State of Oregon
Department of Environmental Quality

2024 Oregon Ambient Criteria Pollutant Air Monitoring Annual Report

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Document information

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Air Quality Monitoring

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Executive summary

In 2024 Oregon communities experienced poor air quality from wildfire smoke in central and southern Oregon, and the fire season impacts continued into September. Communities around Bend, Grants Pass, and Oakridge experienced the most severe impacts due to their proximity to the fires. More information on the fire impacts is available in the Oregon DEQ Wildfire Smoke Trends Report.

In Oregon, $PM_{2.5}$, ozone, and secondarily nitrogen dioxide are criteria pollutants of concern as they degrade ambient air quality most frequently. Because of this, Oregon DEQ and Lane Regional Air Protection Agency monitor $PM_{2.5}$ and ozone. DEQ also monitors carbon monoxide and sulfur dioxide in select locations, as these pollutants have minimal impact on air quality. Alls of them have trended downward, but PM2.5 and ozone sometimes exceed the national standards.

Air quality data is available through EPA's Air Quality Systems website, at DEQ's Air Quality Index website, or by request on DEQ's Public Records Requests website.

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Table 1. List of useful acronyms

Term	Meaning
AQI	Air Quality Index
BP	Barometric pressure
CAA	Clean Air Act
CO	Carbon monoxide
Comm	Community
DEQ	Department of Environmental Quality
DT	Differential temperature
EPA	Environmental Protection Agency
FEM	Federal Equivalent Method
FRM	Federal Reference Method
HAP	Hazardous air pollutant
LRAPA	Lane Regional Air Protection Agency
NAAQS	National Ambient Air Quality Standard
NO_2	Nitrogen dioxide
O_3	Ozone
PB	Lead
PM	Particulate matter
PM_{10}	Particulate matter less than 10 micrometers (or microns) in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micrometers (or microns) in diameter
$PM_{2.5}$ Estimate	Estimate of $PM_{2.5}$ from a light-scattering air monitoring method
$PM_{2.5}$ Spec	Speciation of $PM_{2.5}$, characterization of $PM_{2.5}$ chemical components
PPB	Parts per billion
PPM	Parts per million
RH	Relative humidity
SO_2	Sulfur dioxide
SR	Solar radiation
Temp	Temperature
USG	Unhealthy for sensitive groups
$\mu g/m^3$	Micrograms per cubic meter
VOC	Volatile organic compound
WF	Wildfire
WS/WD	Wind speed/wind direction

Background

Passed by Congress in 1970, the Clean Air Act established National Ambient Air Quality Standards (NAAQS) for six pollutants and required states to adopt enforceable plans to meet and maintain these standards. The six pollutants are collectively known as criteria pollutants and include carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter and sulfur dioxide. Later in 1976, the EPA created the Air Quality Index (AQI) to communicate air quality information to the public. It associates concentrations of each criteria pollutant in ambient air (outdoor air) to six categories of health risks.

The Oregon Department of Environmental Quality (DEQ) is responsible for implementing the CAA, maintaining compliance within the state. In Lane County, the Lane Regional Air Protection Agency (LRAPA) is the local air authority responsible for monitoring Lane County's air and administering programs that protect and improve air quality. DEQ serves as the primary quality assurance organization with oversight of LRAPA's activities. Since the inception of the CAA, DEQ and LRAPA have implemented air quality improvement programs, and have observed steady decreases in concentrations for all criteria pollutants in the ambient air. However, $PM_{2.5}$ and ozone remain as pollutants of primary concern.

Both $PM_{2.5}$ and PM_{10} are specific categories of particulate matter (PM) pollution. Particulate matter describes a mixture of solid particles and liquid droplets found in the air. PM_{10} includes all particulate matter less than 10 micrometers (or microns) in diameter; $PM_{2.5}$ includes all particulate matter less than 2.5 micrometers (or microns) in diameter. Particulate matter can be emitted directly from a source or produced as byproduct of chemical reactions with sulfur dioxide and nitrogen dioxide. Common particulate matter sources include wildfires, agriculture fields and construction sites. In Oregon, PM pollution frequently comes from large wildfires in the summer months and wood-burning stoves in the winter months.

Ozone is a chemical compound that has different impacts depending on its location in the atmosphere. In the upper layers of the atmosphere, ozone protects living organisms from ultraviolet radiation, but at ground level, ozone can negatively impact human health. Ground-level ozone is formed through a chemical reaction of nitrogen dioxide and volatile organic compounds under high temperatures and in the presence of sunlight. Elevated ground-level ozone concentrations are often observed during the summer months.

Concentrations of carbon monoxide, nitrogen dioxide and sulfur dioxide in the ambient air have significantly decreased but are still monitored in select locations as part of EPA programs. These chemical compounds typically come from burning fossil fuels through internal combustion engines in cars, trucks, off-road vehicles, construction equipment and machinery. Industrial facilities may also emit these compounds.

The presence of lead in the ambient air has decreased so much that EPA has waived the lead monitoring requirement for DEQ in 2003. Lead is a chemical that was primarily emitted from internal combustion engines burning fuel that contained lead. Removing it from fuel is the principal reason for the reduction of lead in the ambient air. Lead is also emitted from ore and metals processing plants, lead smelters and some industrial facilities.

Ambient Air Monitoring Network

Together, DEQ and LRAPA operate and maintain the Oregon ambient air monitoring network. The pollutants monitored at each site vary based on CAA requirements and agency resources.

In 2024, the ambient air monitoring network consisted of 74 sites. Nearly all sites monitor for $PM_{2.5}$, but only a handful of sites monitor for additional pollutants. Figure 1 shows a map of all the ambient air monitoring sites and Table 1 lists the number of sites for each criteria pollutant. More information about the ambient air monitoring network can be found in Appendix 1: Ambient Air Monitoring Network Data.

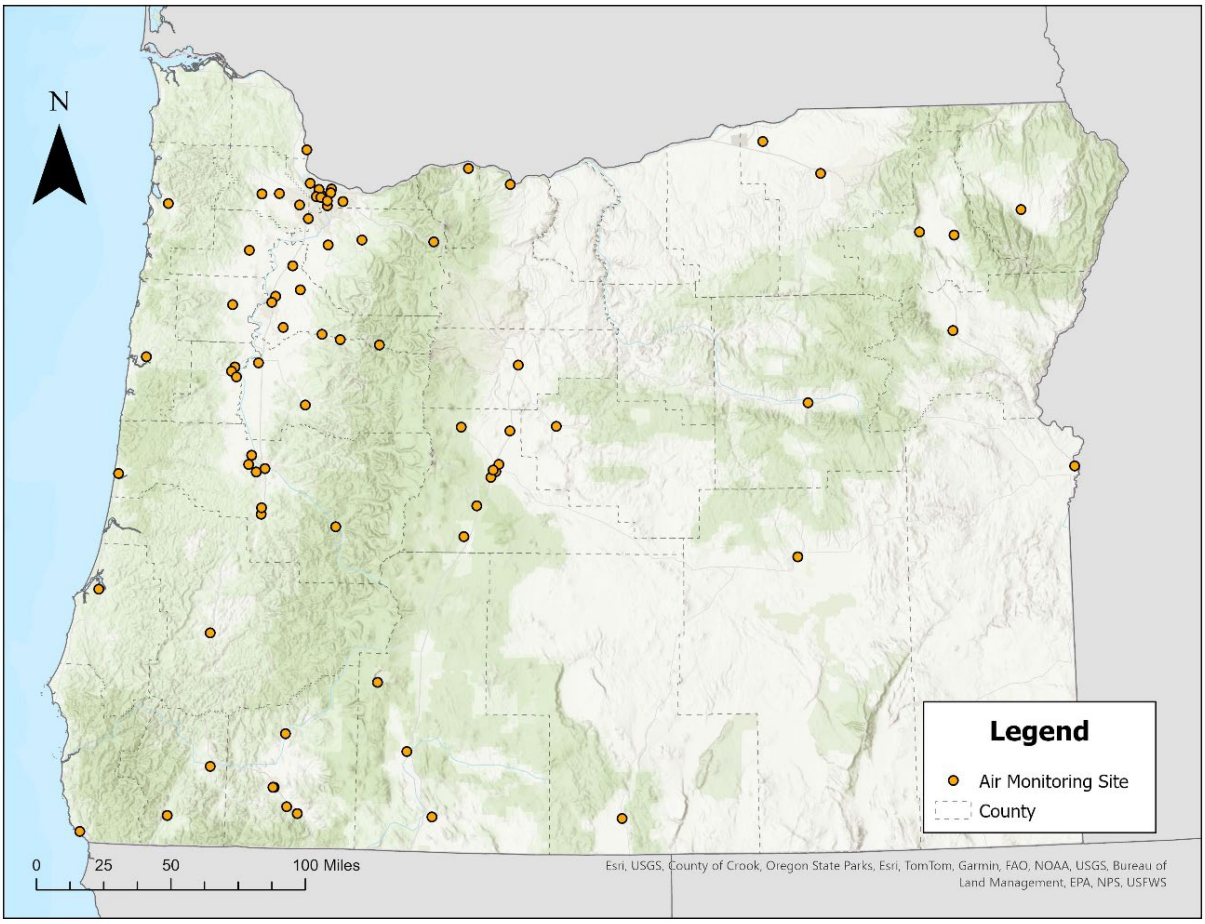

Figure 1: Ambient Air Monitoring in Oregon in 2024

Table 2: Number of Monitoring Sites by Pollutant

Pollutant	Number of Monitoring Sites	Pollutant	Number of Monitoring Sites
$PM_{2.5}$	74	Carbon Monoxide	2
PM_{10}	7	Nitrogen Dioxide	2
Ozone	12	Sulfur Dioxide	1

The monitoring network has two tiers of monitors: regulatory and informational. Regulatory monitors are known as federal reference method monitors or federal equivalent method monitors. These higher-grade instruments must be operated in accordance with federal guidelines and regulations. EPA accepts data from these monitors to make regulatory determinations about air quality; official data used to make these decisions must be measured by regulatory monitors.

Most of the $PM_{2.5}$ monitoring network uses informational monitors. DEQ and LRAPA will use data from these monitors (and regulatory monitors) to inform air quality management programs, issue advisories, and provide more data and information to the public. EPA will *not* use data from these monitors to make regulatory determinations. This data may inform future decisions to install regulatory monitors or perform other monitoring.

National Ambient Air Quality Standards

With the passage of the CAA, EPA established methodologies and thresholds to assess air quality quantitatively and uniformly. These methodologies and thresholds are collectively known as the National Ambient Air Quality Standards (NAAQS). Because of the unique characteristics and impacts of each criteria pollutant, each one has its own NAAQS. The NAAQS are reviewed periodically and revised as needed as more knowledge about pollutants and their public health impacts are obtained through scientific research. The NAAQS for 2024 are listed in Table 2.

Table 3: National Ambient Air Quality Standards

Pollutant	Averaging Time	Form	Primary Standard	Secondary Standard
Carbon Monoxide	1 hour	Not to be exceeded more than once per year, averaged over two years	35 ppm	N/A
Carbon Monoxide	8 hour	Not to be exceeded more than once per year, averaged over two years	9 ppm	N/A
Lead	3 months	Rolling three-month average	0.15 $\mu g/m^3$	0.15 $\mu g/m^3$
Nitrogen Dioxide	1 hour	Annual 98^{th} percentile of daily maximums of one-hour concentrations, averaged over three years	100 ppb	N/A
Nitrogen Dioxide	1 year	Annual mean of one-hour concentrations	53 ppb	53 ppb
Ozone	8 hours	Annual fourth-highest daily maximum eight-hour concentration, averaged over three years	0.070 ppm	0.070 ppm
$PM_{2.5}$	24 hours	Annual 98^{th} percentile of daily concentrations, averaged over three years	35 $\mu g/m^3$	35 $\mu g/m^3$
$PM_{2.5}$	1 year	Annual mean of quarterly means, averaged over three years	9.0 $\mu g/m^3$	15.0 $\mu g/m^3$
PM_{10}	24 hours	Not to be exceeded more than once per year, averaged over three years	150 $\mu g/m^3$	150 $\mu g/m^3$
Sulfur Dioxide	1 hour	Annual 99^{th} percentile of daily maximums of one-hour concentrations, averaged over three years	75 ppb	N/A
Sulfur Dioxide	3 hours	Not to be exceeded more than once per year	N/A	0.5 ppm

In the NAAQS averaging time listed in Table 2. Air quality monitors can report pollutant concentration values over many different time domains, so the average time sets a uniform time to evaluate the data. For example, the daily $PM_{2.5}$ averaging time is 24 hours but many $PM_{2.5}$ monitors can report $PM_{2.5}$ concentrations every hour. Every reported value within the averaging time of 24 hours must be averaged together to obtain one value.

The NAAQS form lists how to evaluate an average pollutant concentration value. With $PM_{2.5}$, several steps must be performed. First, one must find the daily average for each day of one year. Next, one must find the reported value for which 98% of the daily data will be less than that value. These two steps also must be performed for two previous years. Lastly, the 98^{th} percentiles for the three years are averaged. The resulting value from the calculation specified in the form is known as a design value. In this case, it is called the 24-hour or daily $PM_{2.5}$ design value.

The NAAQS level lists the maximum design value for compliance with the CAA. With $PM_{2.5}$, if the 24-hour design value of a monitoring area is less than or equal to 35 $\mu g/m^3$, it is compliant with the CAA. However, if the design value is greater than 35 $\mu g/m^3$, the monitoring area will be out of compliance. Many NAAQS also have a primary and secondary level. The goal of the primary levels is to protect public health, and the goal of the secondary levels is to protect the public welfare, e.g. protection against crop damage and decreased visibility. This report only considers the primary levels as they are more stringent.

In early 2024, EPA revised the primary $PM_{2.5}$ annual standard from 12.0 $\mu g/m^3$ to 9.0 $\mu g/m^3$ and the AQI breakpoints. More information about the NAAQS can be found on EPA's NAAQS website.

2024 NAAQS Design Values

A design value is a metric used to assess air quality and determine whether a monitoring area is meeting a NAAQS. It is calculated by evaluating pollutant concentrations according to the averaging time and form specified in the NAAQS table. If the design value of a particular pollutant is less than or equal to its respective NAAQS level, the monitoring area meets or attains the NAAQS. If it is greater than the NAAQS level, it does not meet or does not attain that NAAQS.

While DEQ is presenting design value data in this report, only EPA can make regulatory determinations about whether a monitoring area is meeting a NAAQS. The design value data presented below is only for informational purposes and does not constitute a regulatory determination by EPA. Any such determinations must go through EPA's rule-making process, which allows for public notice and comment.

Below are tables listing the design values for monitoring areas by pollutant for 2024. Historical data from individual regulatory monitors are listed in Appendix 2: NAAQS Historical Data by pollutant and by monitoring area. More information about design values can be found on EPA's design values website.

$PM_{2.5}$

The daily $PM_{2.5}$ design value standard is an annual 98th percentile of daily averaged $PM_{2.5}$ concentrations, averaged over three years, and set to a level of 35 µg/m^3. The annual $PM_{2.5}$ design value standard is an annual average of quarterly averages of daily average $PM_{2.5}$ concentrations, averaged over three years, and set to a level of 9.0 µg/m^3.

$PM_{2.5}$ design values are presented in two categories: 1) values from regulatory monitors, and 2) values from informational monitors. EPA only uses design value data from regulatory monitors to make regulatory determinations about air quality. DEQ and LRAPA use design value data from regulatory and informational monitors to inform air quality management programs, issue advisories and provide more data and information to the public.

