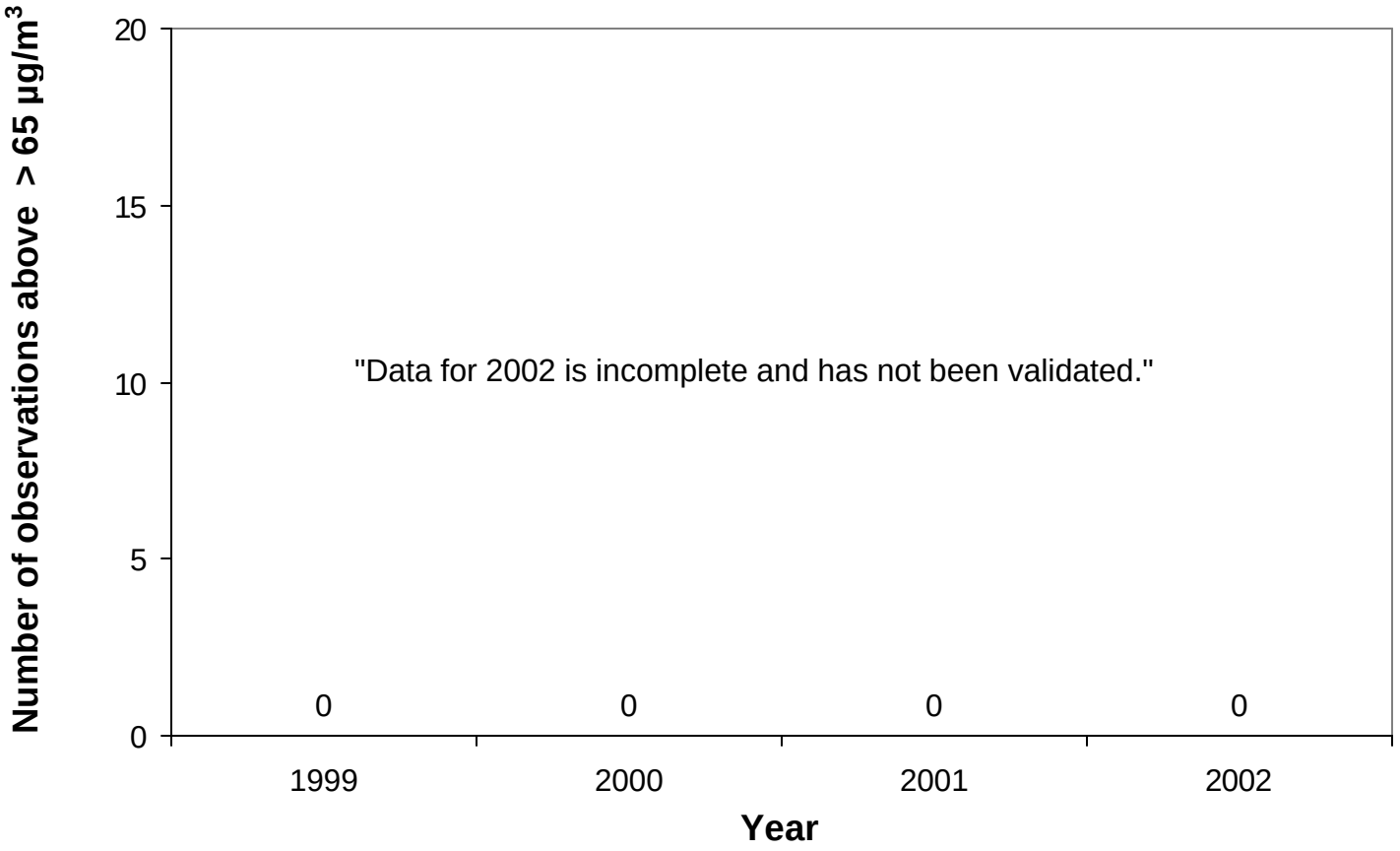
More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Thurston County PM_{10} Trends
1992 - 2002



Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

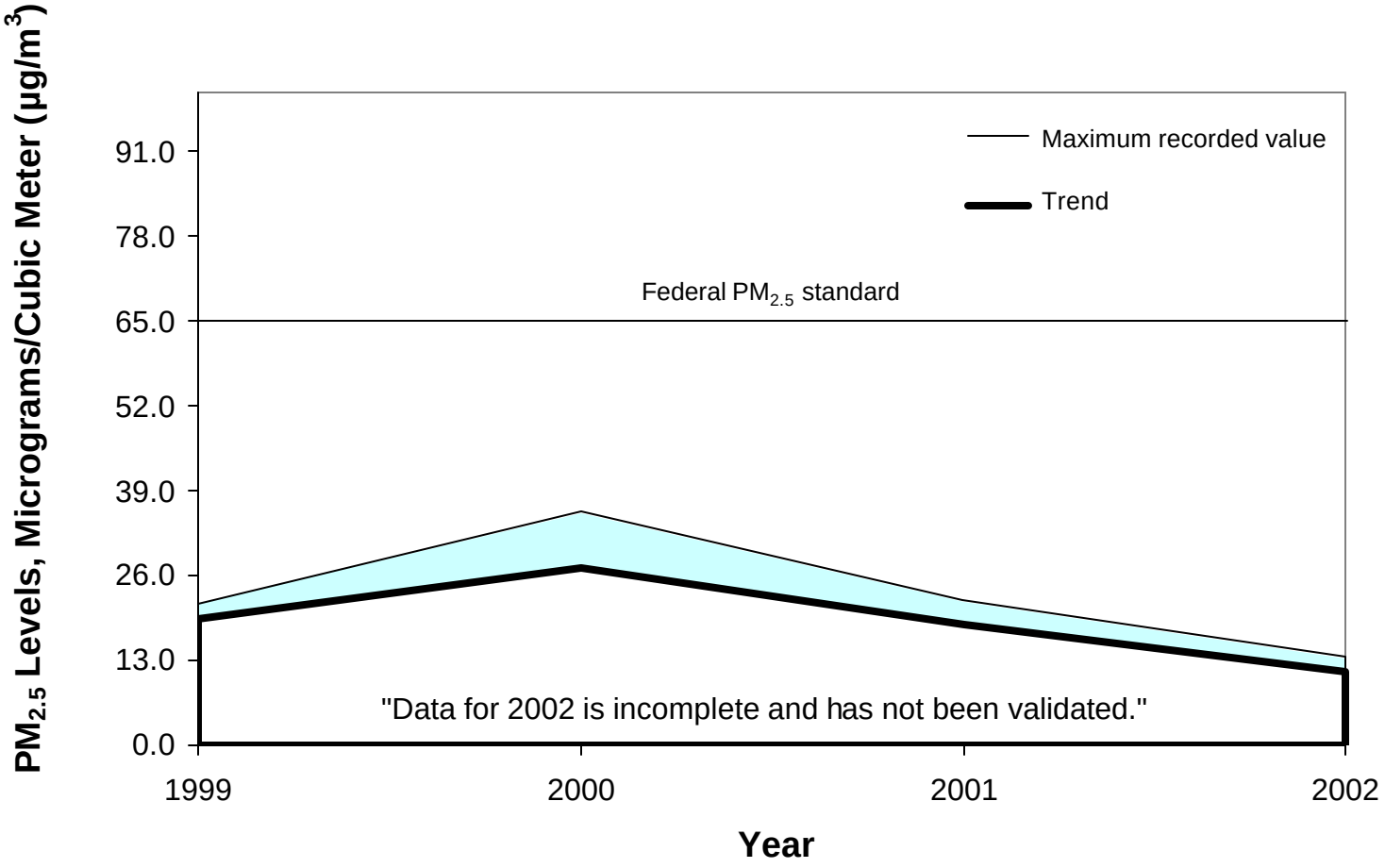
Tri-Cities $PM_{2.5}$
1999 - 2002



Note:

More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

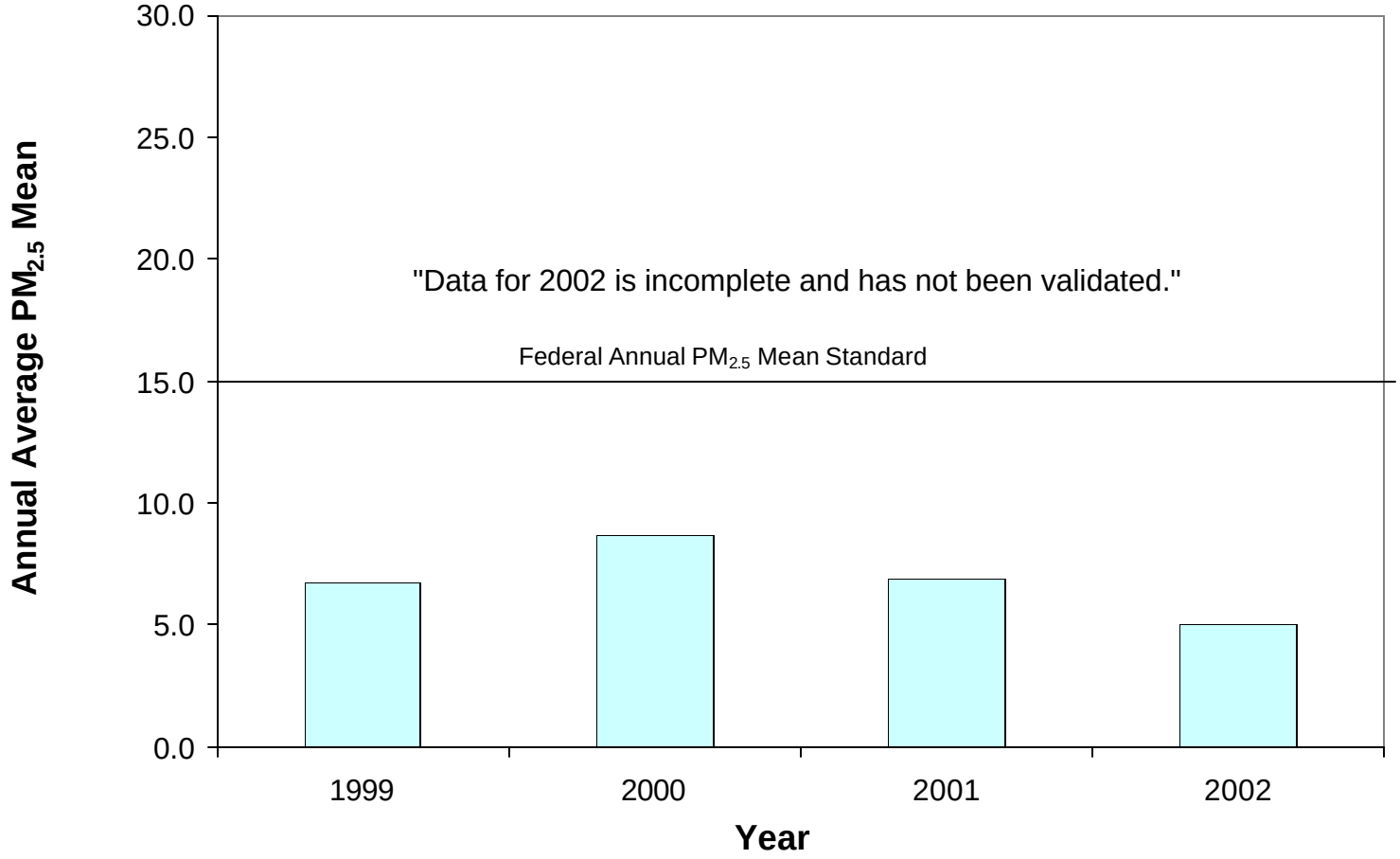
Tri-Cities $PM_{2.5}$ Trends
1999 - 2002



Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.

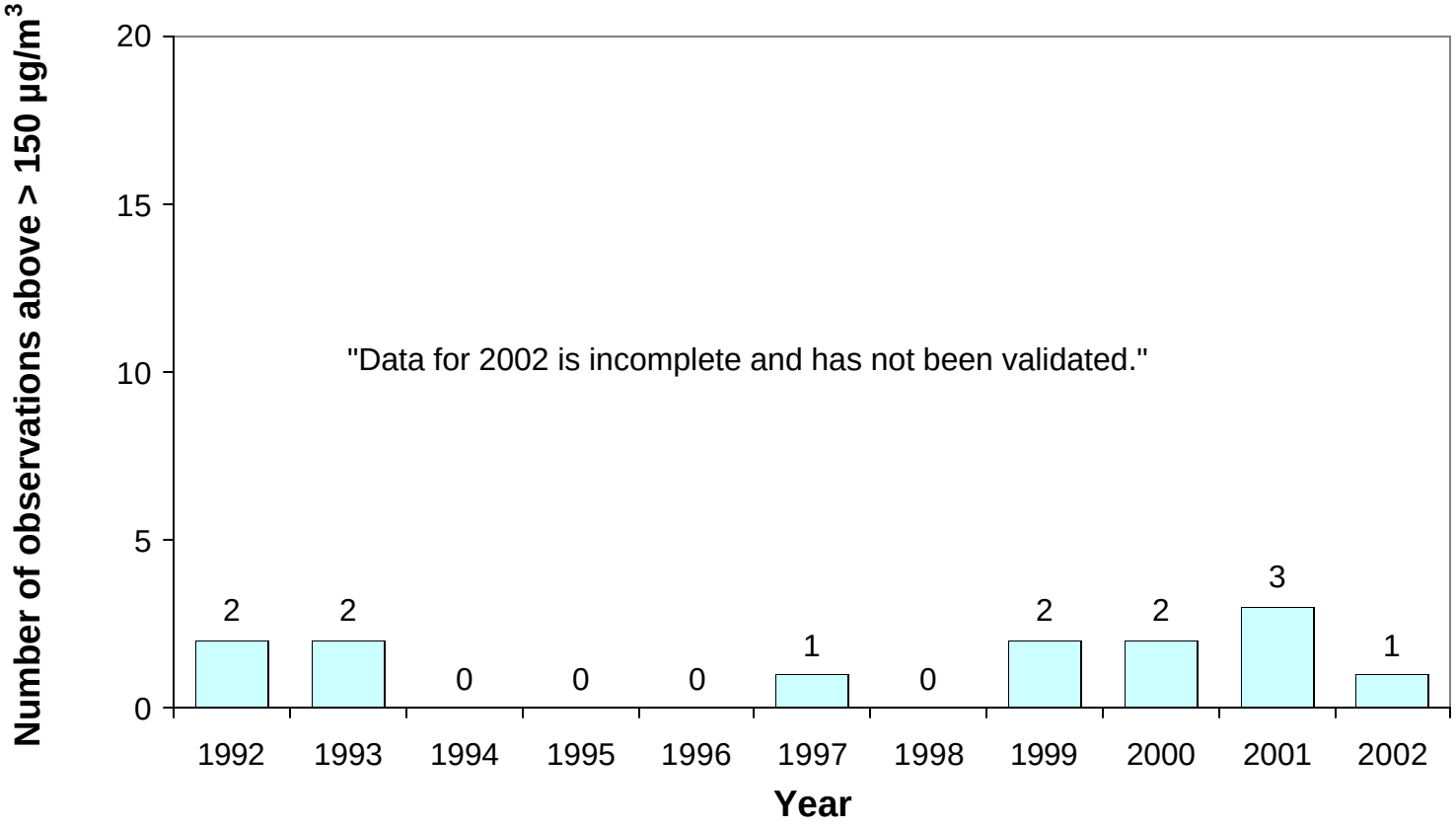
Tri-Cities $PM_{2.5}$ Annual Mean

1999 - 2002



Note:
Annual Mean is calculated by averaging the quarterly averages.

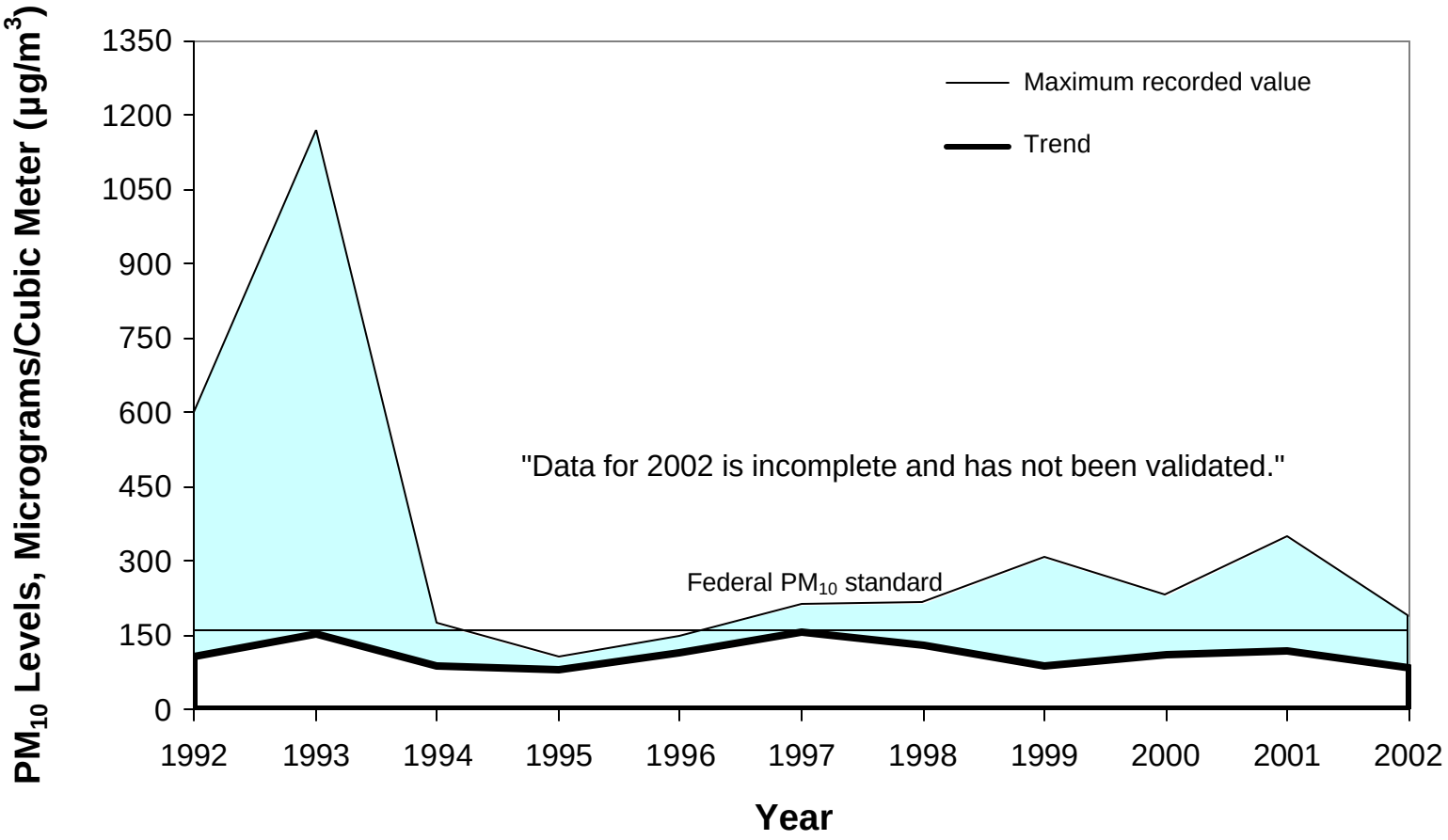
Tri-Cities PM_{10}
1992 - 2002



Note:

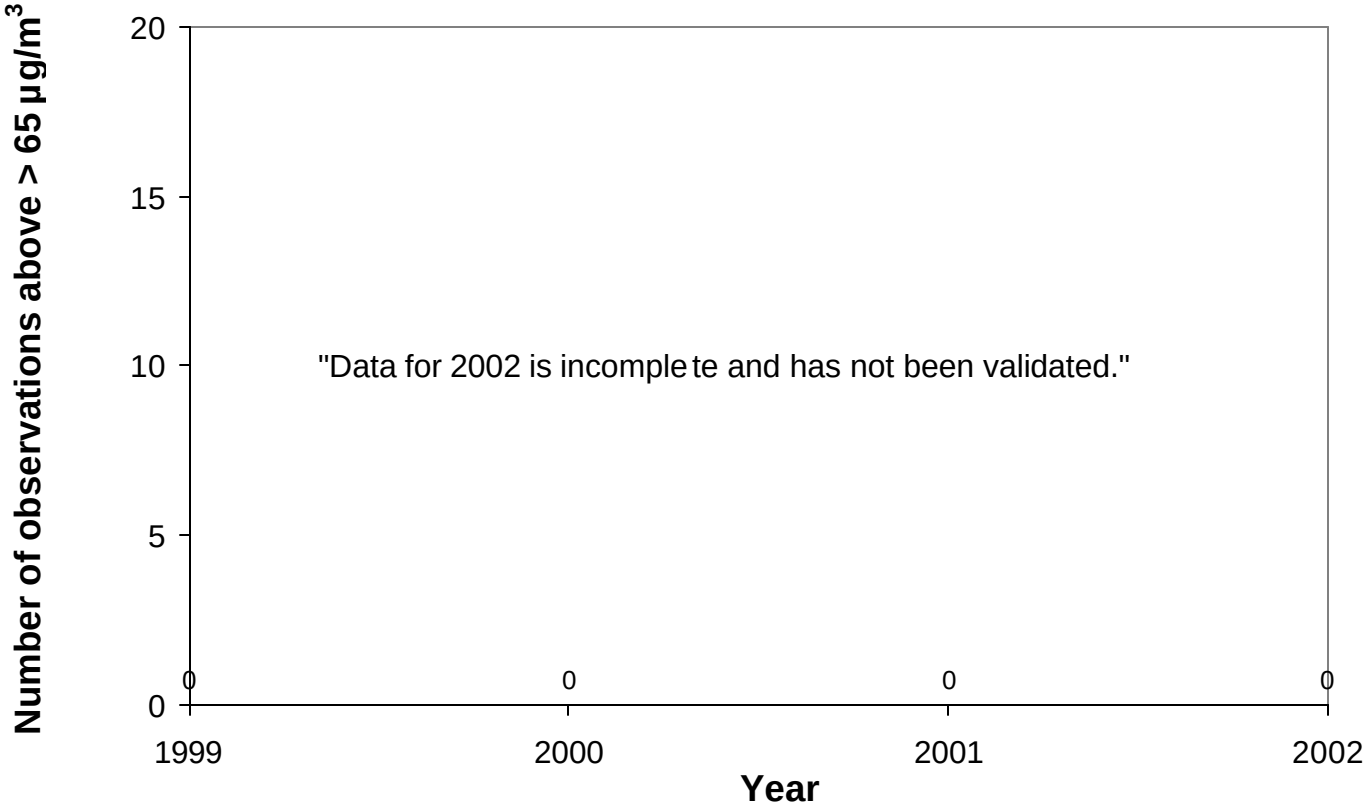
More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Tri-Cities PM_{10} Trends
1992 - 2002



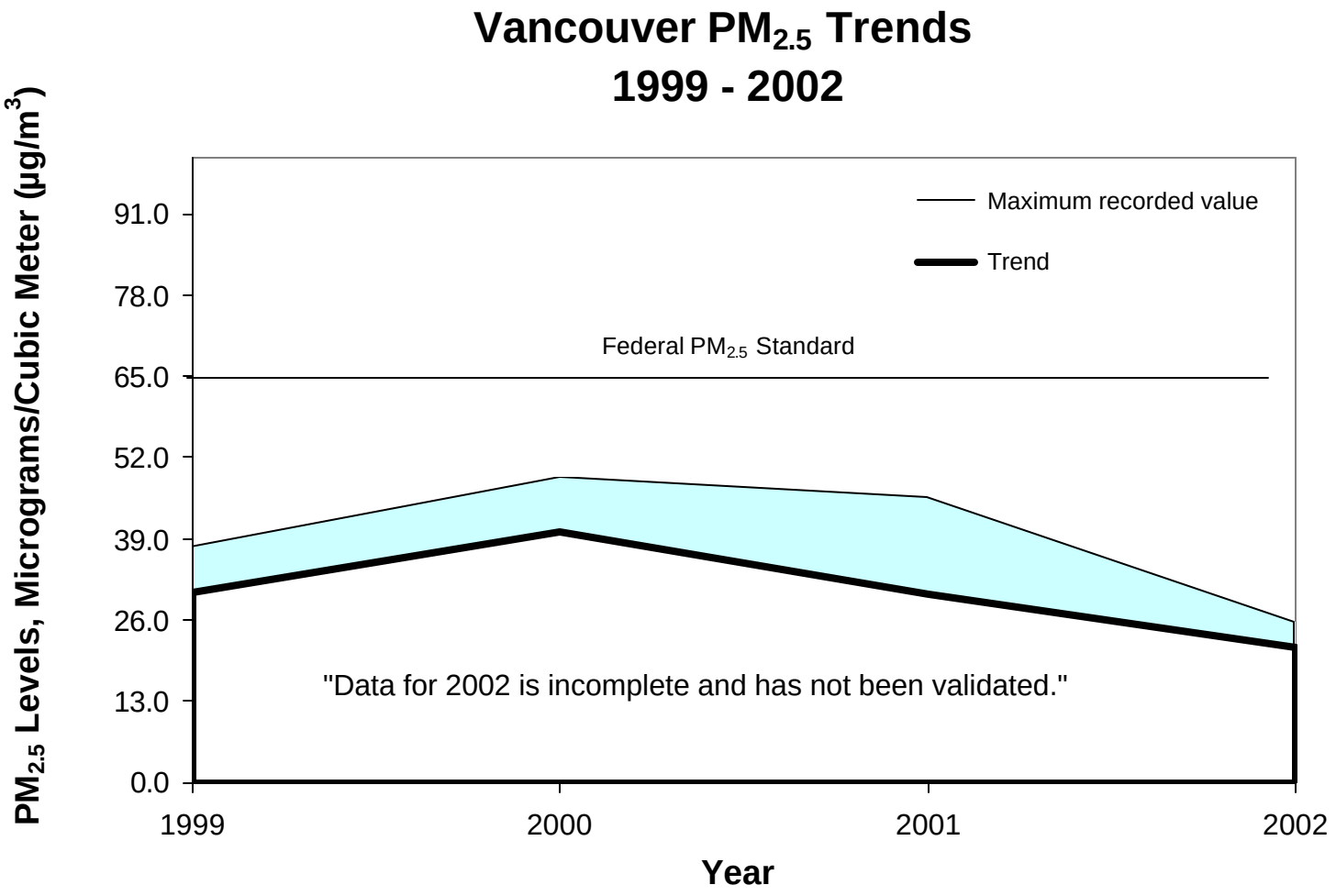
Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