Additionally, because wildfire smoke can significantly impact ambient $PM_{2.5}$ concentrations, design values are calculated with and without data impacted by wildfire (WF) smoke. To be classified as wildfire data, data must be recorded during wildfire season (generally July 1 to mid October) and have a daily average $PM_{2.5}$ concentration greater than 25 µg/m^3. By removing data impacted by wildfire, design values show the significant impacts of wildfire smoke, reflect a value more representative of the design value time period and reveal the impact of local air quality improvement programs. The EPA may formally exclude data impacted by wildfire from design value calculations by designating wildfires as exceptional events. More information about exceptional events can be found on EPA's Exceptional Events website

Tables 3 shows the current design values for the daily standard and Table 4 shows the current design values for the annual standard.

Table 4: 2022-2024 Daily $PM_{2.5}$ Design Values

Monitoring Area	Including Wildfire Smoke Impacted Data	Excluding Wildfire Smoke Impacted Data	% of Std with no WF smoke	Regulatory Monitor
Burns	55	26	73%	Yes
Cottage Grove	29	20	56%	Yes
Eugene Metro	28	28	79%	Yes
Grants Pass	36	22	62%	Yes
Klamath Falls	34	26	73%	Yes
Lakeview	31	28	79%	Yes
Medford	45	23	65%	Yes
Oakridge	111	24	68%	Yes
Portland Metro	24	19	54%	Yes
Prineville	35	20	56%	Yes
Salem Metro	24	24	68%	Yes
Albany	20	20	56%	No
Ashland	45	17	48%	No
Baker City	26	19	54%	No
Bend	49	21	59%	No
Cave Junction	73	24	68%	No
Corvallis	14	14	39%	No
Enterprise	26	19	54%	No
John Day	47	25	70%	No
La Grande	22	22	62%	No
Pendleton	21	21	59%	No
Roseburg	32	20	56%	No
Sisters	58	20	56%	No
Sweet Home	19	19	54%	No
The Dalles	21	21	59%	No

Table 5: 2022-2024 Annual $PM_{2.5}$ Design Values

Monitoring Area	Including Wildfire Smoke Impacted Data	Excluding Wildfire Smoke Impacted Data	% of Std with no WF smoke	Regulatory Monitor
Burns	11.4	8.7	97%	Yes
Cottage Grove	7.1	6.4	71%	Yes
Eugene Metro	7.7	7.7	86%	Yes
Grants Pass	9.0	6.7	74%	Yes
Klamath Falls	8.7	7.4	82%	Yes
Lakeview	7.5	6.8	76%	Yes
Medford	10.0	8.8	98%	Yes
Oakridge	13.9	7.1	79%	Yes
Portland Metro	6.2	6.0	67%	Yes
Prineville	7.3	6.0	67%	Yes
Salem Metro	6.5	6.5	72%	Yes
Albany	5.5	5.5	61%	No
Ashland	7.0	4.9	54%	No
Baker City	7.2	6.5	72%	No
Bend	9.4	5.9	66%	No
Cave Junction	11.5	8.0	89%	No
Corvallis	4.4	4.4	49%	No
Enterprise	6.5	5.9	66%	No
John Day	11.0	9.3	103%	No
La Grande	6.3	6.3	70%	No
Pendleton	6.2	6.2	69%	No
Roseburg	9.7	7.8	87%	No
Sisters	7.8	5.2	58%	No
Sweet Home	5.9	5.9	66%	No
The Dalles	5.9	5.9	66%	No

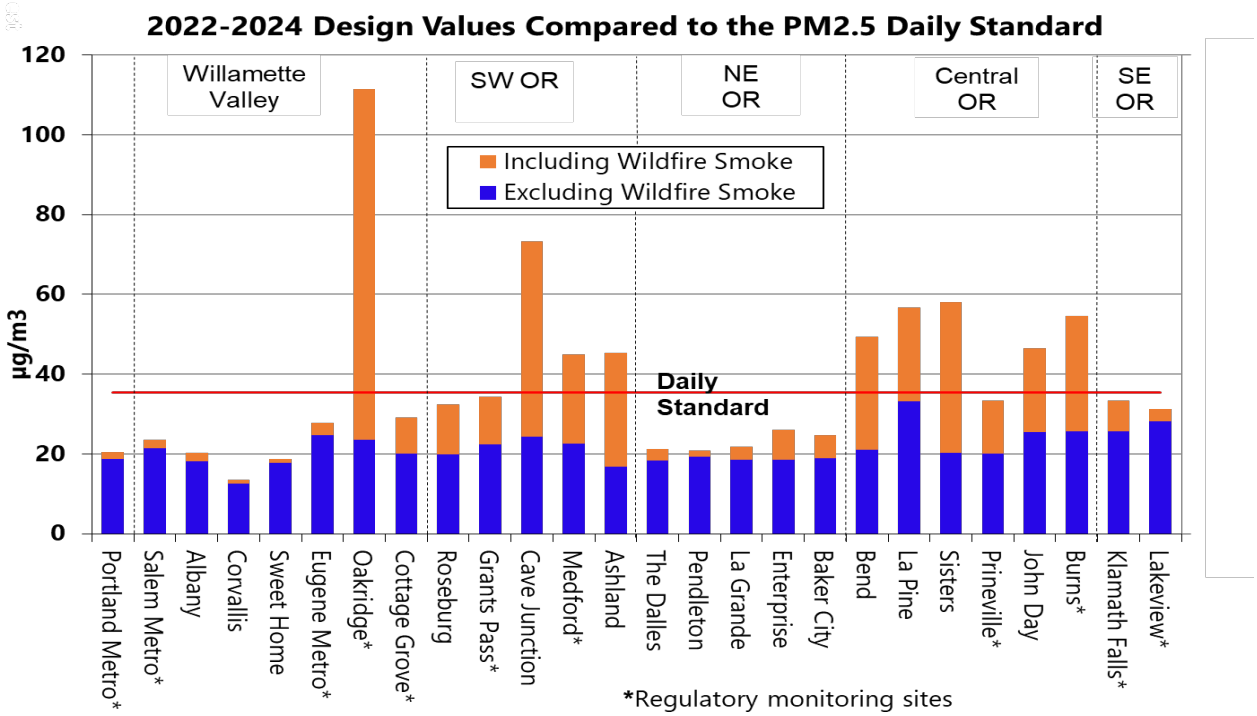

Figure 2: 2022-2024 Three-Year Average of $PM_{2.5}$ 98th Percentiles

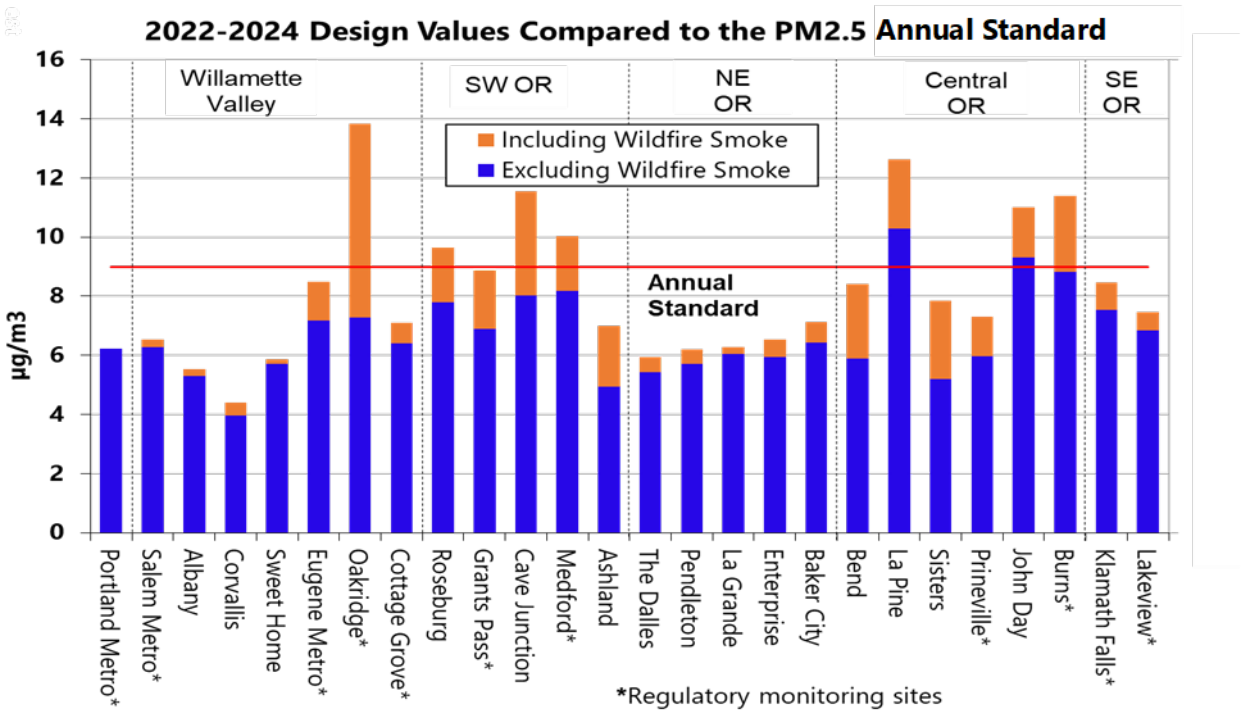

Figure 3: 2022-2024 Three-Year Averages of $PM_{2.5}$ Annual Averages

PM_{10}

The PM_{10} design value standard is an estimate of the number of daily averaged PM_{10} concentrations greater than 150 µg/m^3, averaged over three years, and set to a level of 1 exceedance. In other words, a monitoring area is allowed one day on average over three years, in which the daily concentration is greater than 150 µg/m^3 and remain compliant with the CAA.

Table 6: 2022-2024 PM_{10} NAAQS Design Values

Monitoring Area	Three-Year Average of Estimated Exceedances
Eugene Metro	0
Grants Pass	1.7*
Klamath Falls	0
La Grande	0
Lakeview	0
Medford	0
Oakridge	6.7*
Portland Metro	0

*Exceedances were caused exclusively by wildfire Smoke Impacts

Ozone

The ozone design value standard is an annual fourth-highest daily maximum of averaged eight-hour ozone concentrations, averaged over three years, and set to a level of 0.070 ppm.

Table 7: 2022-2024 Ozone NAAQS Design Values

Monitoring Area	Three-Year Average of Fourth-Highest Daily Maximums (ppm)	Percent of 0.070 ppm Standard
Eugene Metro	0.060	86%
Hermiston	0.064	91%
Medford	0.063	90%
Portland Metro	0.069	99%
Salem Metro	0.067	96%

Carbon Monoxide

The one-hour carbon monoxide design value standard is an annual second-highest maximum one-hour carbon monoxide concentration, with the maximum value selected over two years, and set to a level of 35 ppm. The eight-hour carbon monoxide design value standard is an annual second-highest maximum non-overlapping eight-hour averaged carbon monoxide concentration, with the maximum value selected over two years, and set to a level of 9 ppm.

Table 8: 2022-2024 Carbon Monoxide NAAQS Design Values

Monitoring Area	Two-Year Maximum of Second-Highest One-Hour Concentrations (ppm)	Two-Year Maximum of Second-Highest Averages (ppm)
Portland Metro	4.1	1.3

Nitrogen Dioxide

The daily nitrogen dioxide design value standard is an annual 98th percentile of daily maximums of one-hour nitrogen dioxide concentrations, averaged over three years, and set to a level of 100 ppb, and set to a level of 53 ppb.

Table 9: 2022-2024 Nitrogen Dioxide NAAQS Design Values

Monitoring Area	Three-Year Average of 98th Percentiles (ppb)	% of 100 (ppb) Std	Annual Average, (ppb)	% of 53 (ppb) Std
Portland Metro	32	32%	8.9	17%

Sulfur Dioxide

The sulfur dioxide design value standard is an annual 99th percentile of daily maximums of one-hour sulfur dioxide concentrations, averaged over three years, and set to a level of 75 ppb.

Table 10: 2022-2024 Sulfur Dioxide NAAQS Design Value

Monitoring Area	Three-Year Average of 99th Percentiles, ppb	% of 75 (ppb) Std
Portland Metro	3	4%

Air Quality Trends

Air quality trend graphs are used to show the impact of air quality management programs over time. The trend data plotted is the NAAQS averaging time and form of a pollutant for each year.

$PM_{2.5}$

$PM_{2.5}$ has generally trended below the daily and annual $PM_{2.5}$ NAAQS, but smoke from large wildfires will often cause a monitoring area to exceed them. The figures below show annual 98th percentile of daily average $PM_{2.5}$ concentrations and annual averages of quarterly averages of daily averages of $PM_{2.5}$ concentrations. The 98th percentile and annual averages are also plotted with and without data impacted by wildfire smoke.

Portland Metro Area

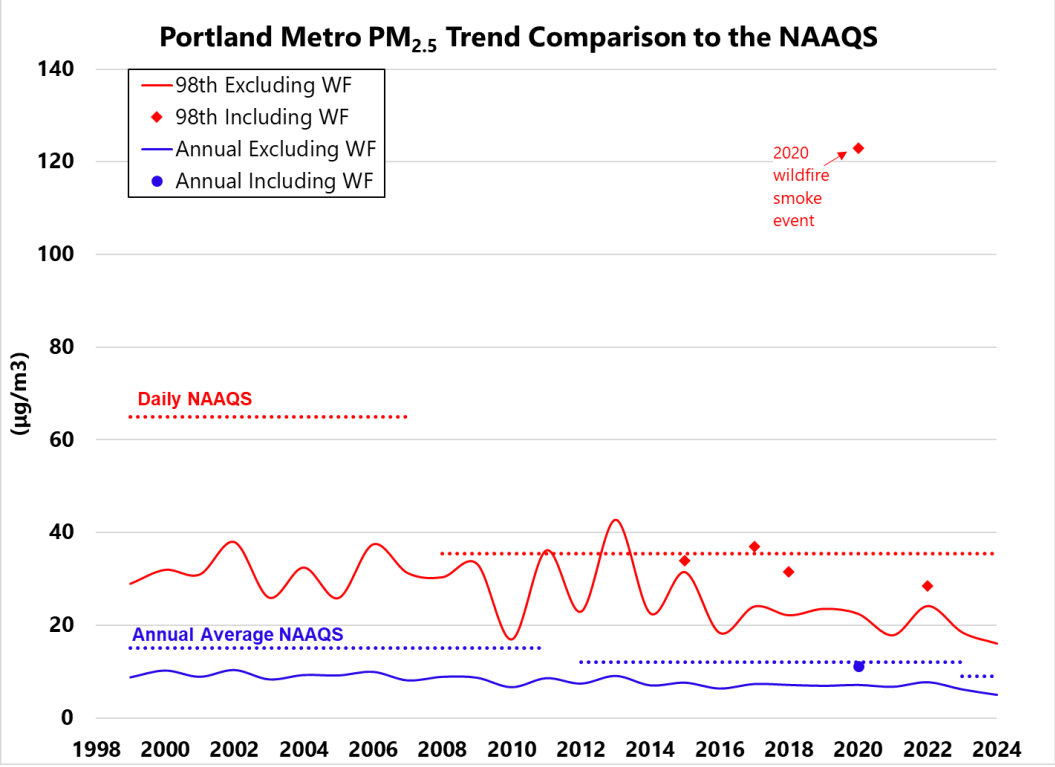

Figure 4: Portland Metro Area $PM_{2.5}$ Trends

Willamette Valley

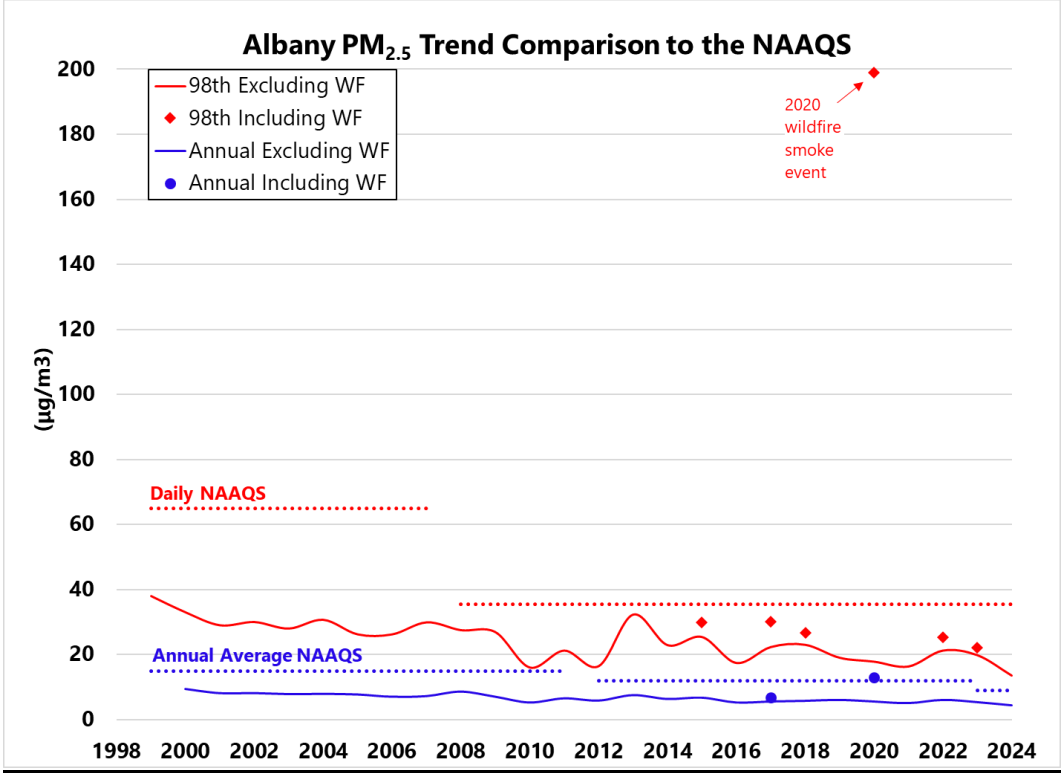

Figure 5: Albany $PM_{2.5}$ Trends

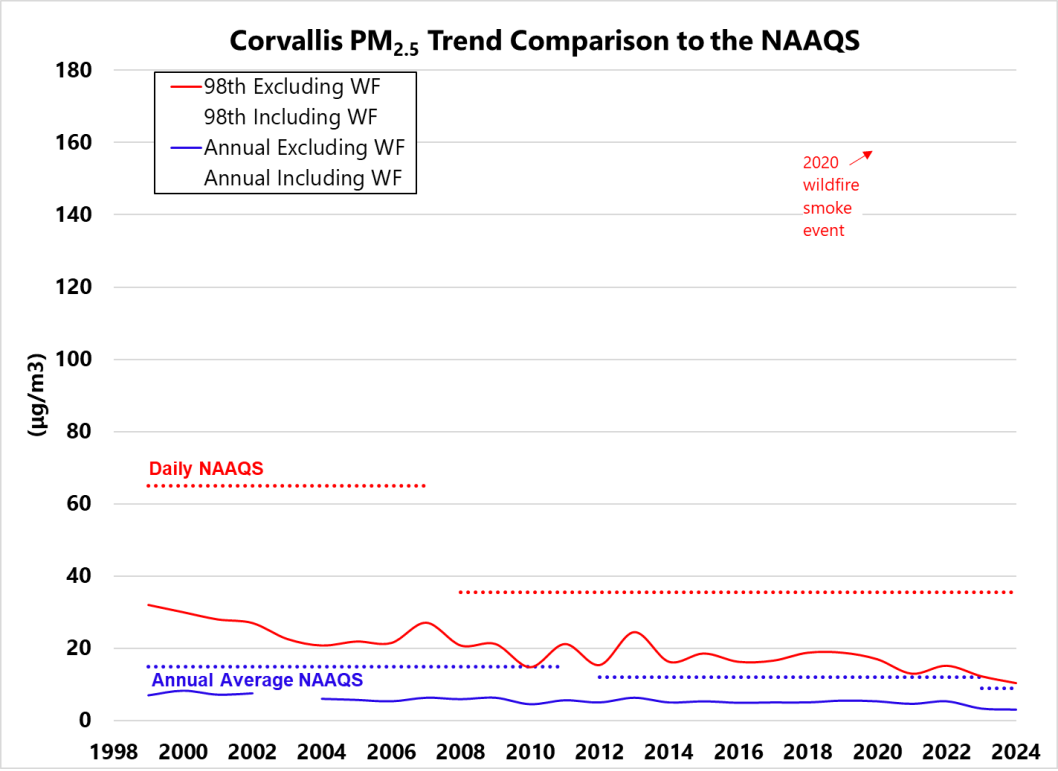

Figure 6: Corvallis $PM_{2.5}$ Trends

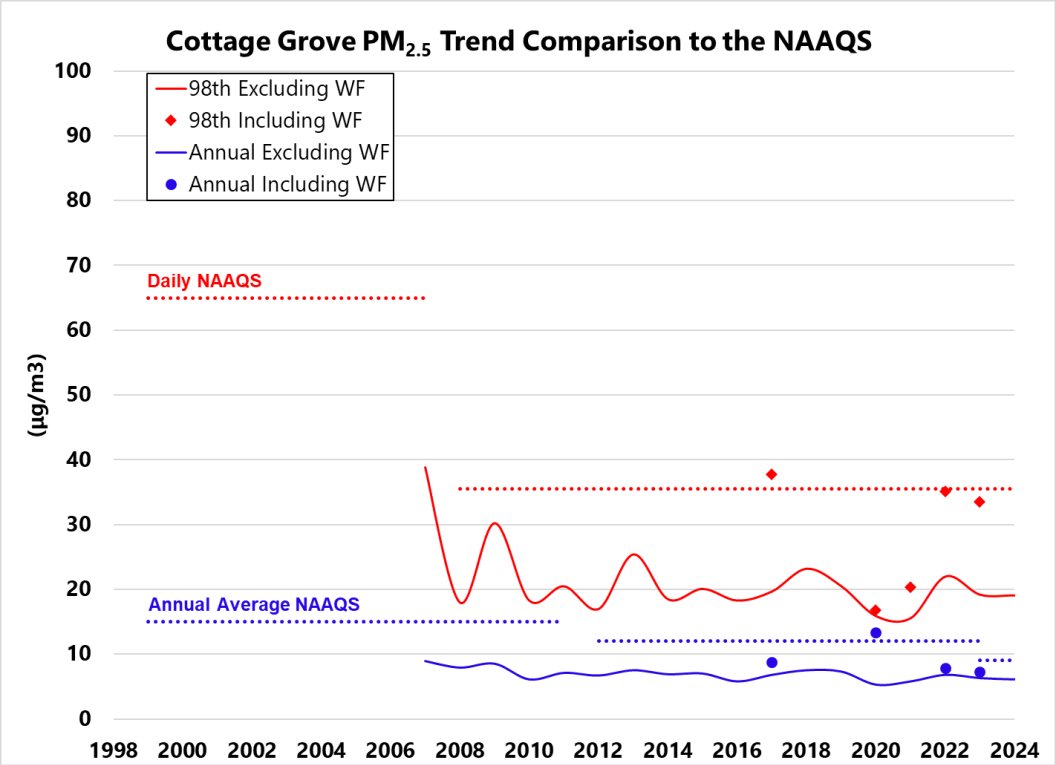

Figure 7: Cottage Grove $PM_{2.5}$ Trends

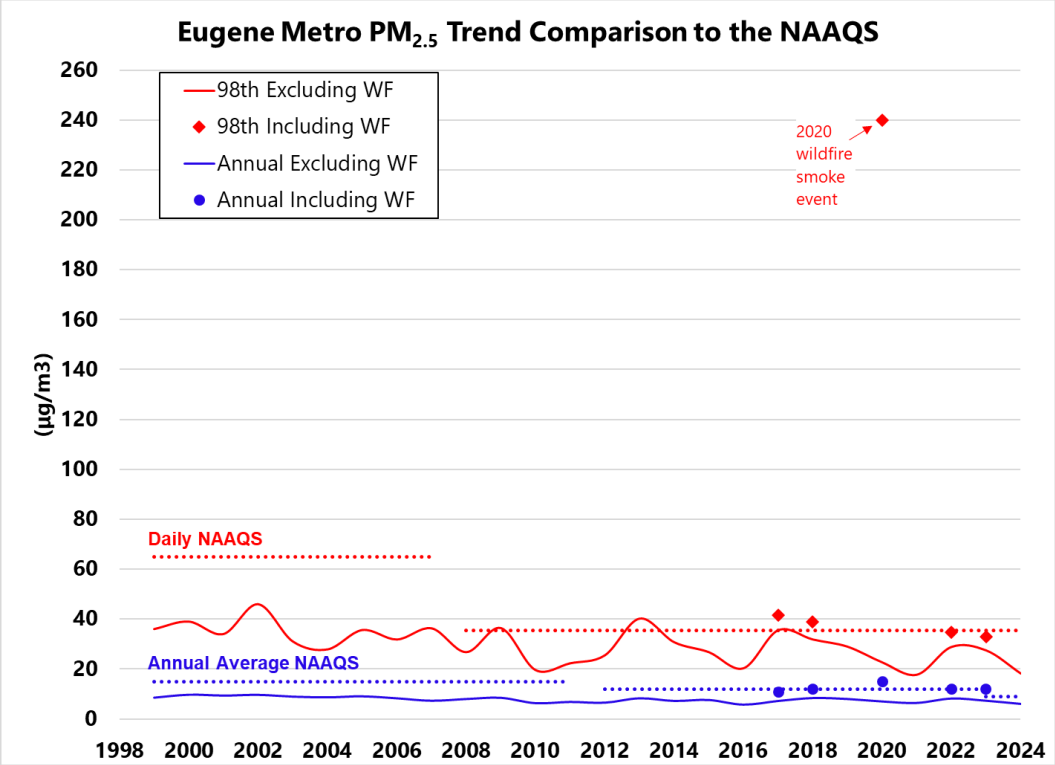

Figure 8: Eugene/Springfield $PM_{2.5}$ Trends

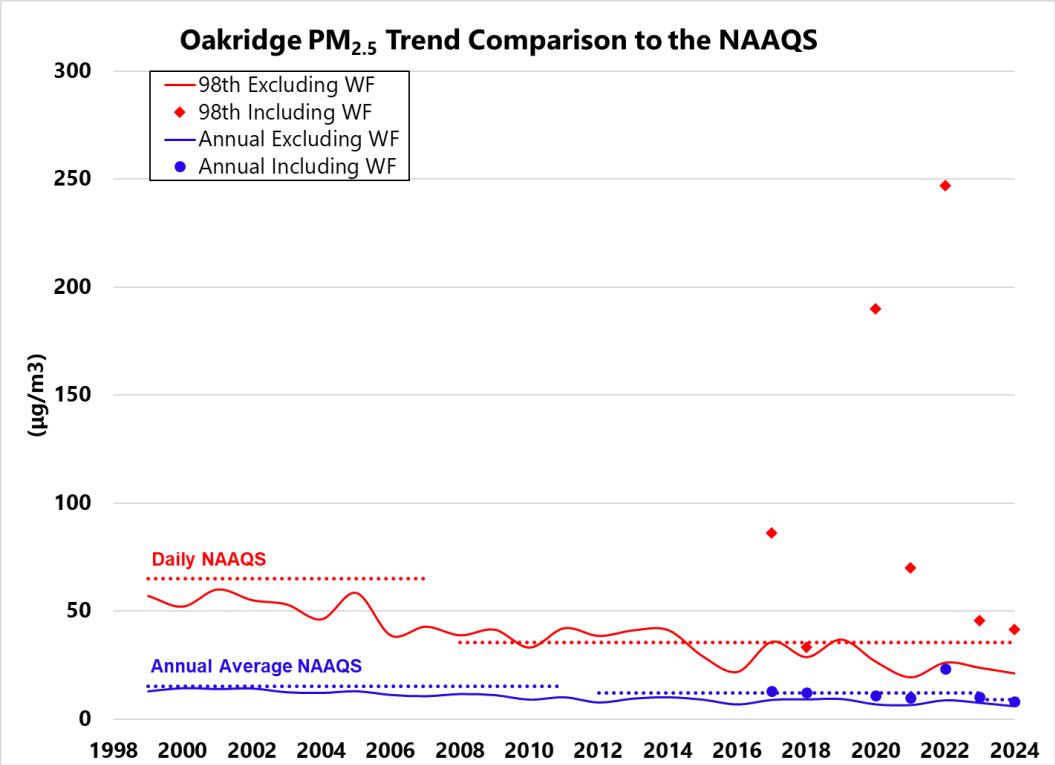

Figure 9: Oakridge $PM_{2.5}$ Trends

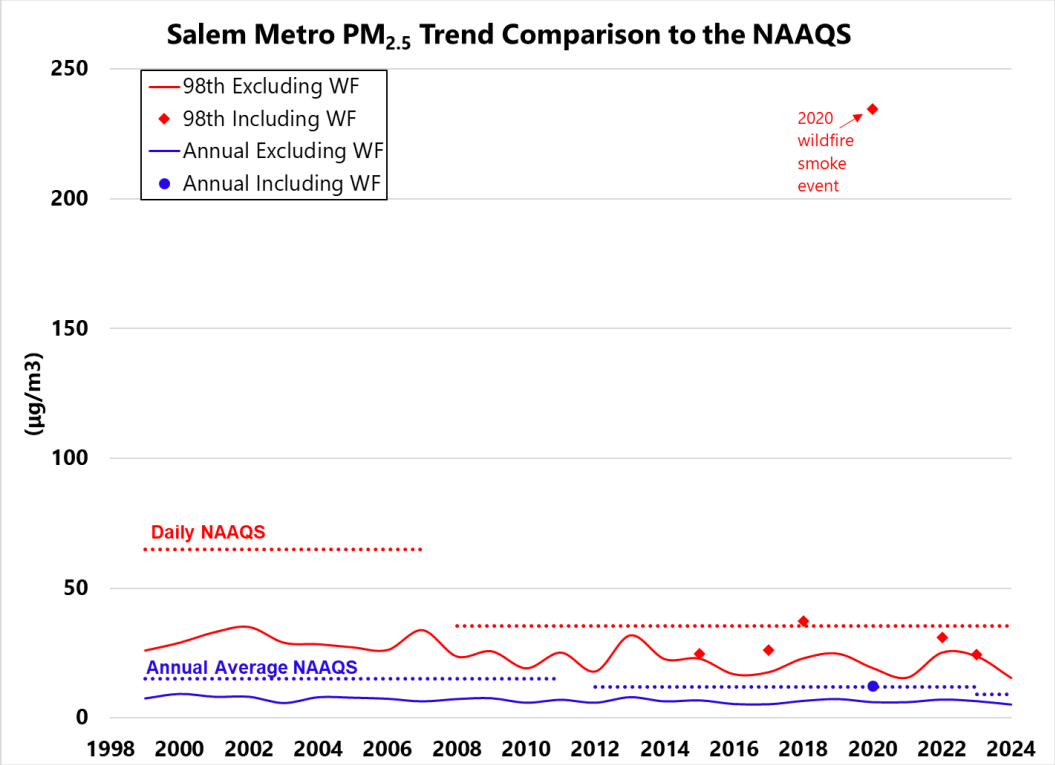