Vancouver $PM_{2.5}$
1999 - 2002

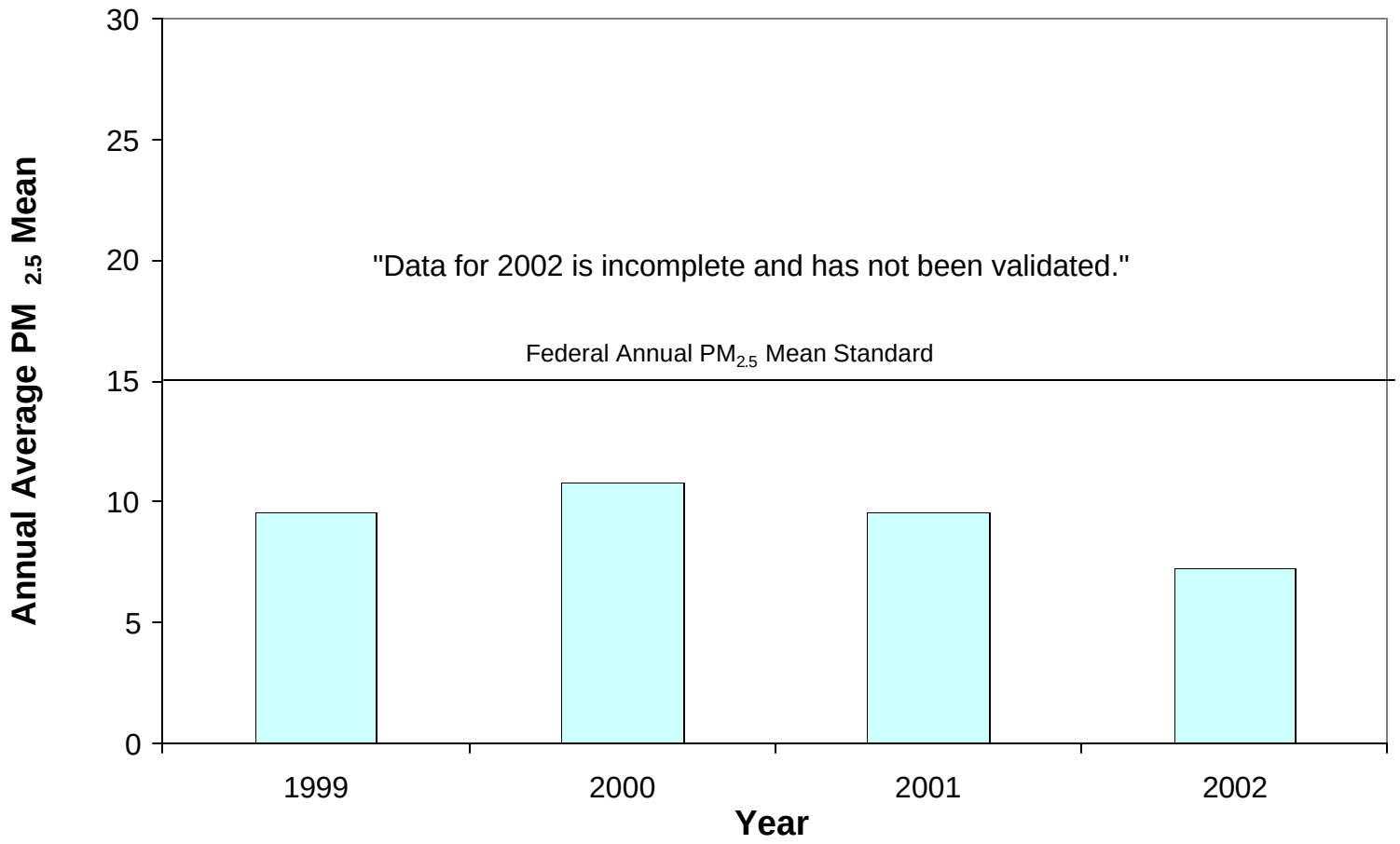


Note:

More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

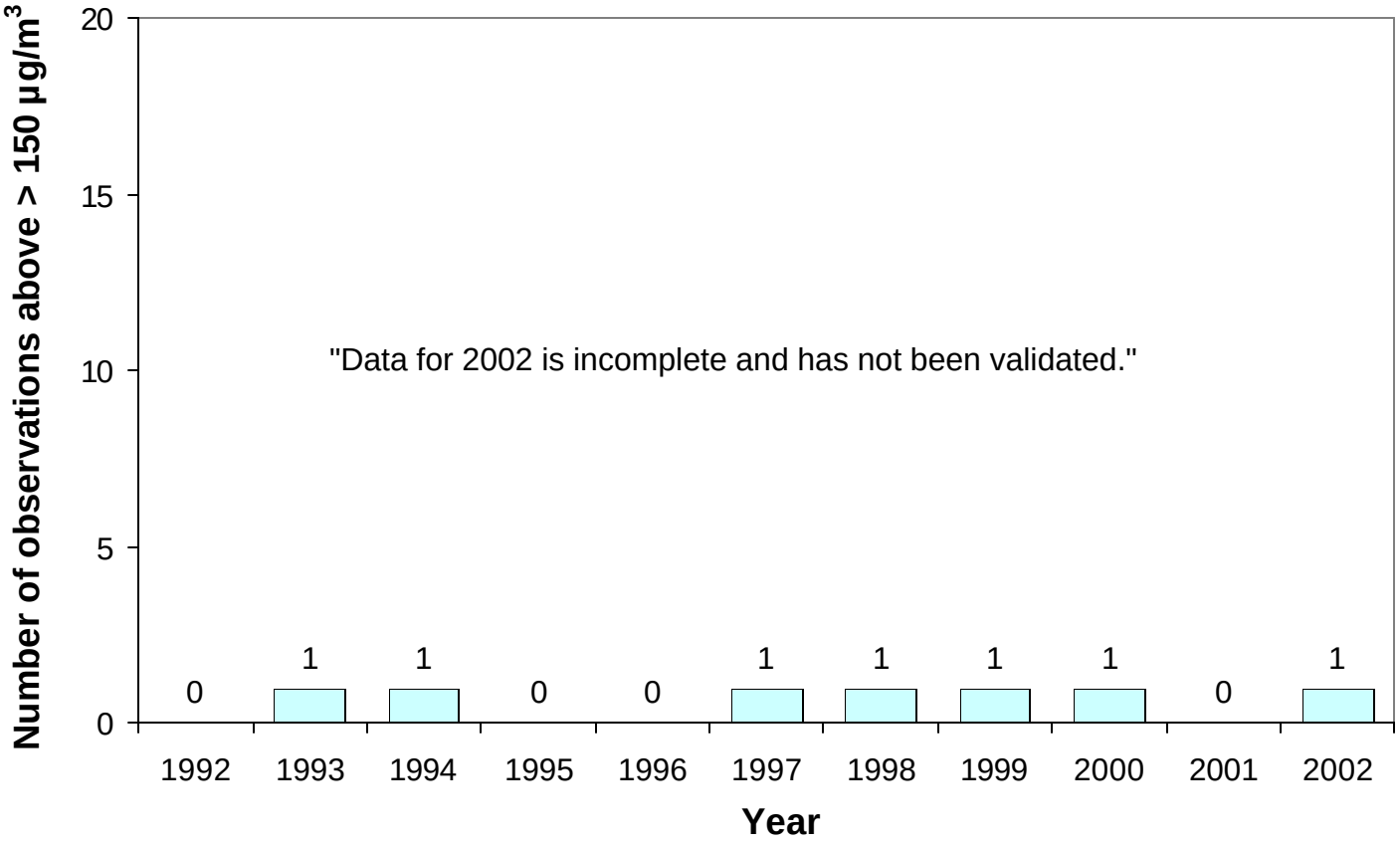


Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.



Note:
Annual Mean is calculated by averaging the quarterly averages.

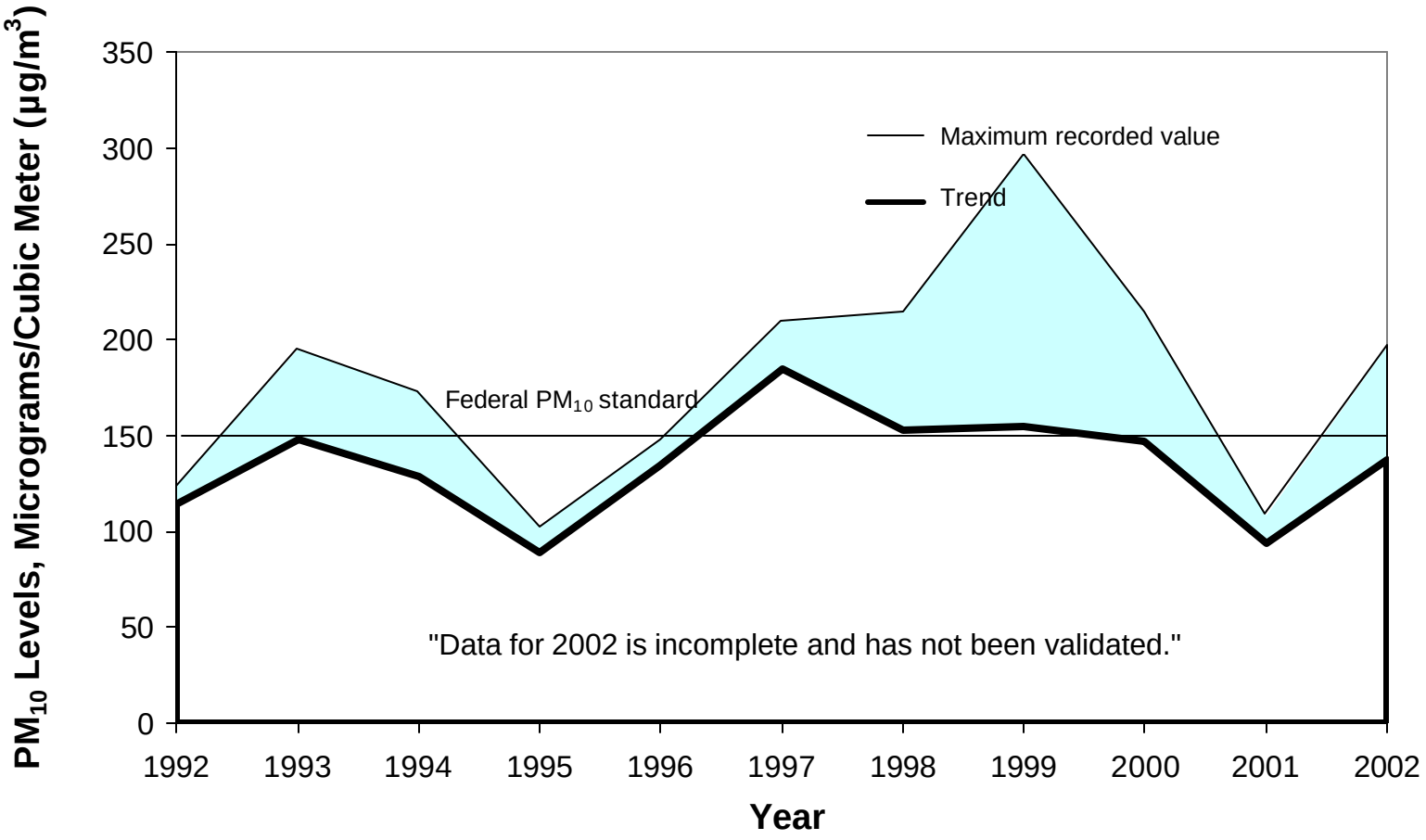
Wallula PM_{10}
1992 - 2002



Note:

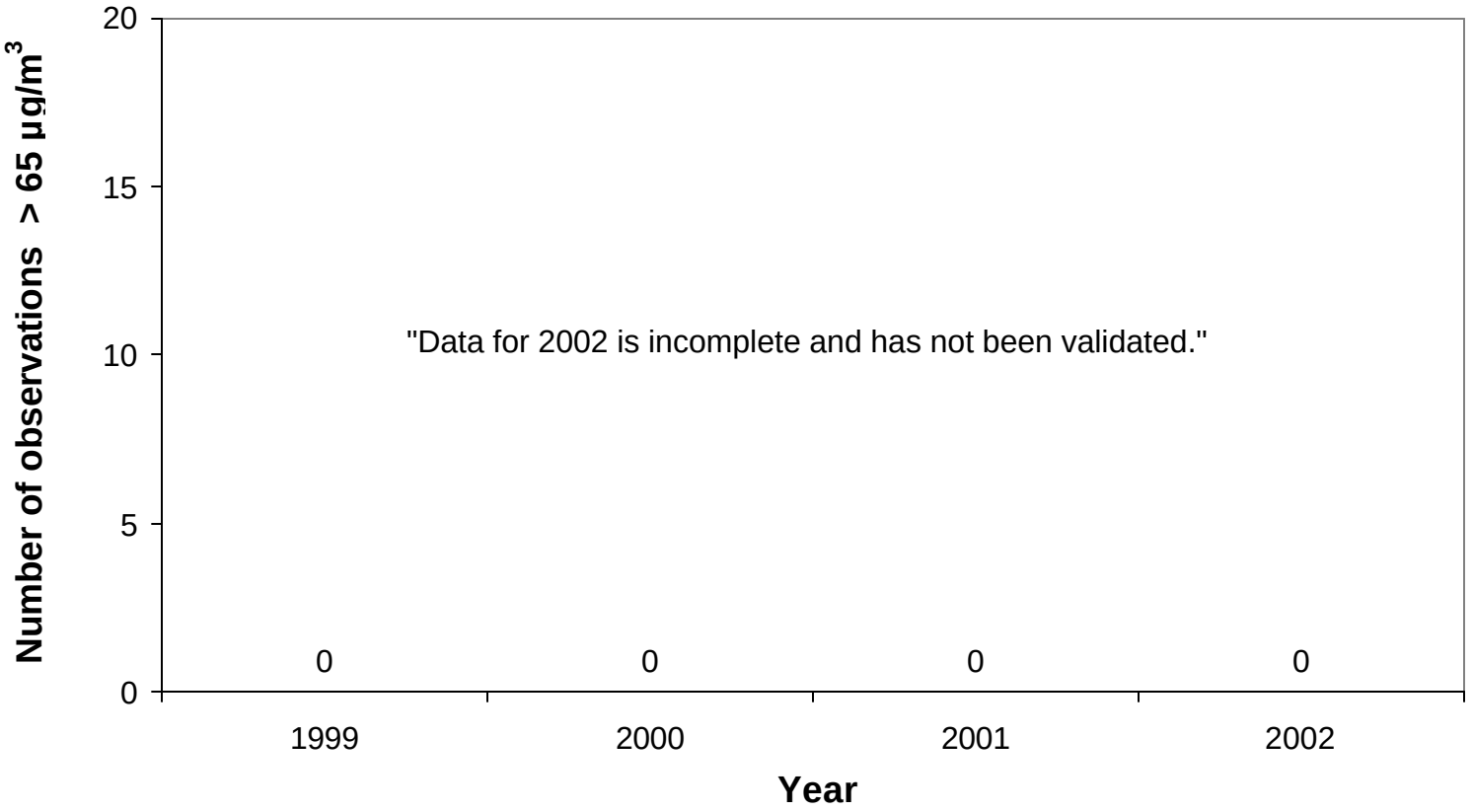
More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Wallula PM_{10} Trends
1992 - 2002



Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

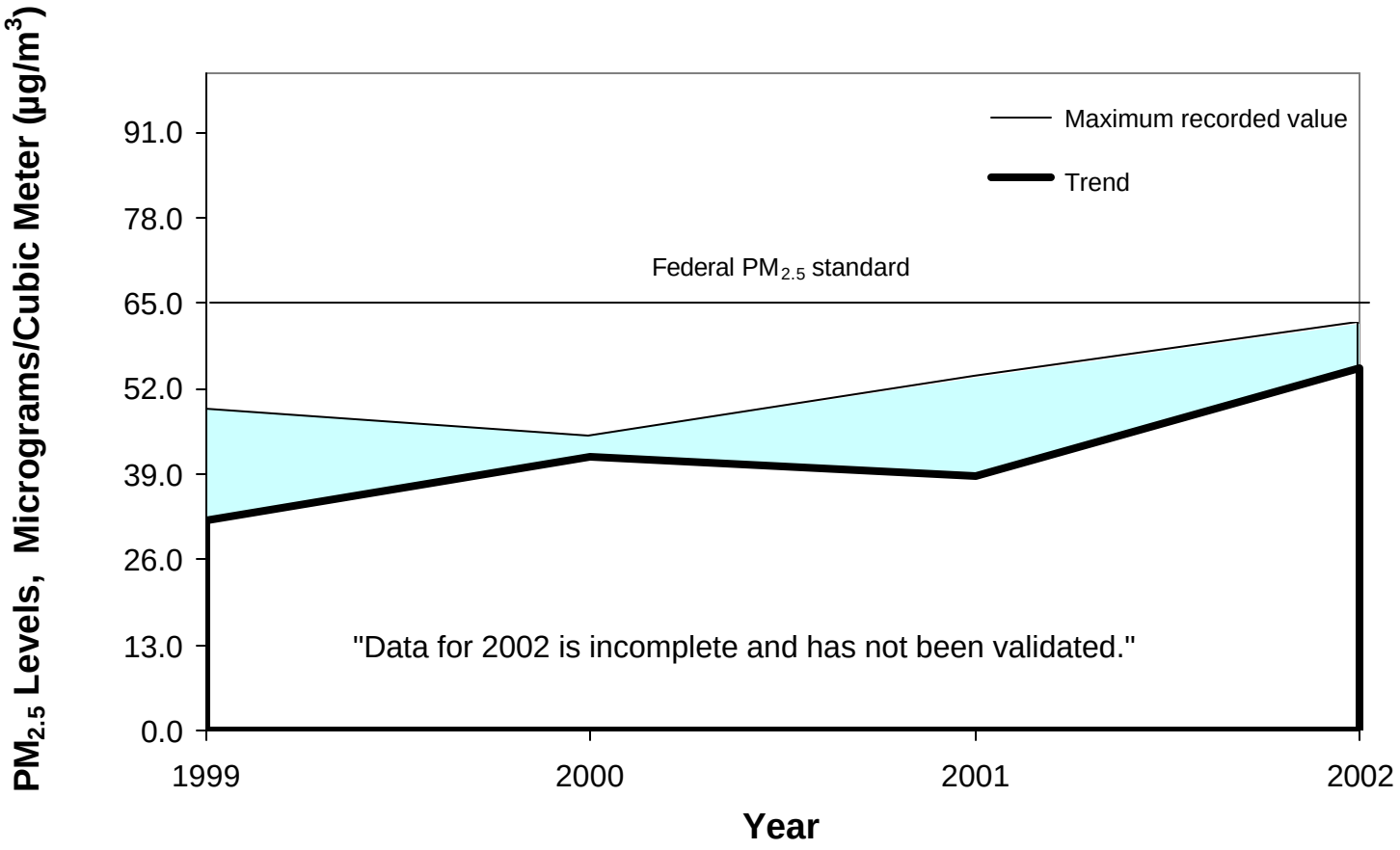
Yakima $PM_{2.5}$
1999 - 2002



Note:

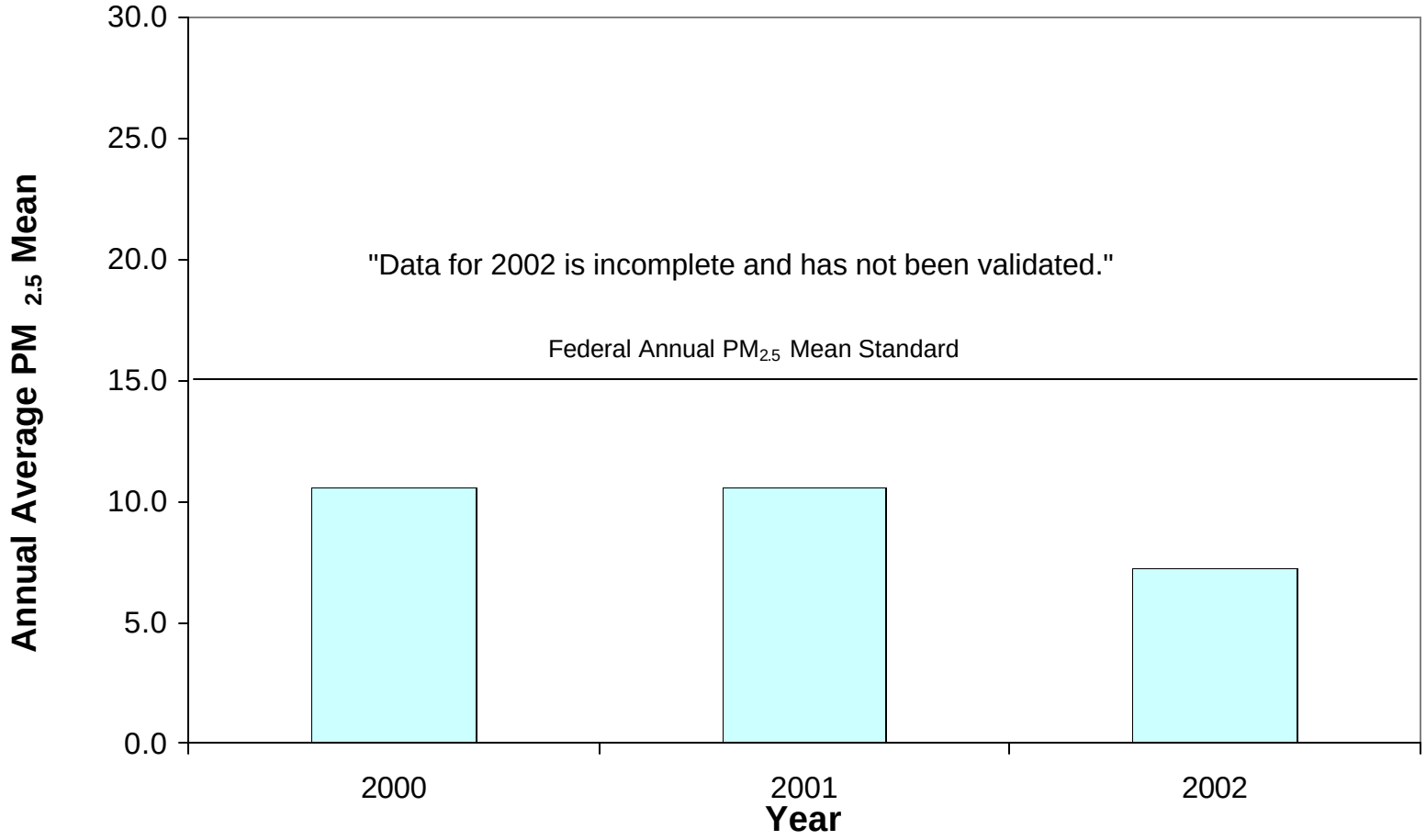
More than one observation above 65 µg/m^3 during a single year is a violation of the federal $PM_{2.5}$ standard.