Figure 10: Salem Metro $PM_{2.5}$ Trends

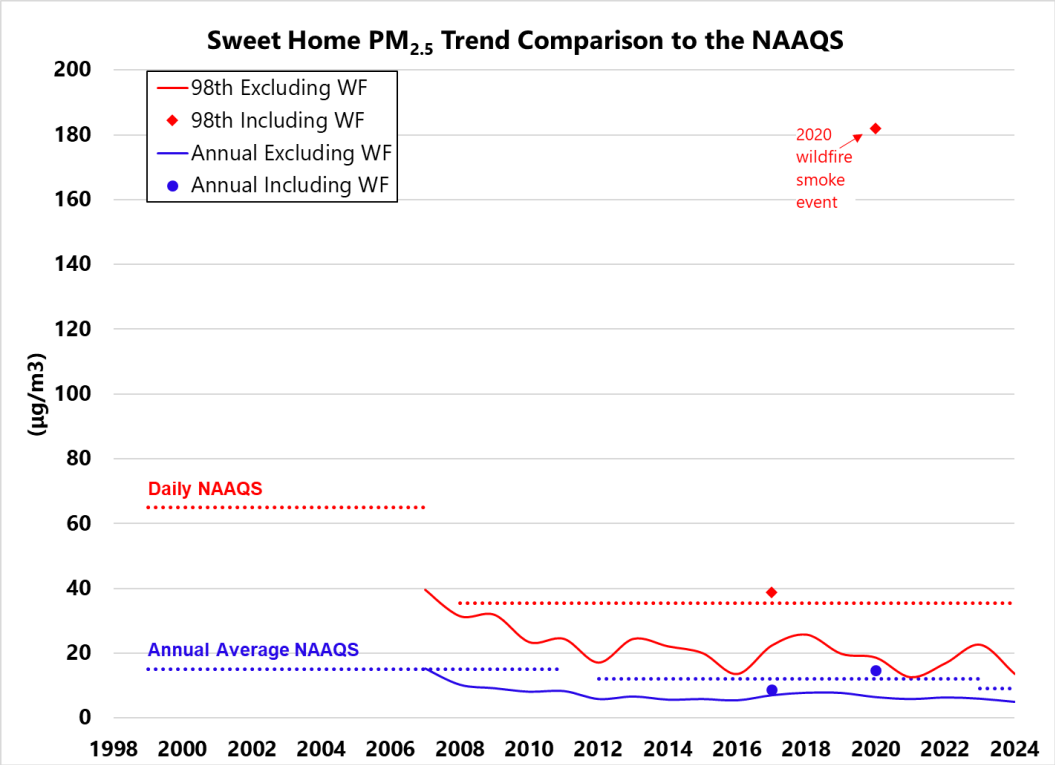

Figure 11: Sweet Home $PM_{2.5}$ Trends

Southwest Oregon

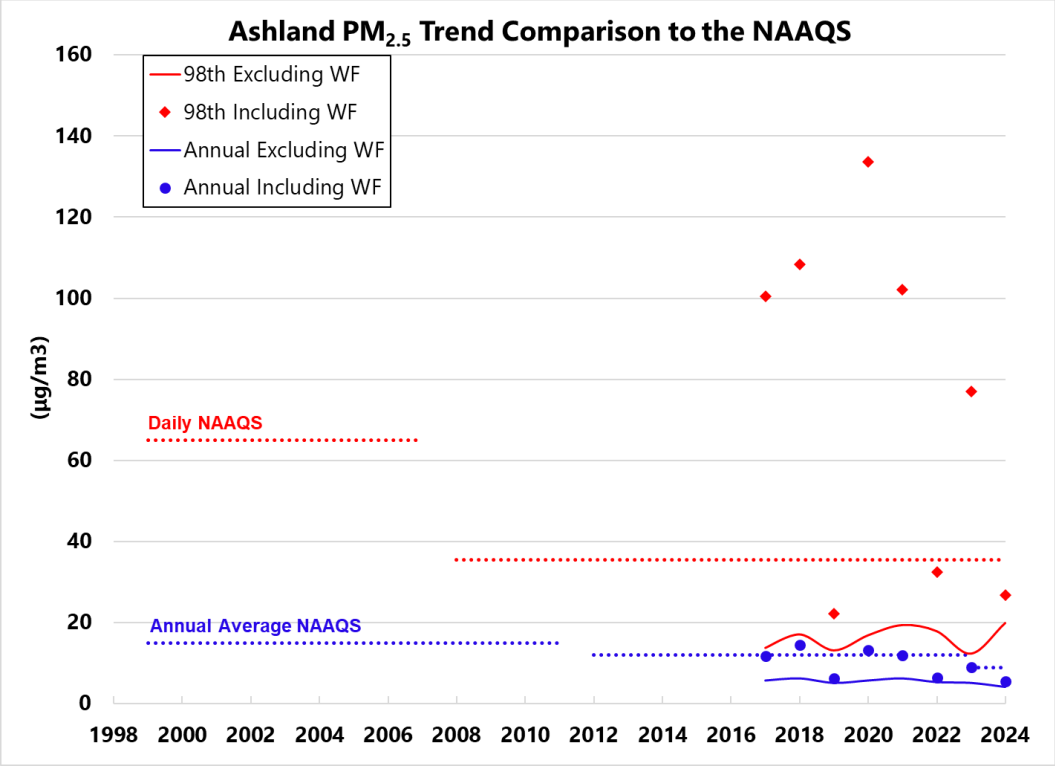

Figure 12: Ashland $PM_{2.5}$ Trends

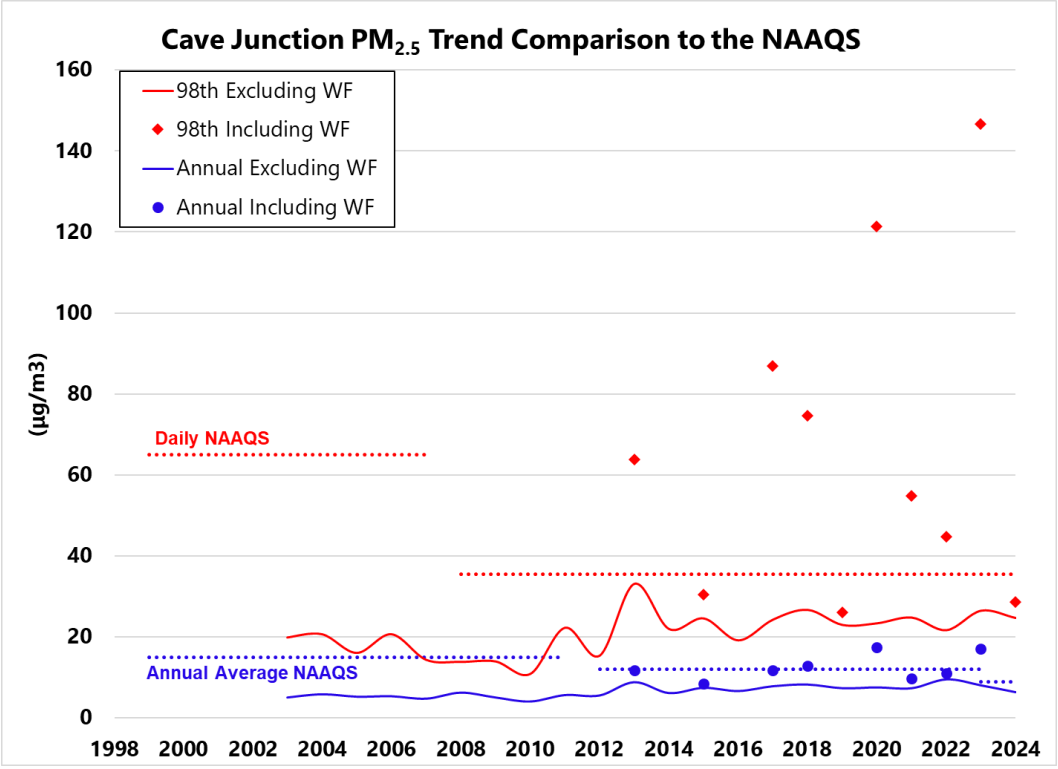

Figure 13: Cave Junction $PM_{2.5}$ Trends

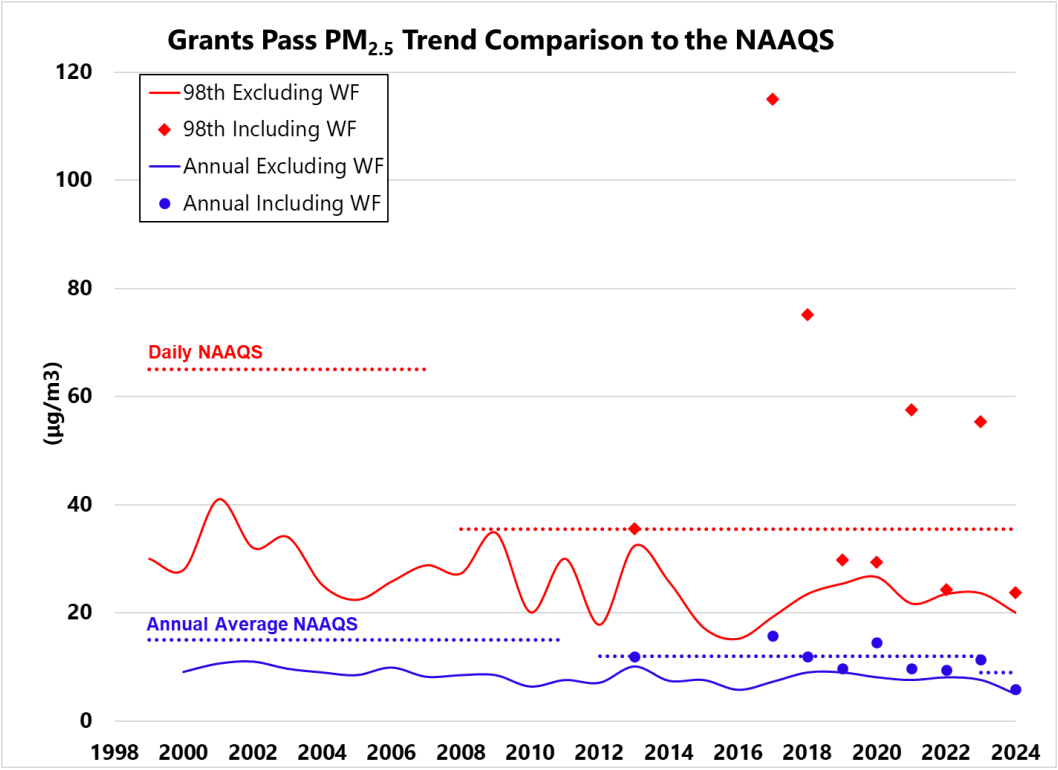

Figure 14: Grants Pass $PM_{2.5}$ Trends

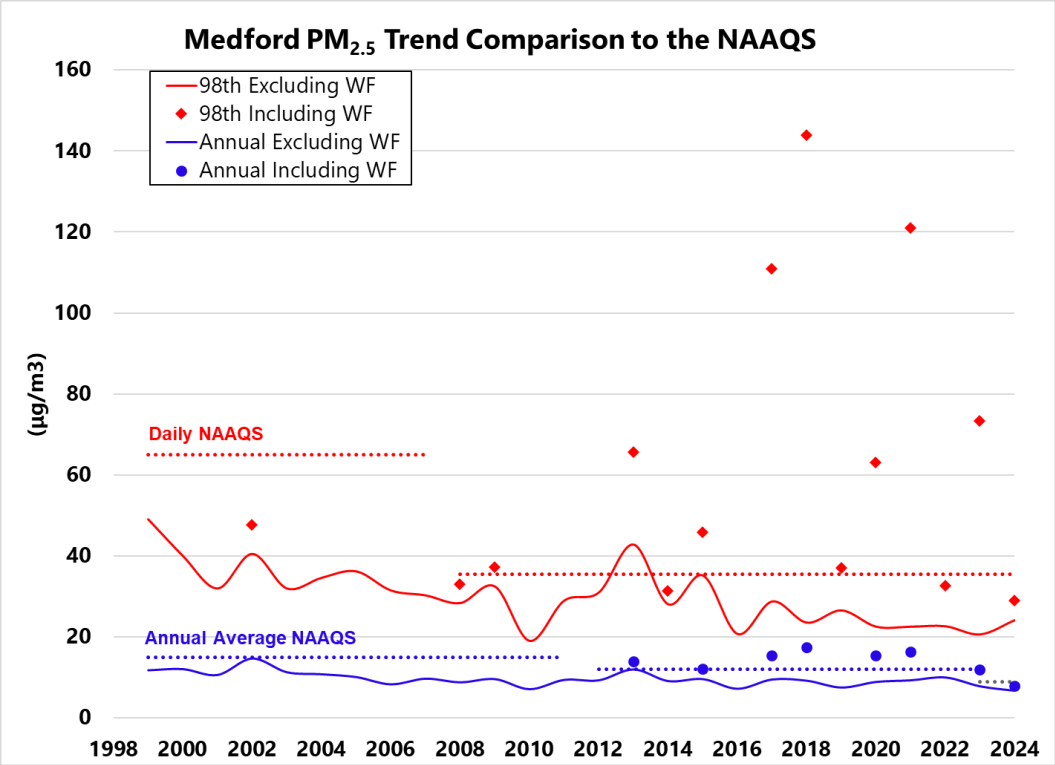

Figure 15: Medford $PM_{2.5}$ Trends

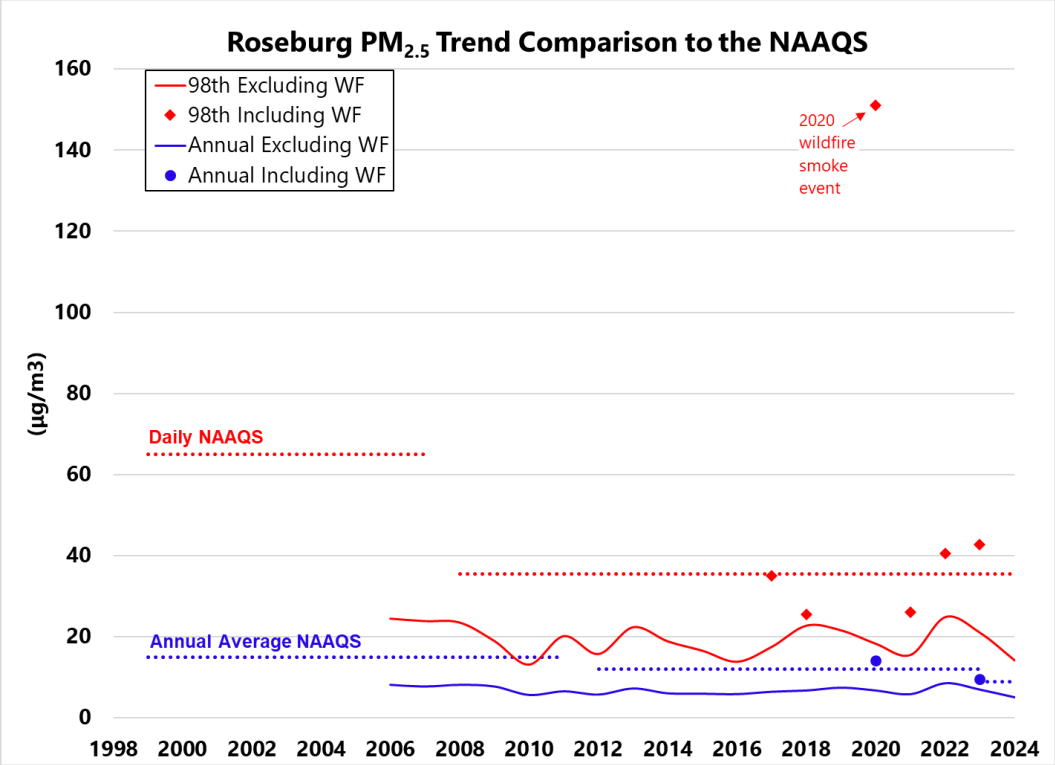

Figure 16: Roseburg $PM_{2.5}$ Trends

Northeast Oregon

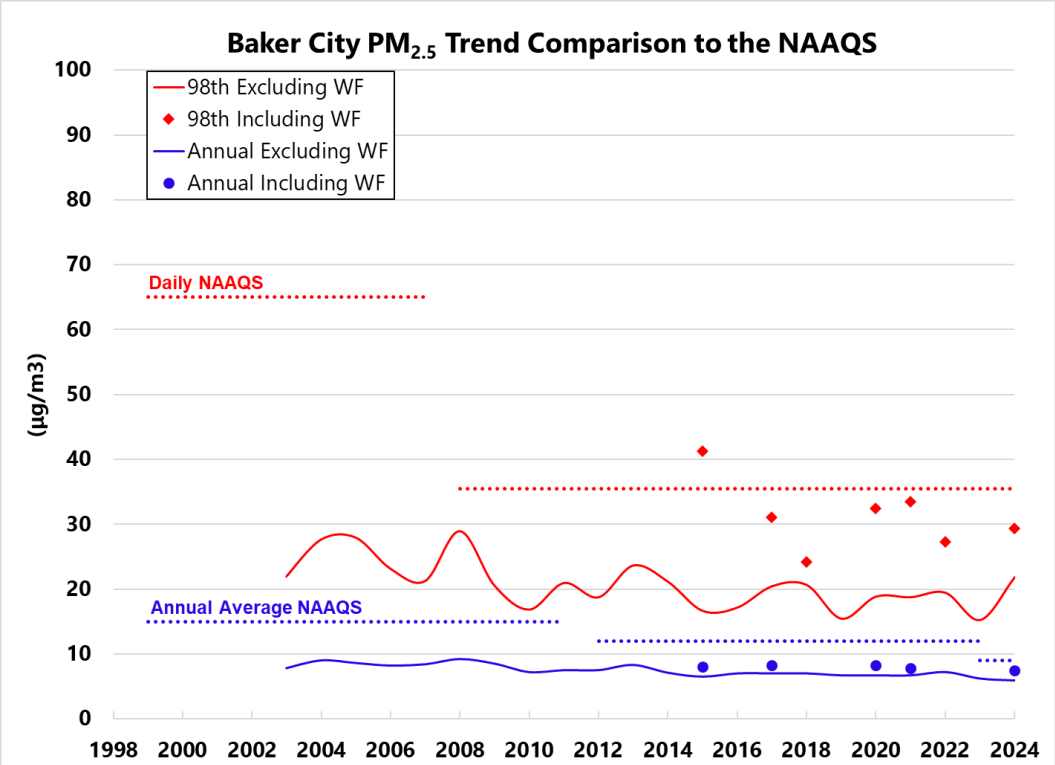