Yakima $PM_{2.5}$ Trends
1999 - 2002



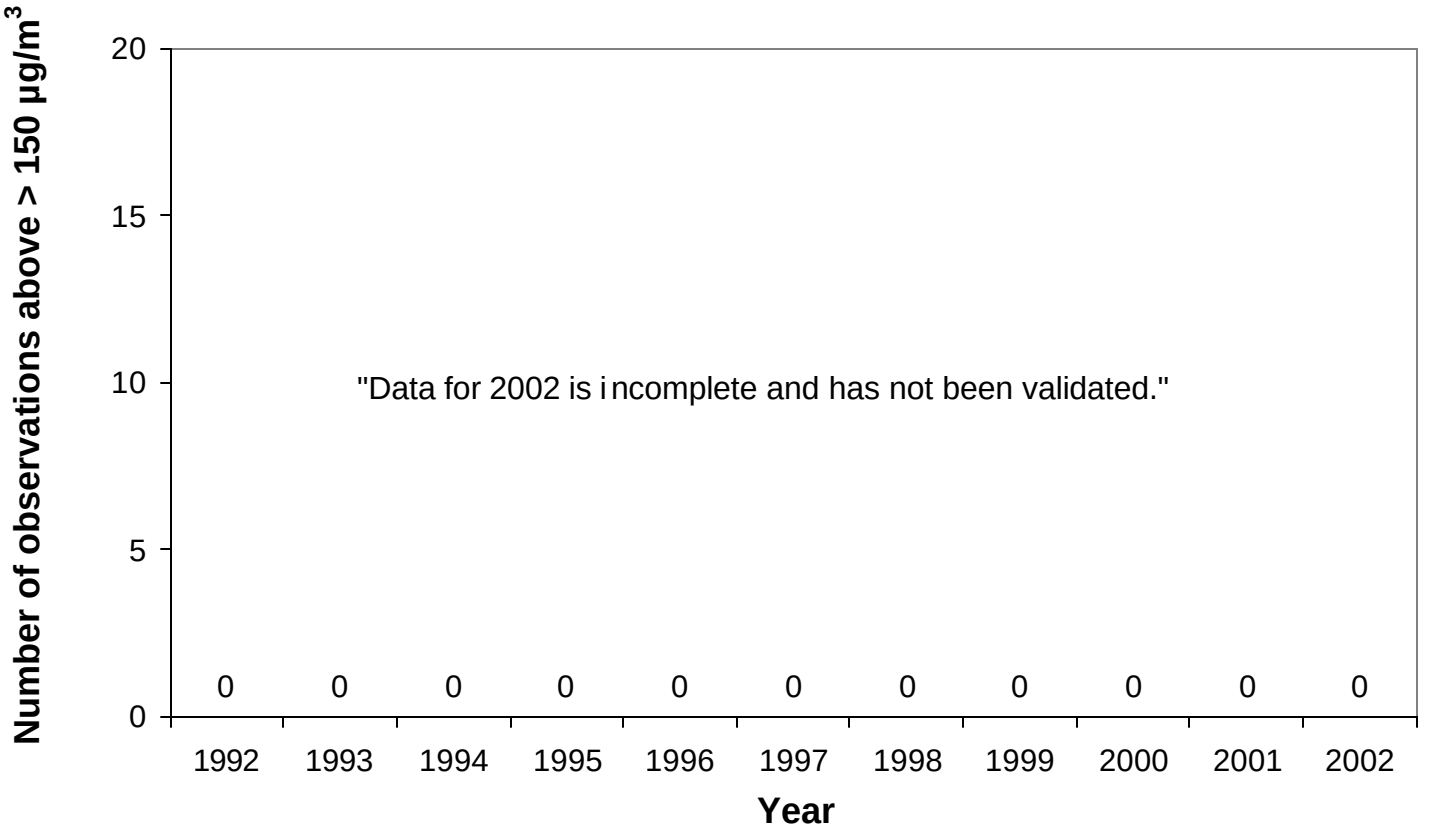
Note:
The trend line represents the average $PM_{2.5}$ values that fall within the upper five percent of the observations.

Yakima $PM_{2.5}$ Annual Mean
2000 - 2002



Note:
Annual Mean is calculated by averaging the quarterly averages.

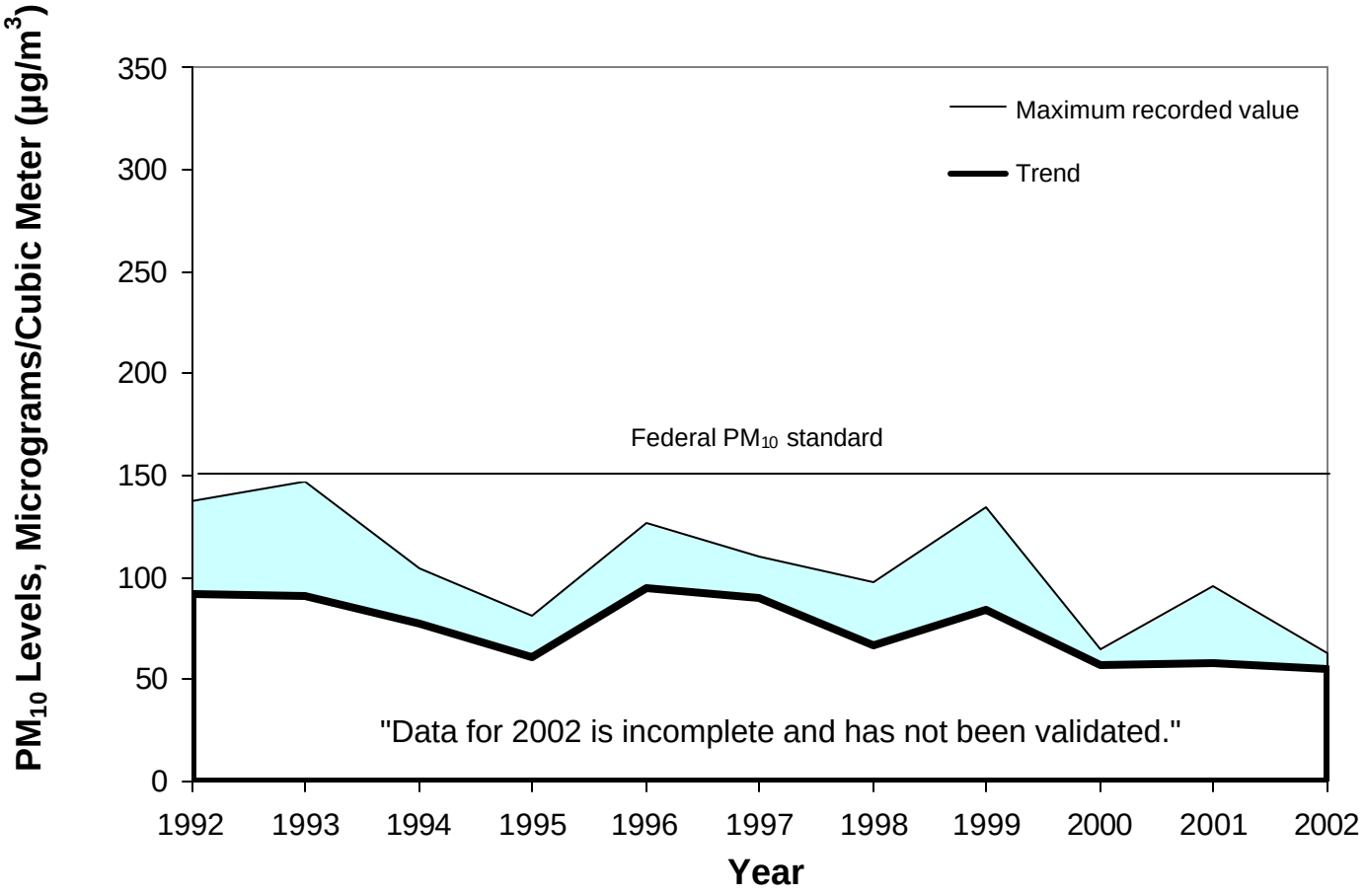
Yakima PM_{10}
1992 - 2002



Note:

More than one observation above 150 µg/m^3 during a single year is a violation of the federal PM_{10} standard.