Figure 17: Baker City $PM_{2.5}$ Trends

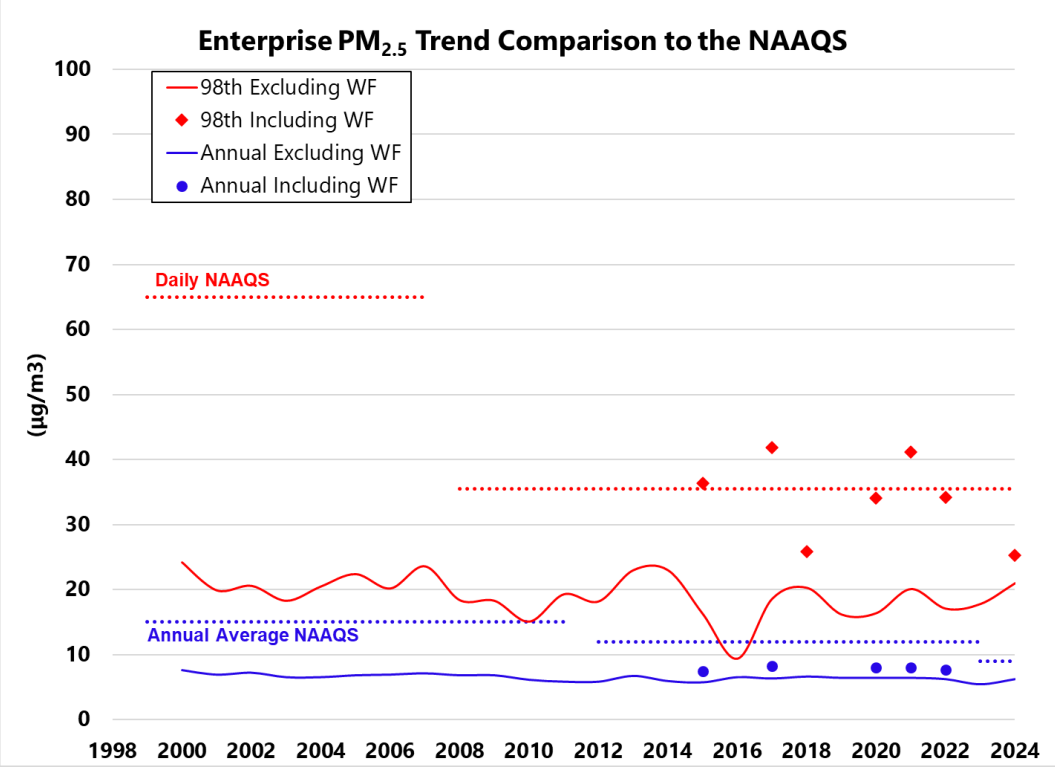

Figure 18: Enterprise $PM_{2.5}$ Trends

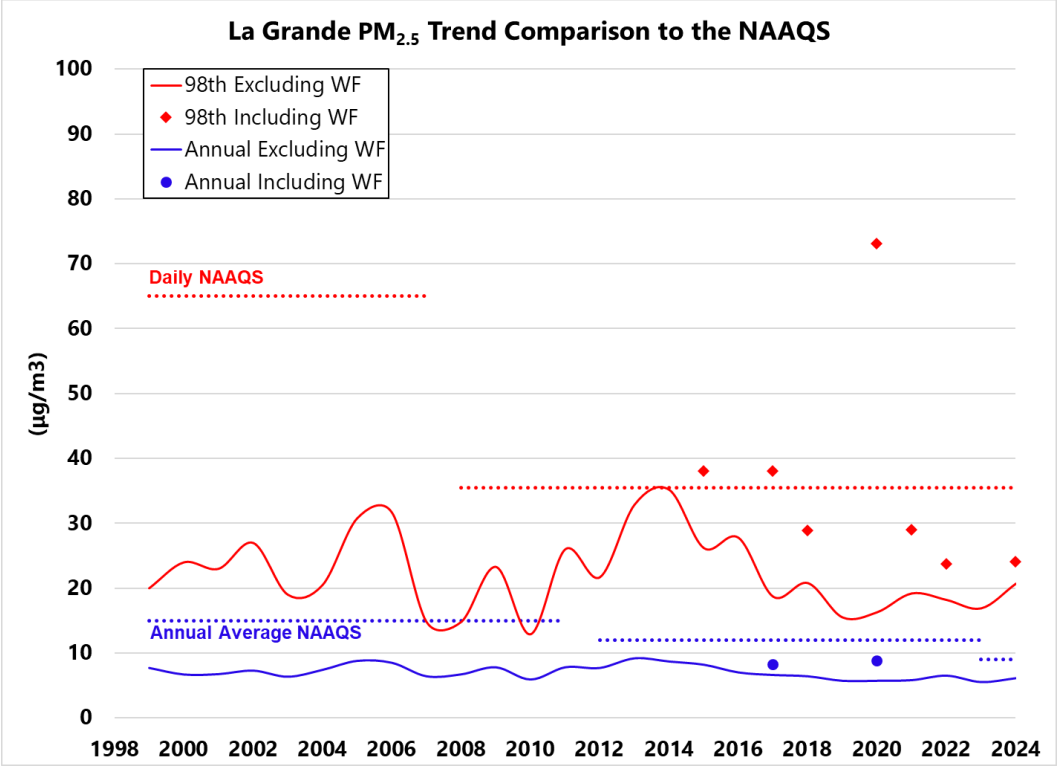

Figure 19: La Grande $PM_{2.5}$ Trends

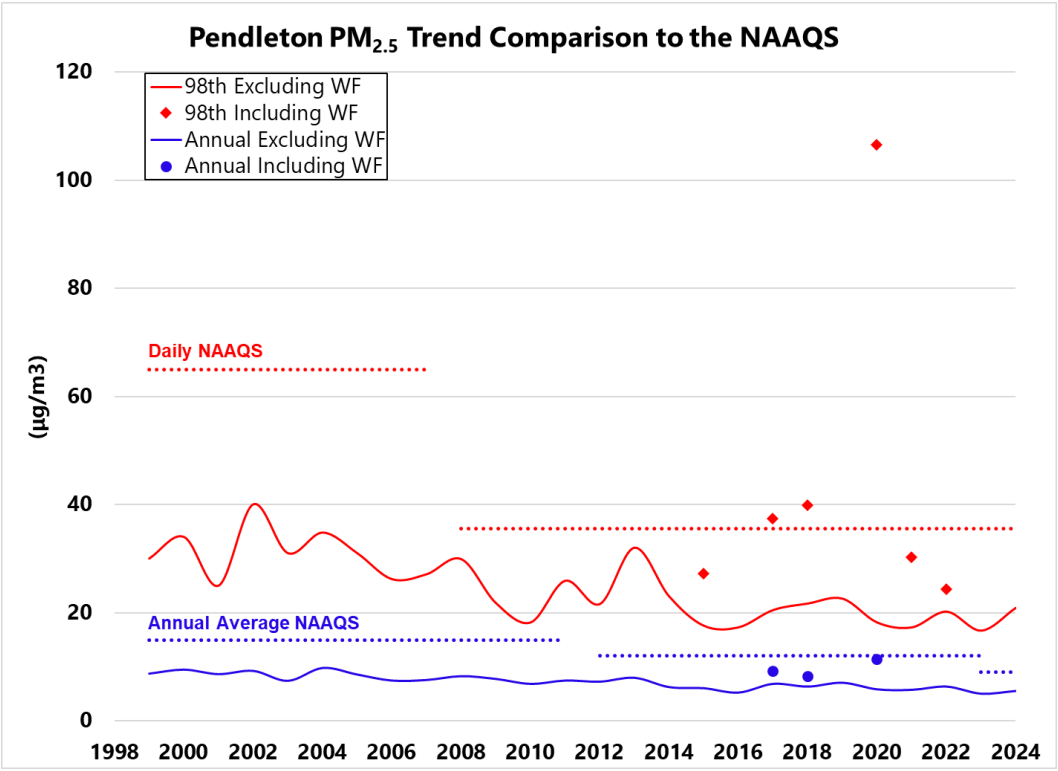

Figure 20: Pendleton $PM_{2.5}$ Trends

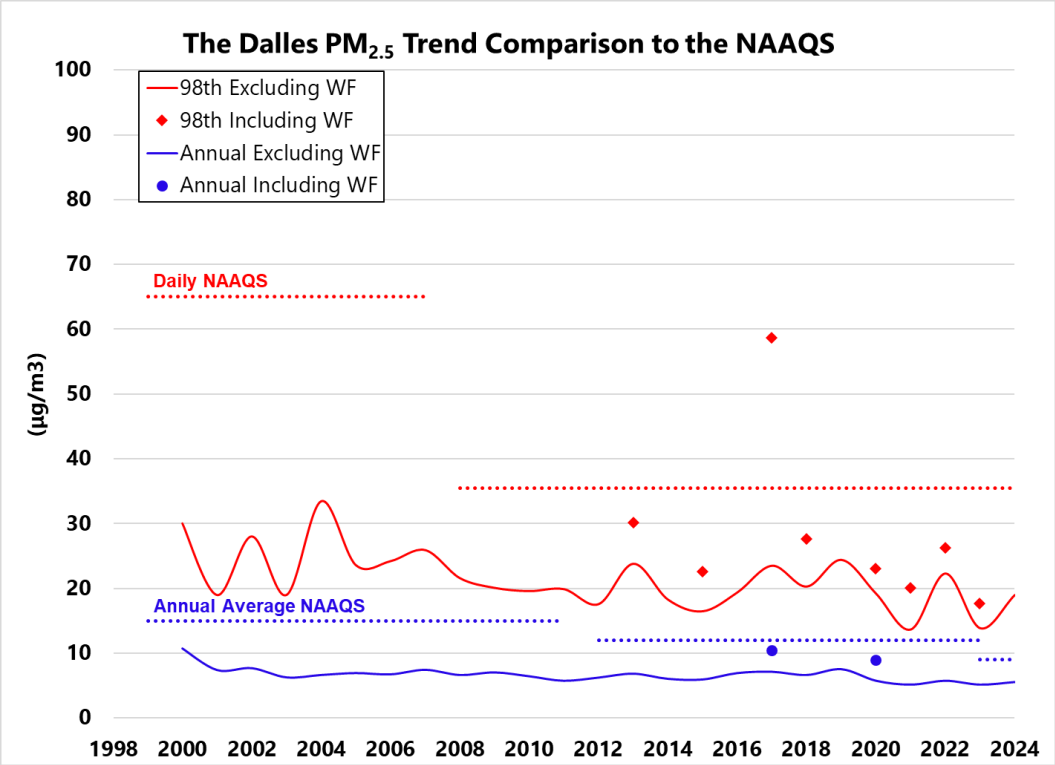

Figure 21: The Dalles $PM_{2.5}$ Trends

Central Oregon

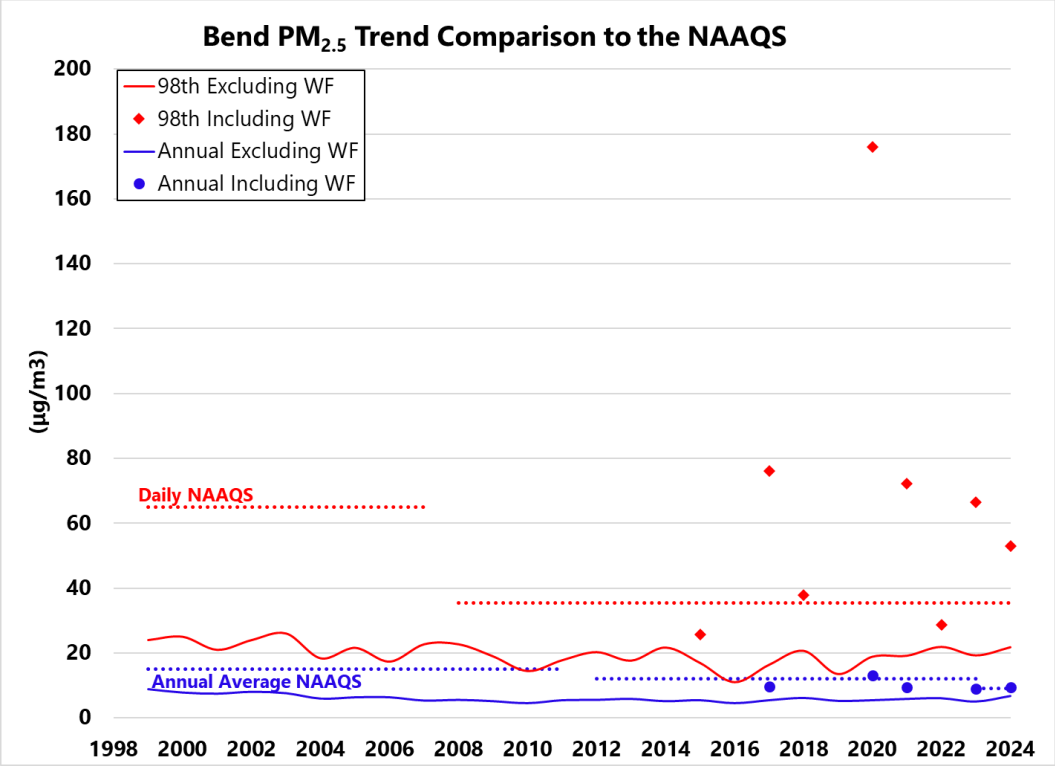

Figure 22: Bend $PM_{2.5}$ Trends

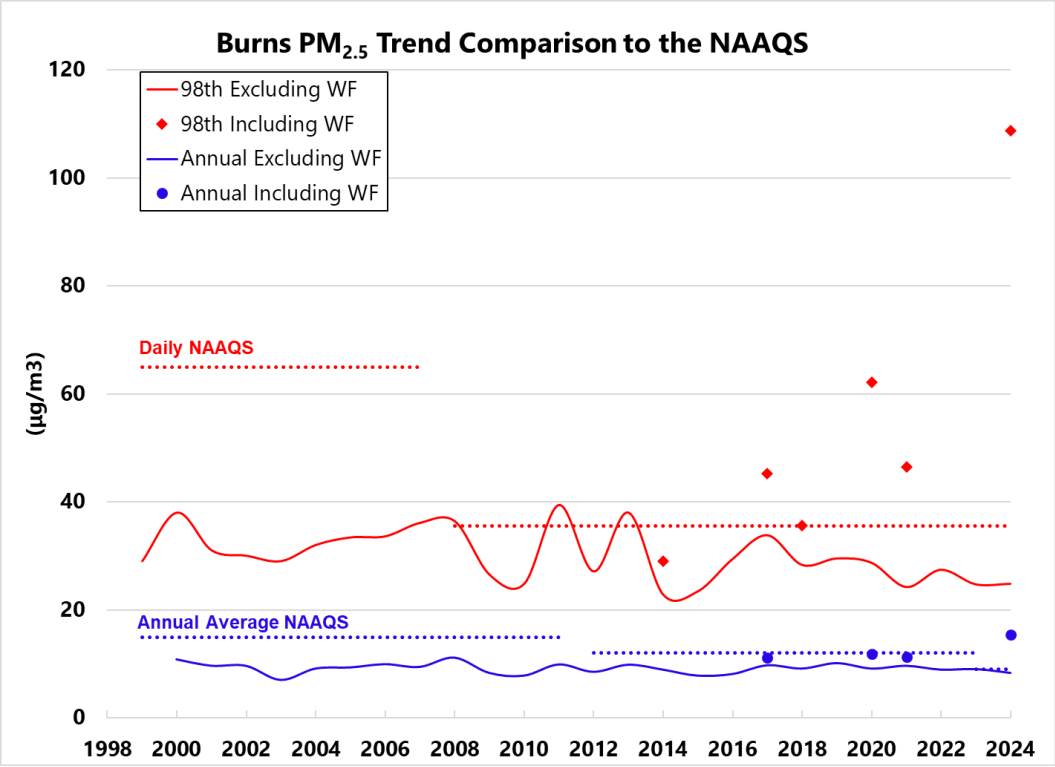

Figure 23: Burns $PM_{2.5}$ Trends

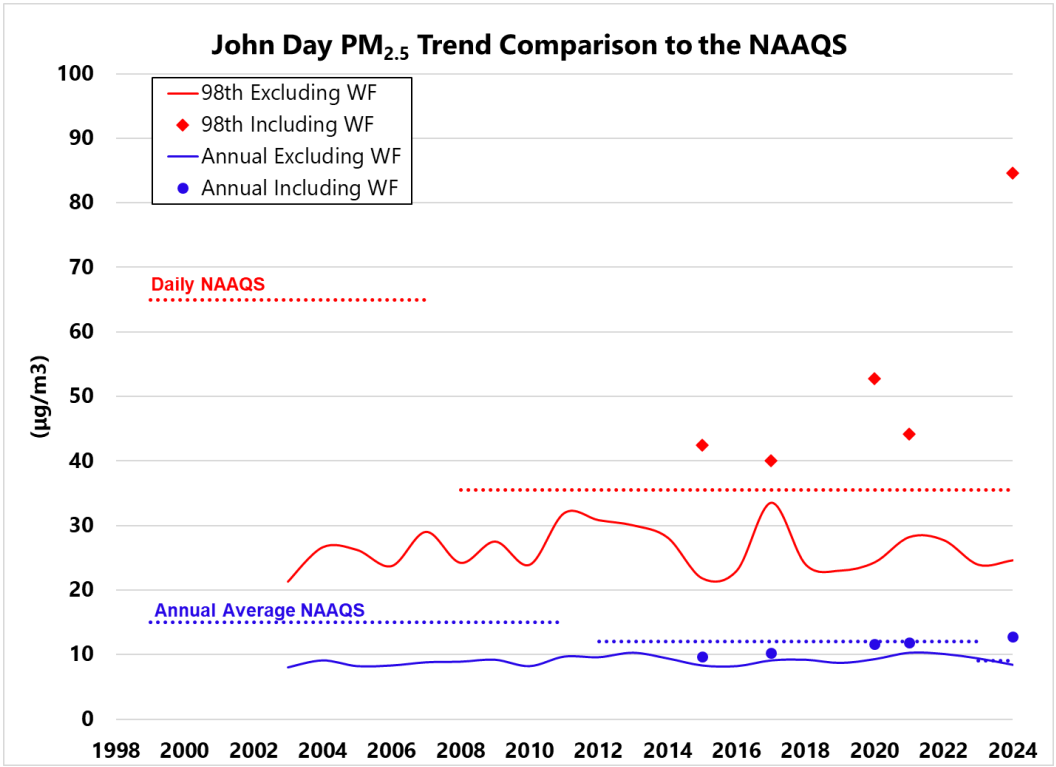

Figure 24: John Day $PM_{2.5}$ Trends

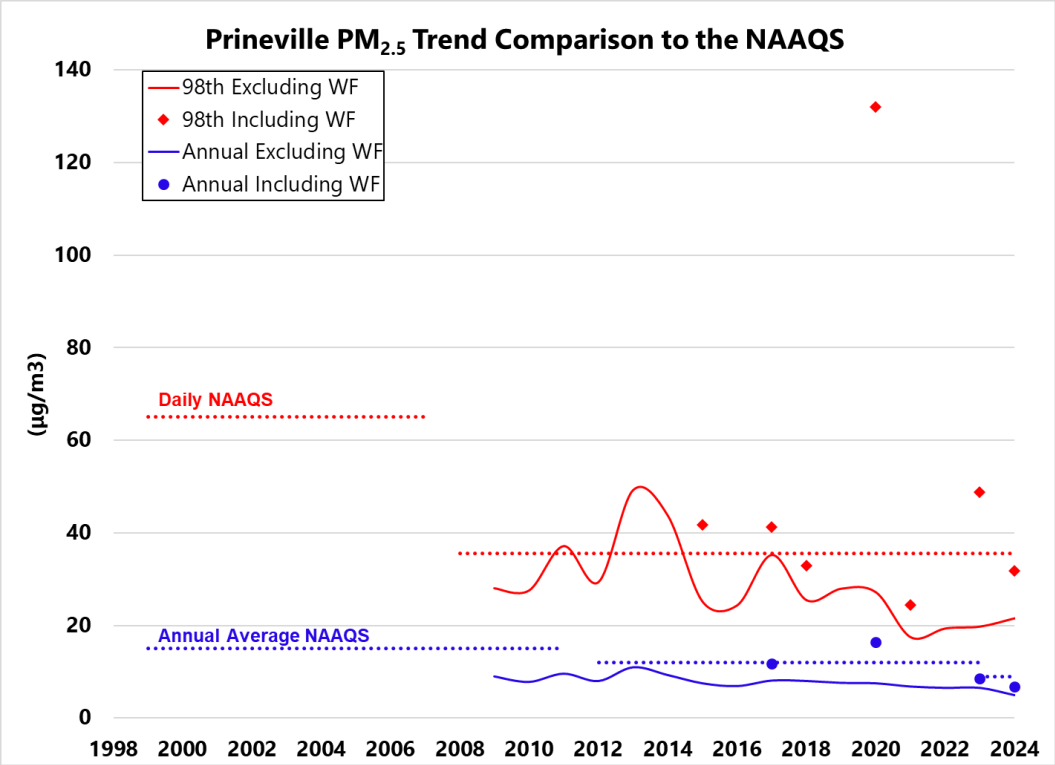

Figure 25: Prineville $PM_{2.5}$ Trends

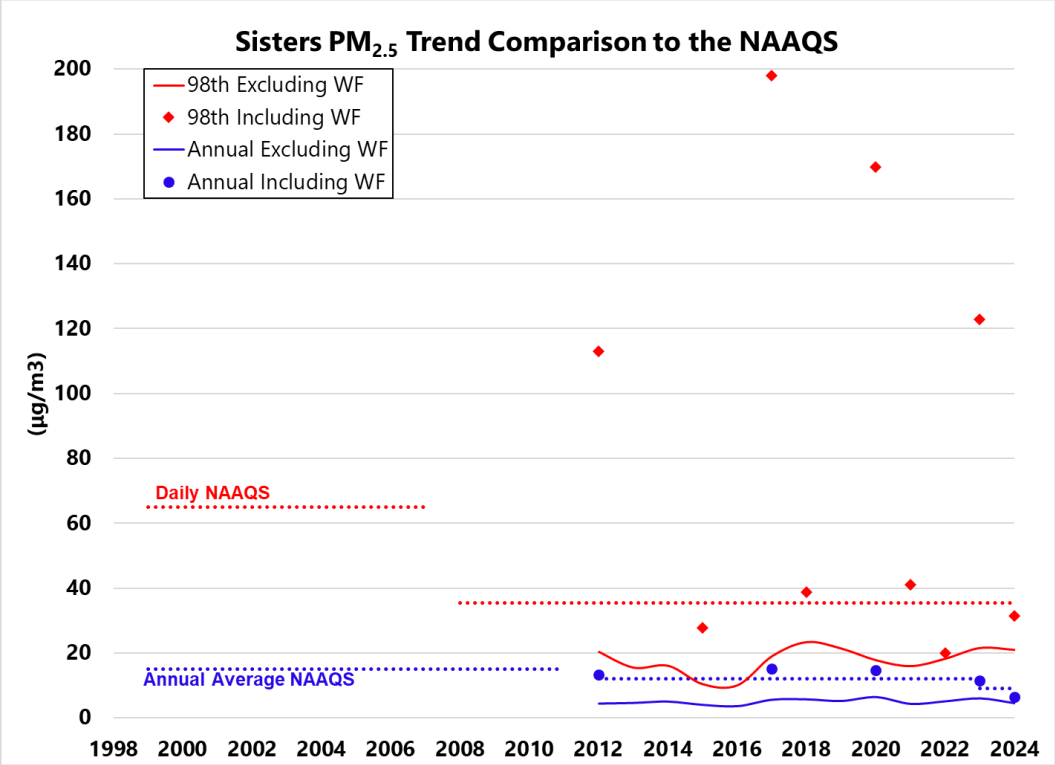

Figure 26: Sisters $PM_{2.5}$ Trends

SE Oregon

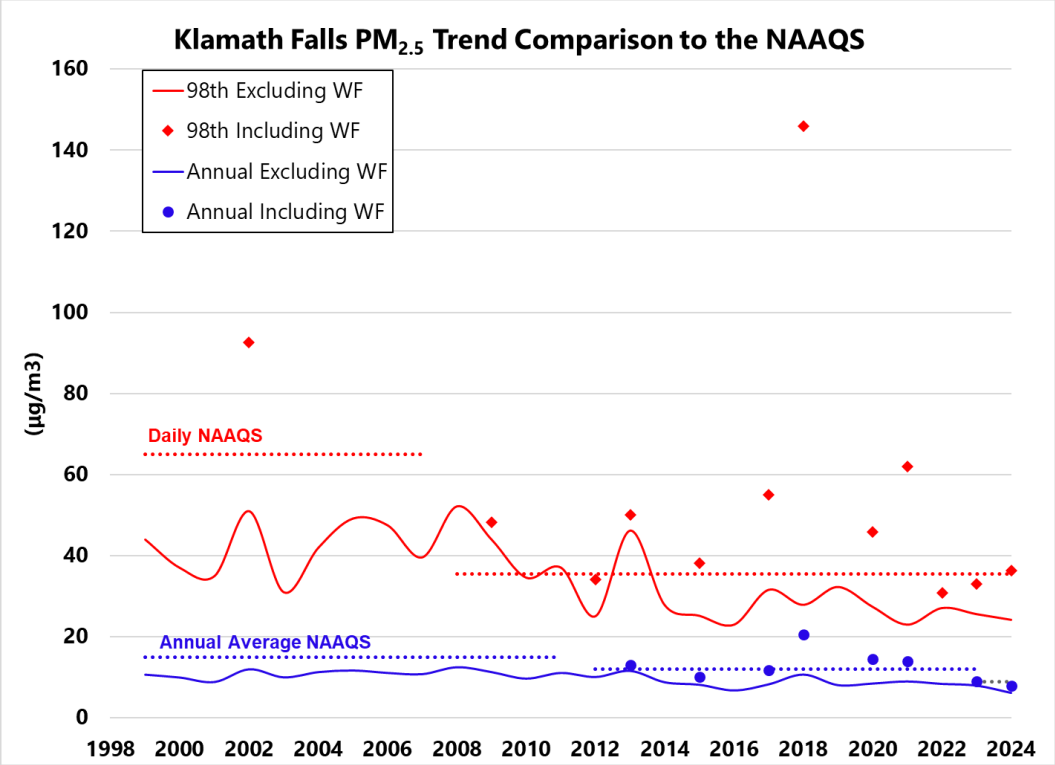

Figure 27: Klamath Falls $PM_{2.5}$ Trends

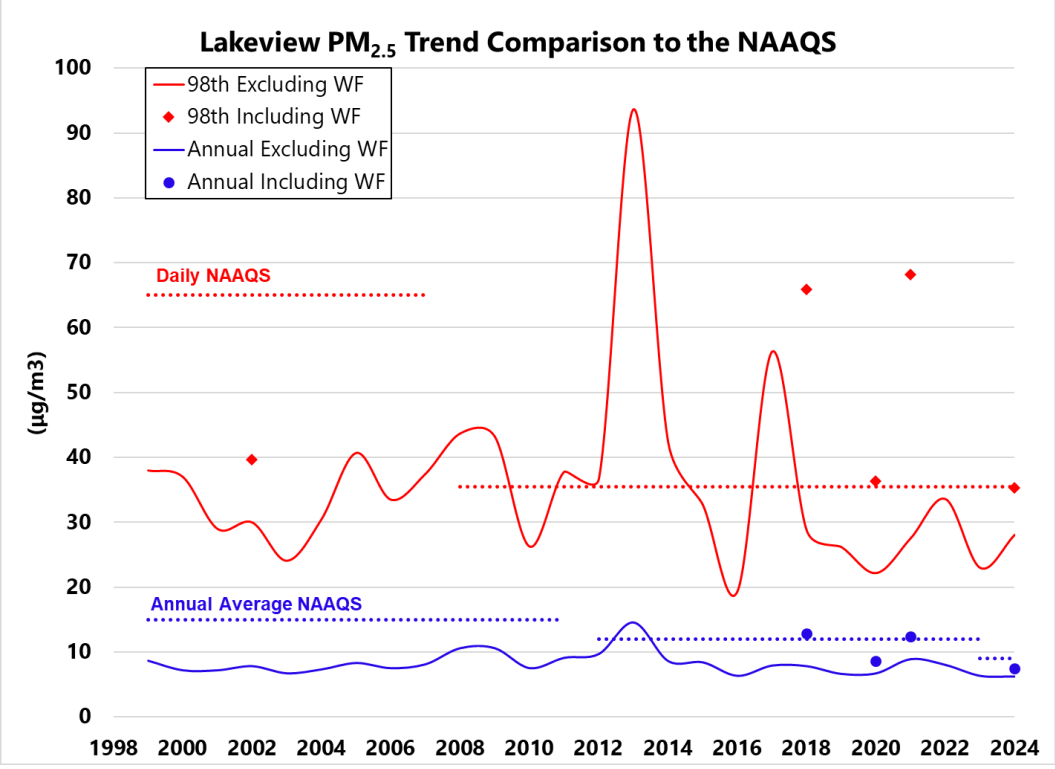

Figure 28: Lakeview $PM_{2.5}$ Trends

PM_{10}

PM_{10} has trended below the daily PM_{10} NAAQS since 1994, except for recent wildfire smoke impacts. The figures below show annual second-highest daily average PM_{10} concentrations.