Yakima PM_{10} Trends
1992 - 2002

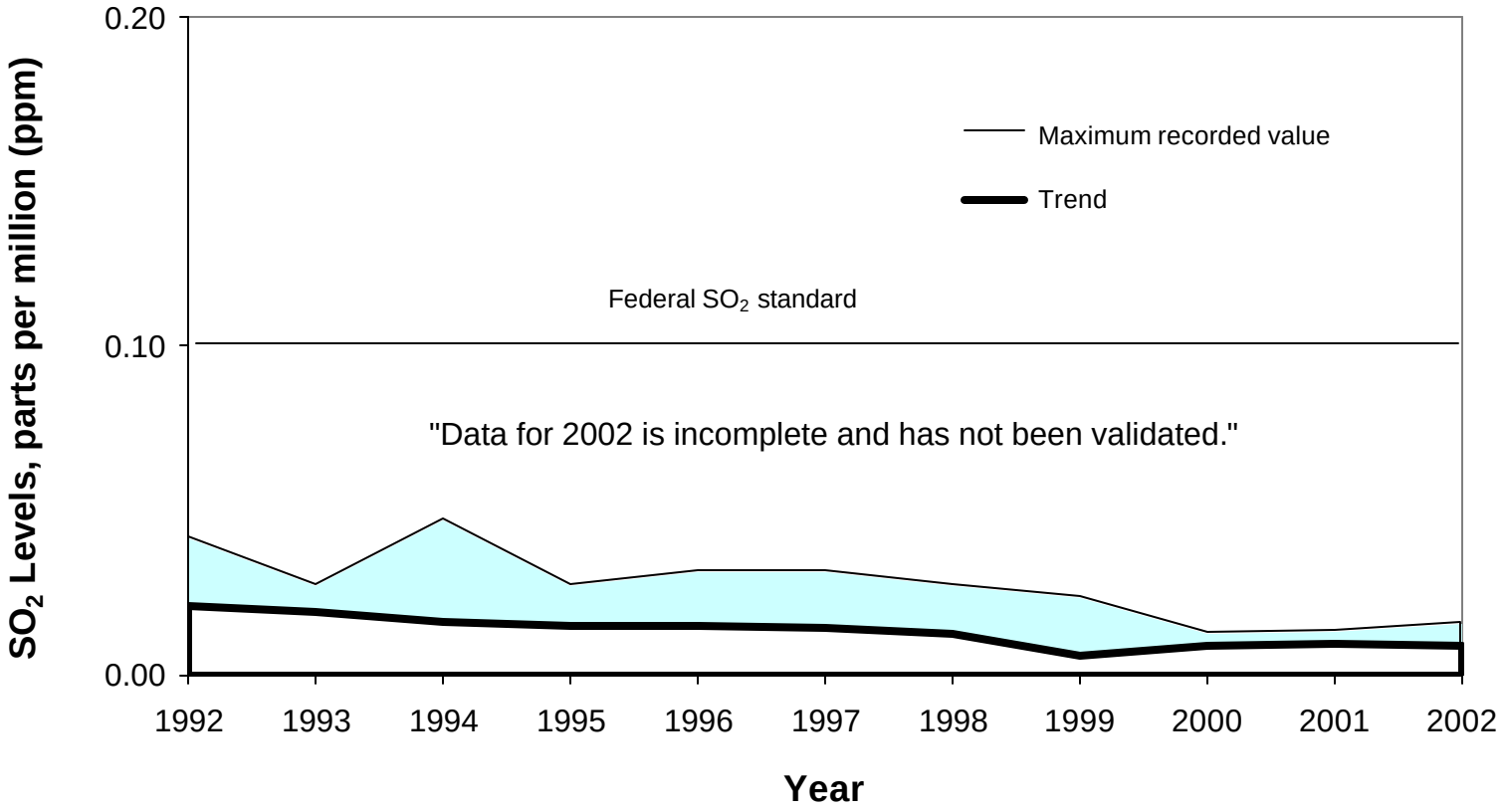


Note:
The trend line represents the average PM_{10} values that fall within the upper five percent of the observations.

Air Quality Trends:
Sulfur Dioxide

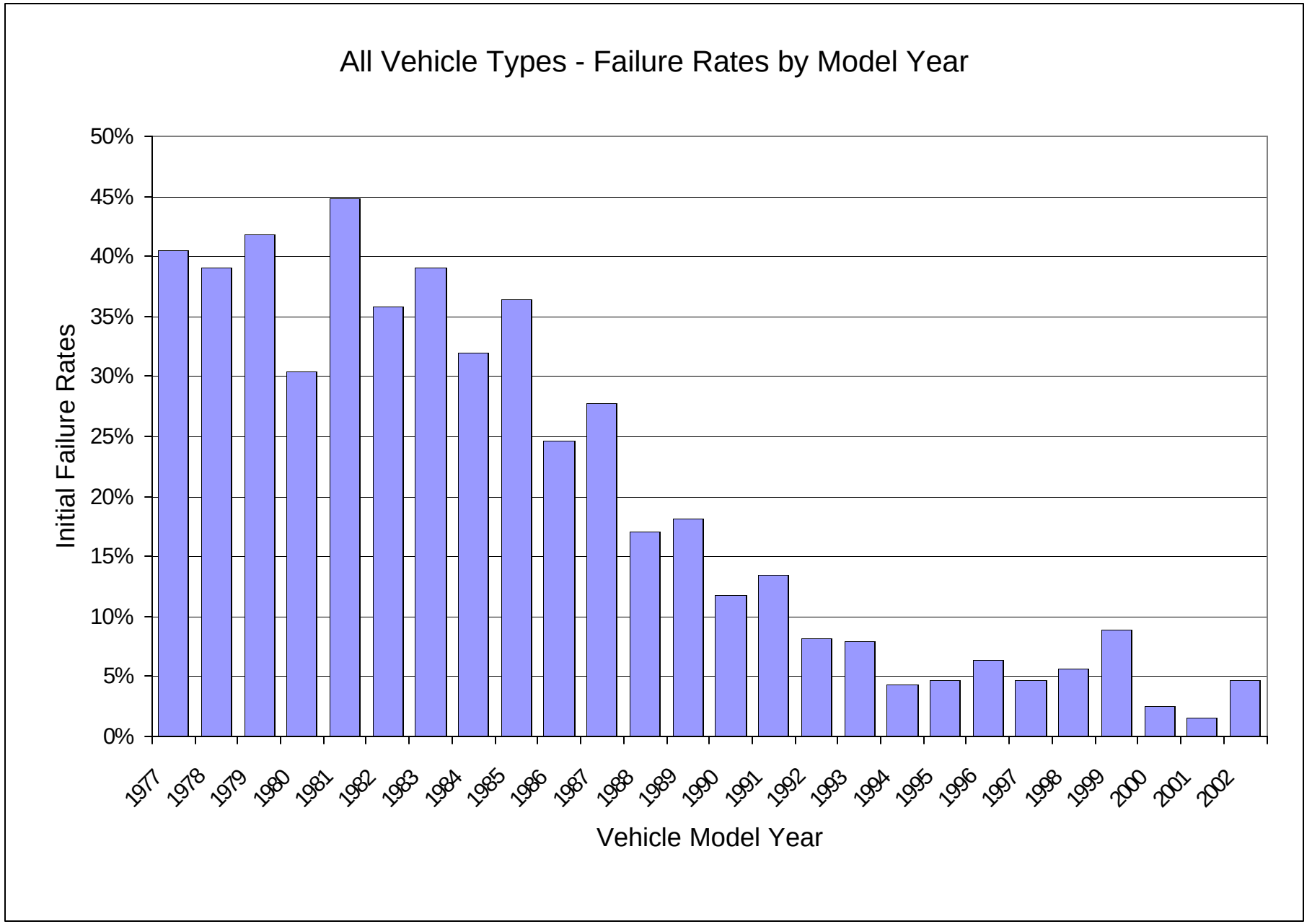
"Data for 2002 is incomplete and has not been validated."