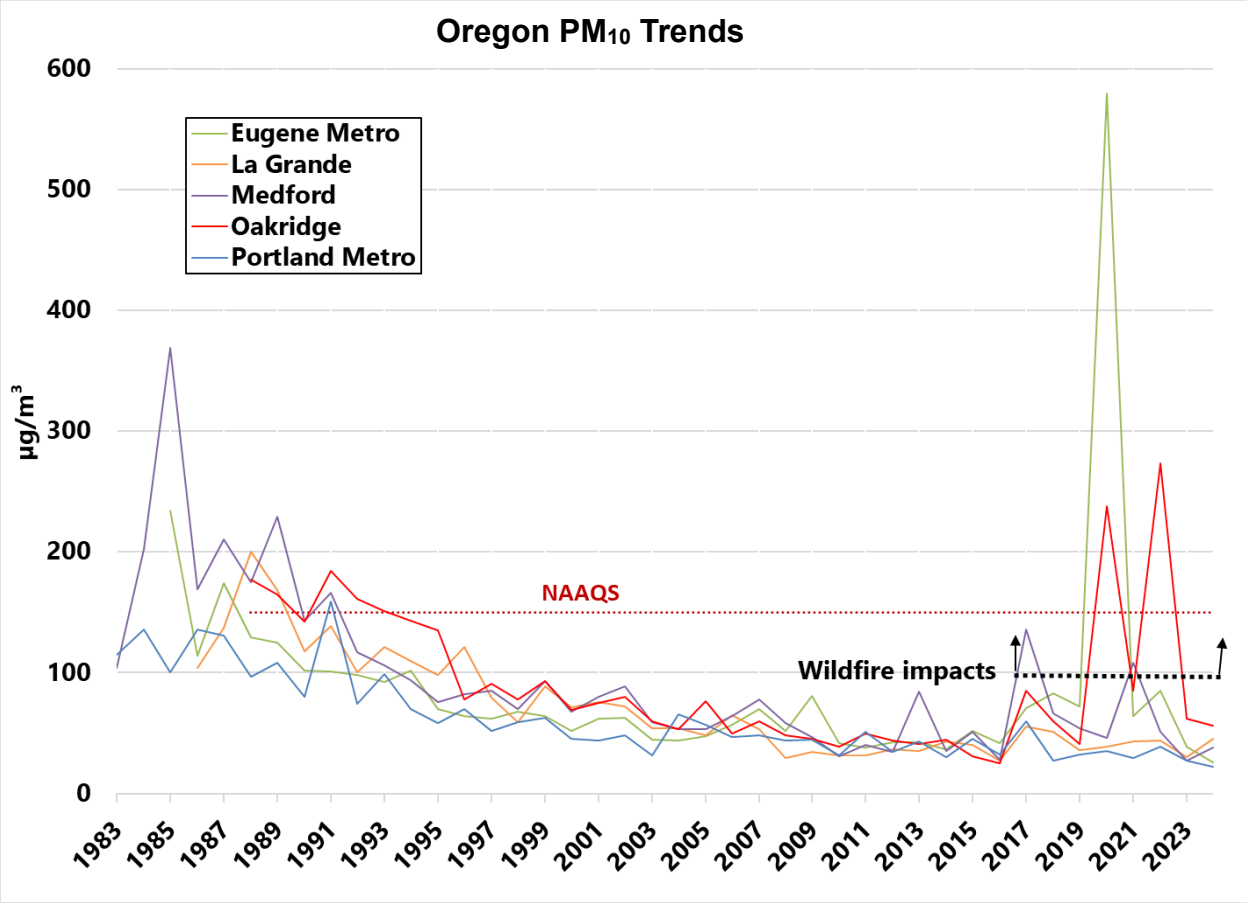

Figure 29: PM_{10} Trends

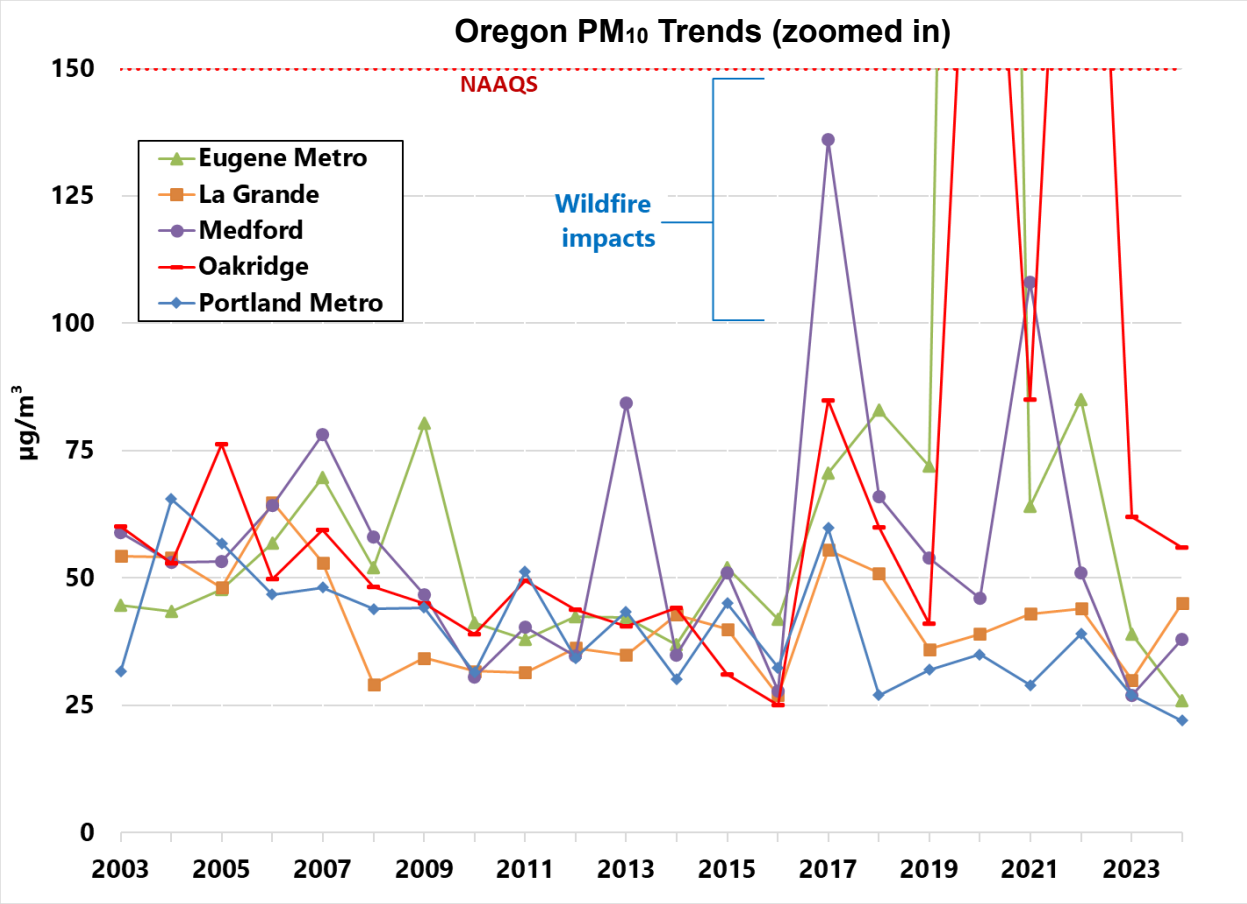

Figure 30: Close-up of PM_{10} Trends

Ozone

Ozone is close to the eight-hour ozone NAAQS. In addition to anthropogenic sources, some areas are impacted by wildfire smoke which can also contribute to ozone formation.

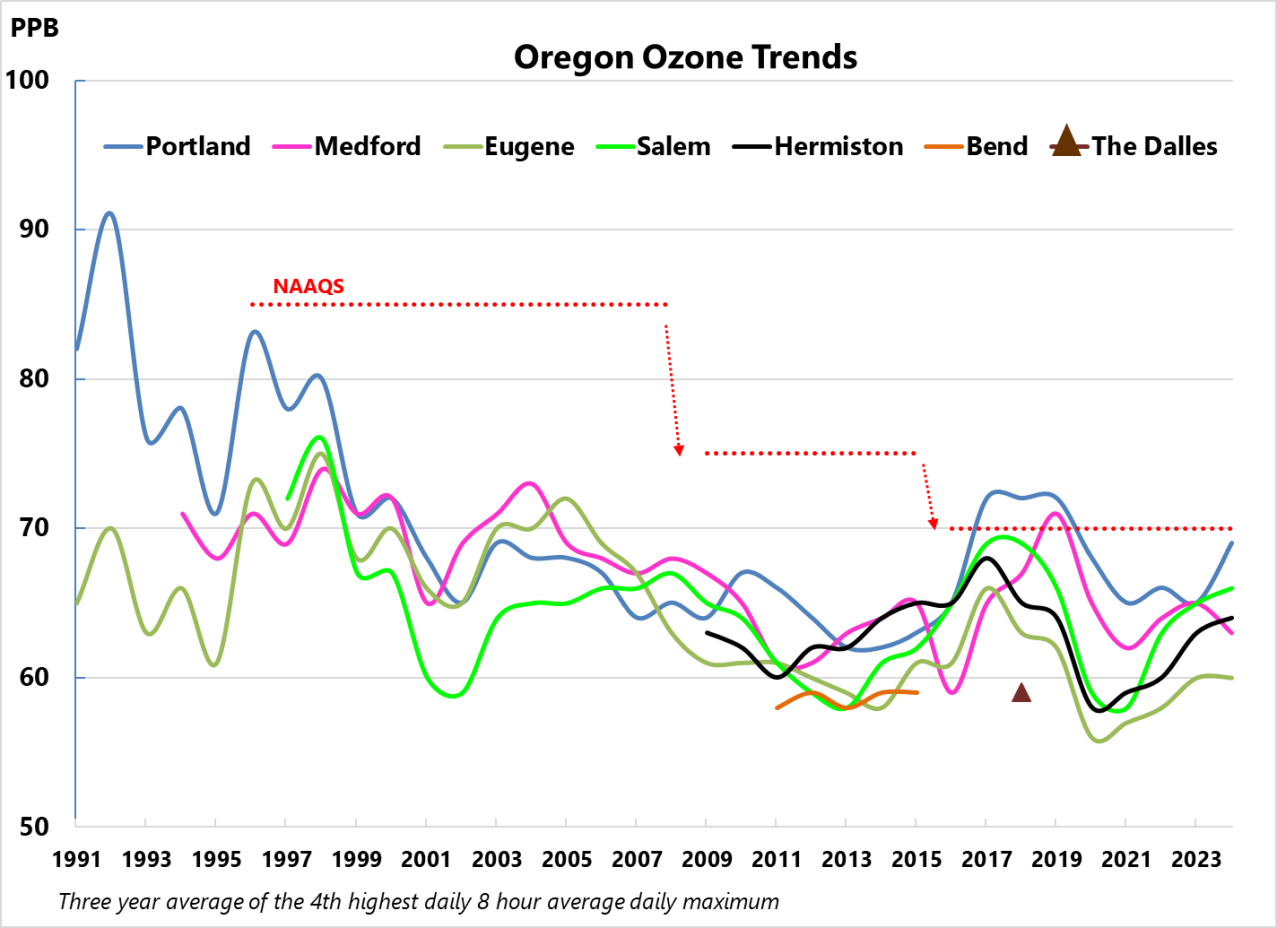

Figure 31: Ozone Trends

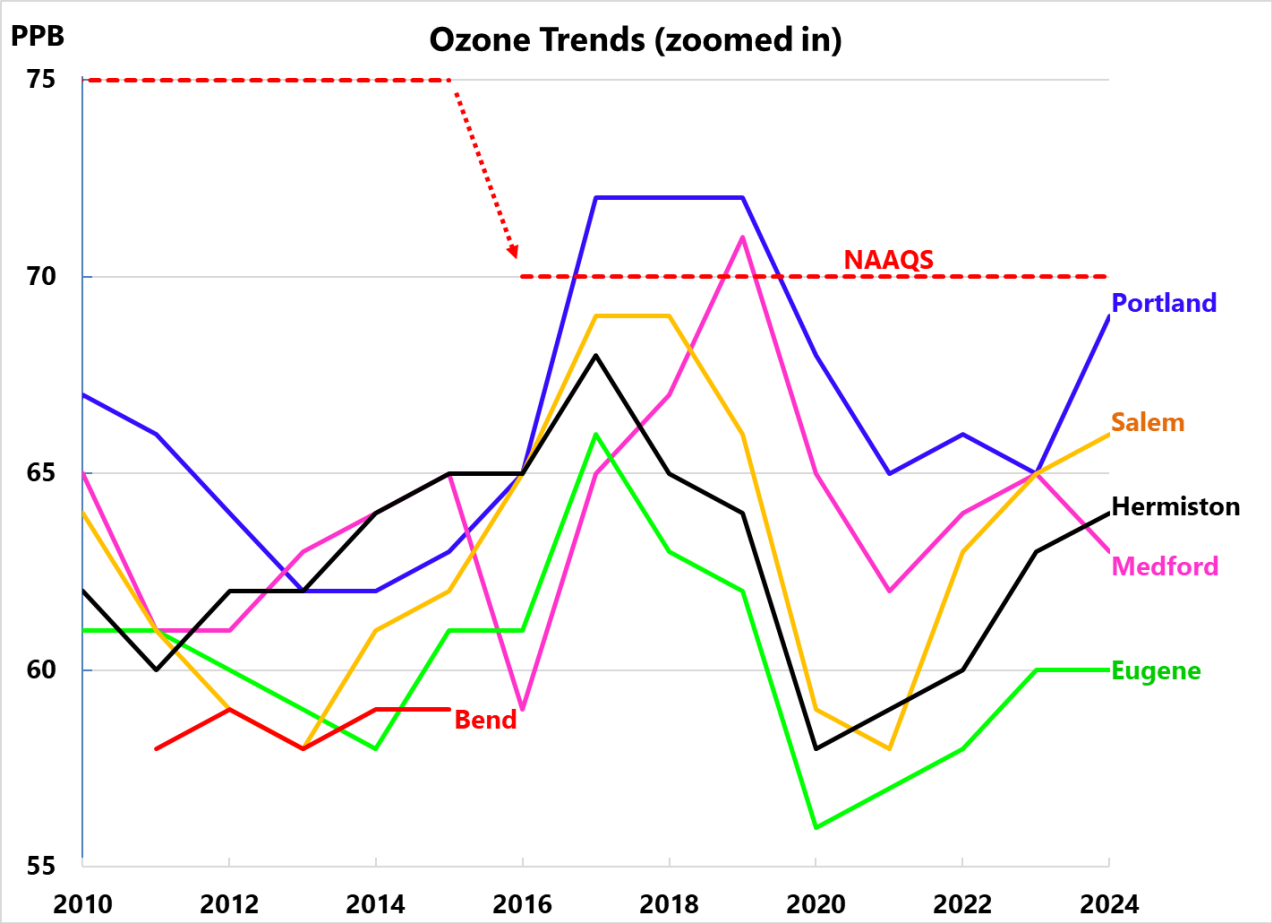

Figure 32: Close-up of Ozone Trends

Carbon Monoxide

Carbon monoxide continues to trend below the eight-hour carbon monoxide NAAQS. In the Portland metro in 2020, however, carbon monoxide exceeded it due to wildfire smoke. The figure below shows annual second-highest daily maximum of averaged eight-hour carbon monoxide concentrations.