Seattle/Tacoma Sulfur Dioxide Trends
1992 - 2002

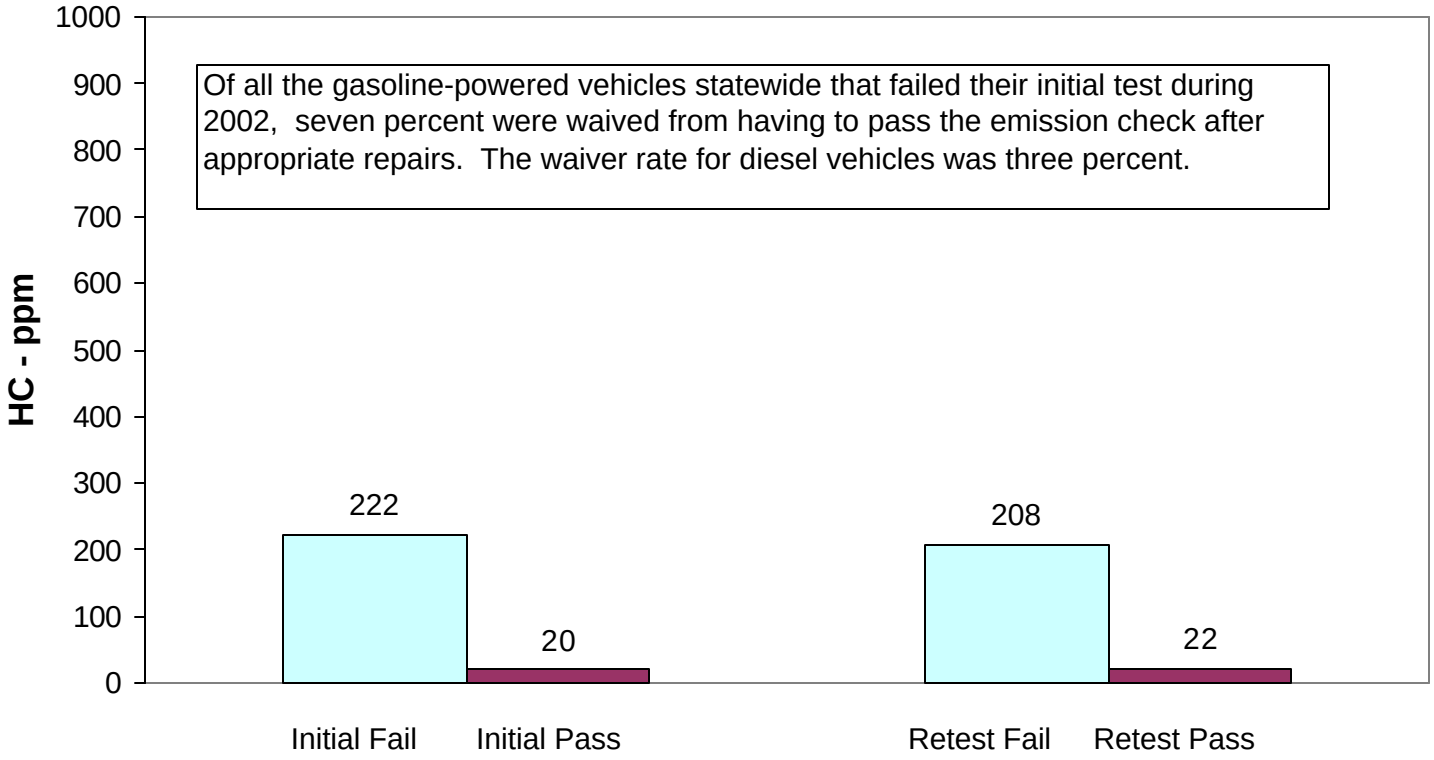


Note:
The trend line represents the average of the sulfur dioxide values that fall within the upper five percent of the observations.

Emission Check Program


All Vehicle Types - Failure Rates by Model Year
Initial Failure Rates
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
Vehicle Model Year

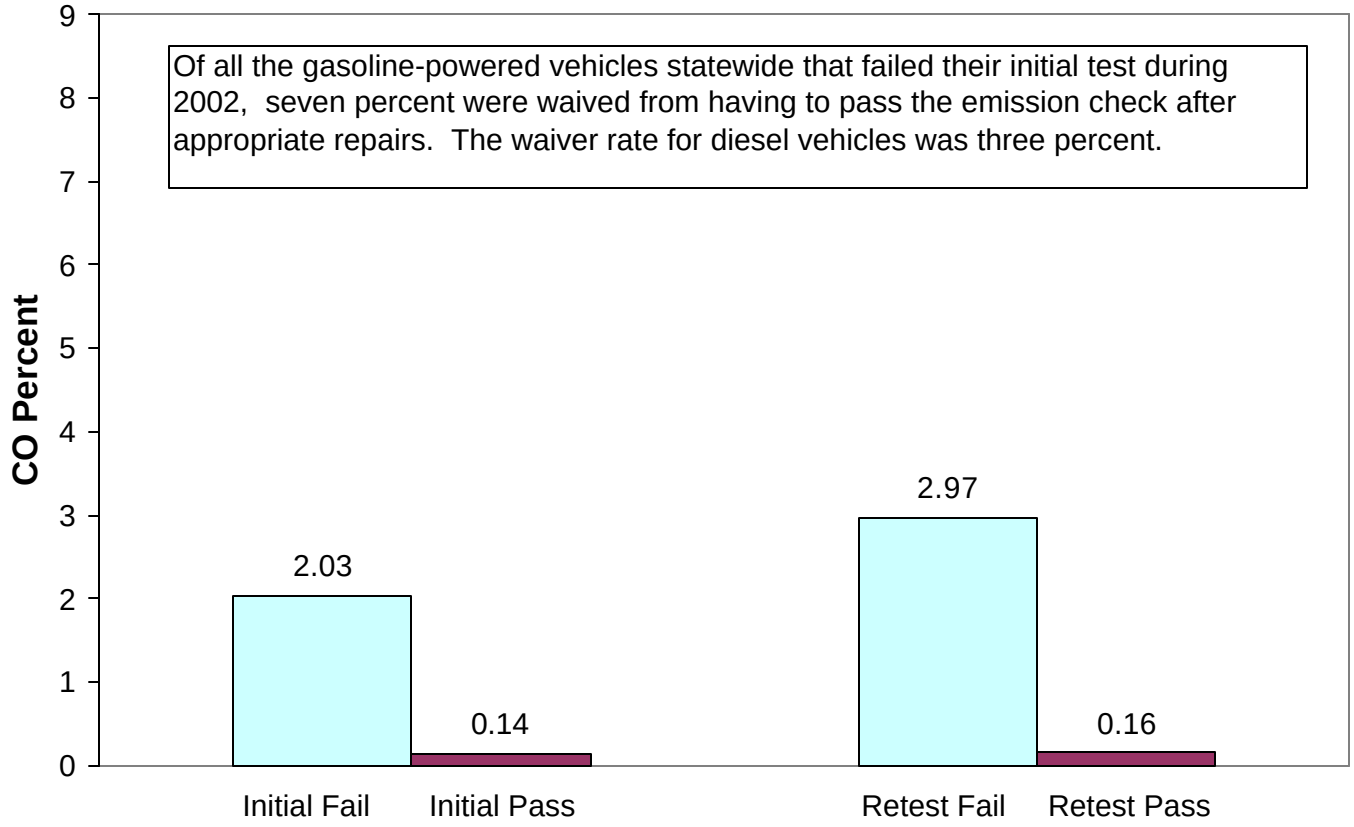
Emission Check Program
Gasoline Vehicle Emission Test Averages
Hydrocarbons at Cruise



Source: Department of Ecology

March 2003

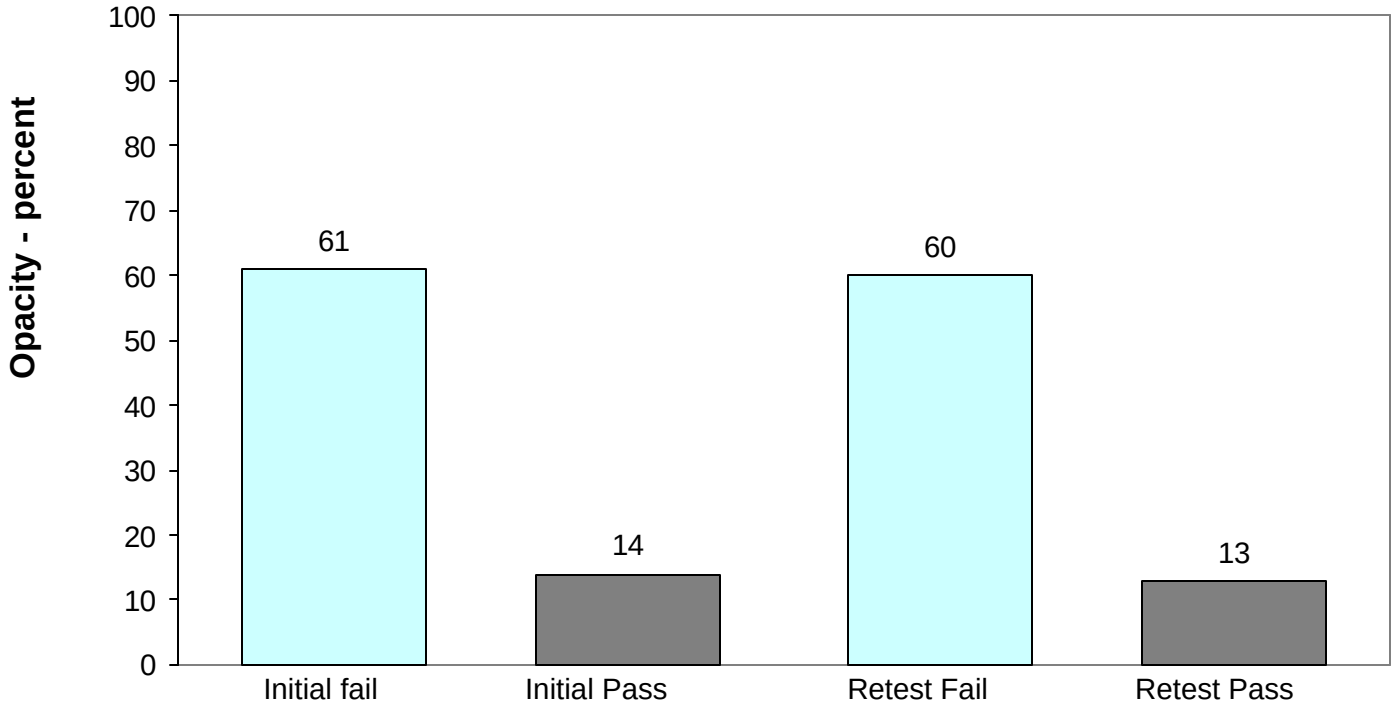
Emission Check Program
Gasoline Vehicle Emissions Test Averages
Carbon Monoxide at Cruise



Source: Department of Ecology

March 2003

Emission Check Program
Emission Test Averages for Diesel Vehicles
Peak Readings



Source: Department of Ecology

December 5, 2002