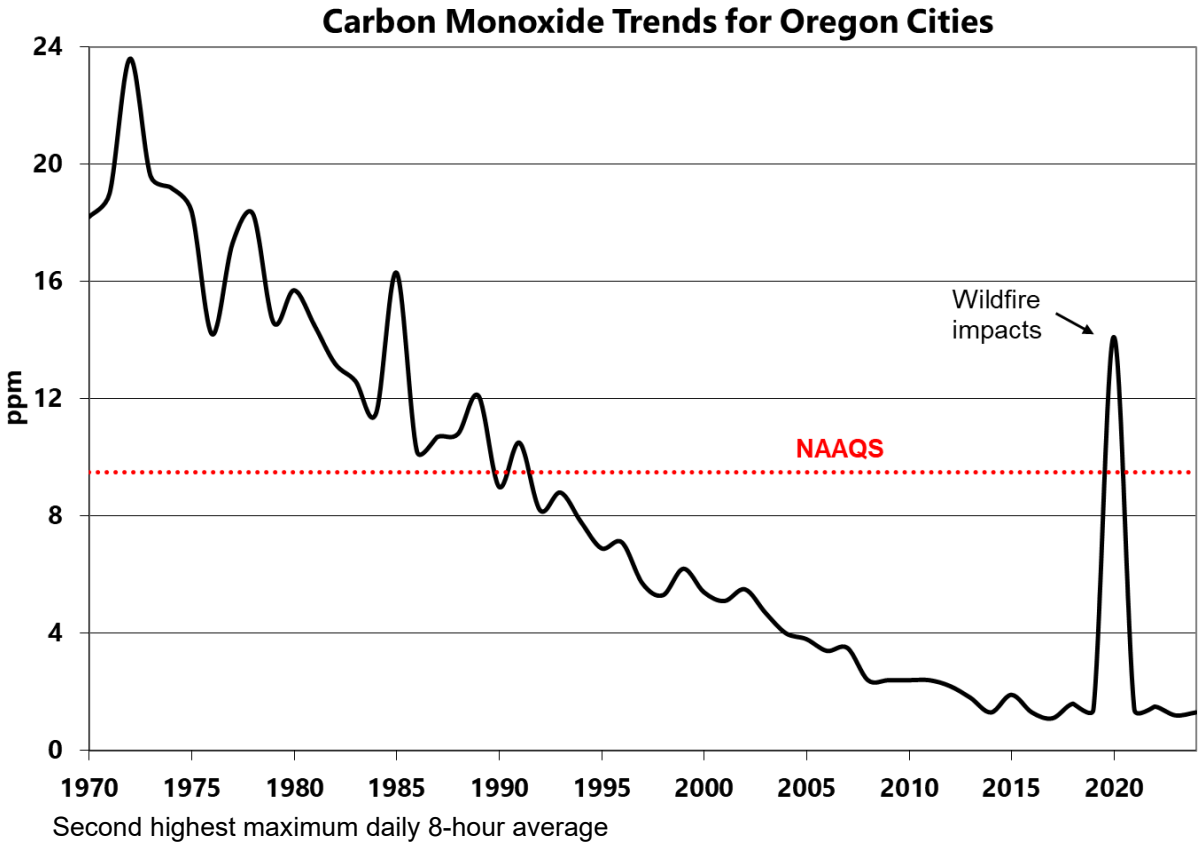

Figure 33: Carbon Monoxide Trend

Nitrogen Dioxide

Nitrogen dioxide continues to trend below the nitrogen dioxide hourly and annual NAAQS. The figures below show annual 98th percentiles of daily maximums of one-hour concentrations and annual average of one-hour nitrogen dioxide concentrations.

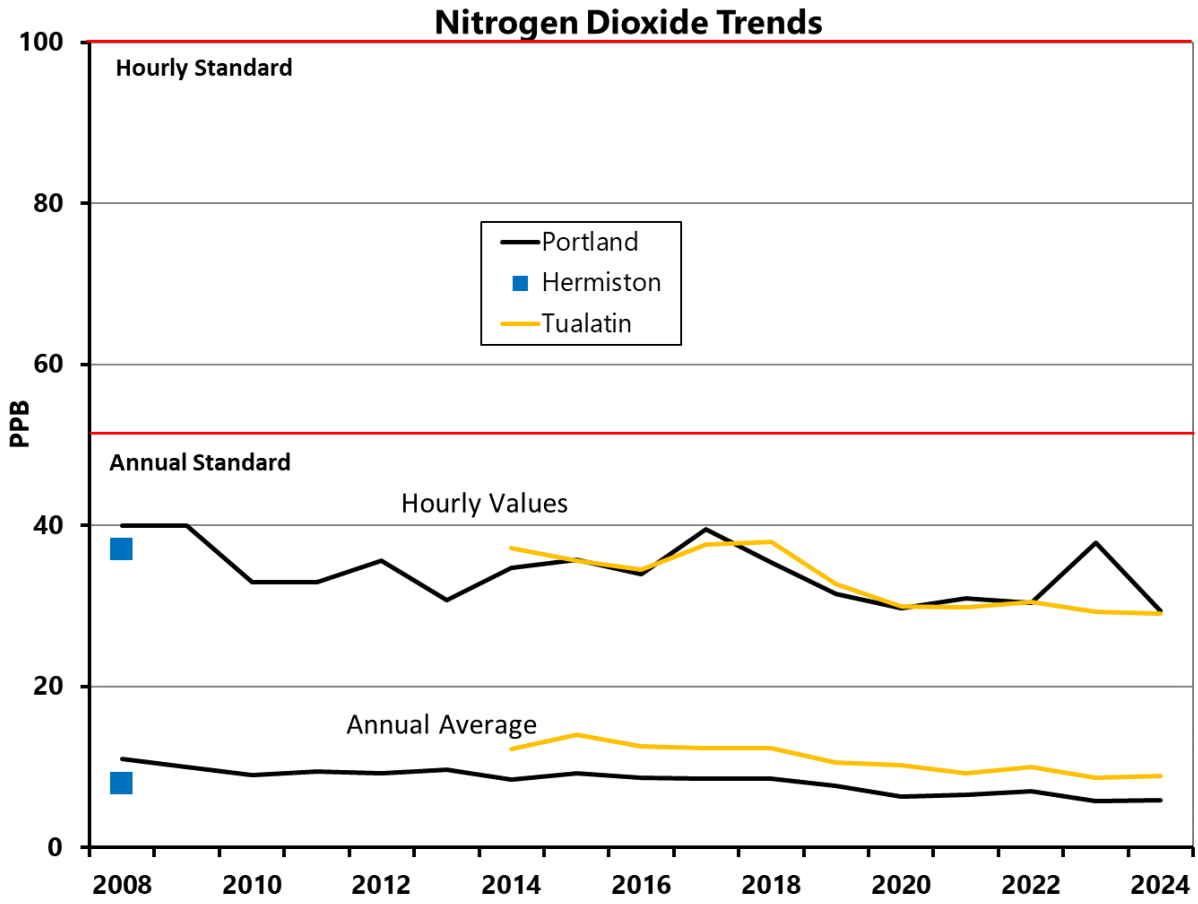

Figure 34: Annual Nitrogen Dioxide Trends

Sulfur Dioxide

Sulfur dioxide continues to trend well below the hourly sulfur dioxide NAAQS. The figure below shows annual 99th percentiles of daily maximums of one-hour sulfur dioxide concentrations.

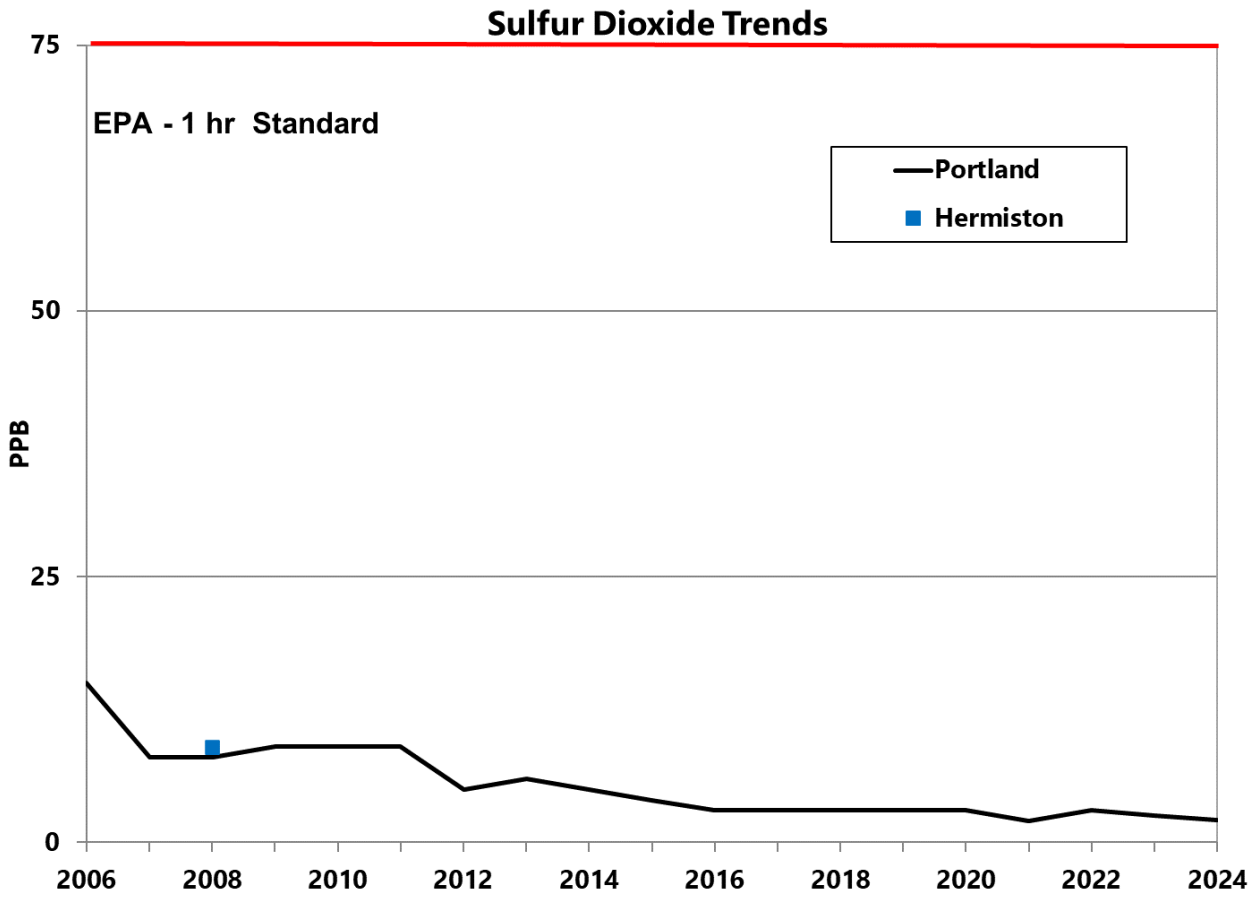

Figure 35: Sulfur Dioxide Trend

2024 Air Quality Index

EPA created the Air Quality Index (AQI) to communicate air quality information to the public. It uses a numerical scale used to describe air quality in a monitoring area and divides it into five categories of health risk based on pollutant concentrations in the ambient air. An AQI value is calculated for each criteria pollutant monitored and the highest value is selected to describe the health risk for the entire monitoring area. In Oregon, pollutants that primarily drive the AQI are ozone and $PM_{2.5}$. The table below shows the relationships between AQI categories, AQI values, pollutant concentrations and air quality descriptions. The AQI ranges may also change if the $PM_{2.5}$ NAAQS is revised. More technical information about the AQI is available through AirNow's website.

Table 11: Detailed AQI Information

Health Category	AQI	$PM_{2.5}$ Daily Averaged Concentration, $\mu g/m^3$	Ozone Eight-Hour Averaged Concentration, ppm	Health Risk Description of Air Quality
Good	0 – 50	0.0 – 9.0	0.000 – 0.054	Air quality is satisfactory, and air pollution poses little or no risk
Moderate	51 – 100	9.1 – 35.4	0.055 – 0.070	Air quality is acceptable. However, there may be a risk for some people, particularly those very sensitive to air pollution.
Unhealthy for Sensitive Groups	101 – 150	35.5 – 55.4	0.071 – 0.085	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Unhealthy	151 – 200	55.5 – 125.4	0.086 – 0.105	Members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 – 300	125.5 – 225.4	0.106 – 0.200	Health alert. The risk of health effects is increased for everyone.
Hazardous	301+	225.5 – 500.4	0.200+	Health warning of emergency conditions. Everyone is more likely to be affected.

AQI Summary

DEQ and LRAPA monitor air quality in cities and areas throughout the state. Most sites monitor all year, but a handful only monitor during summer. The table lists all the monitoring locations in Oregon, the number of days in each AQI health category, how many days were missed (often due to equipment failure) and how many days were expected to be monitored. Historical AQI summary data can be found in Appendix 3: AQI Historical Data.

Table 12. 2024 Summary of coastal AQI sites

Location	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Brookings	351	1	0	0	0	0	14	**366**
Coos Bay	348	13	0	0	0	0	5	**366**
Florence	355	11	0	0	0	0	0	**366**
Tillamook	354	5	0	0	0	0	7	**366**
Toledo	349	10	0	0	0	0	7	**366**

Table 13. 2024 Summary of Portland Metro AQI Sites

Location	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Beaverton	350	16	0	0	0	0	0	**366**
Canby	341	19	1	0	0	0	5	**366**
Estacada	333	28	0	0	0	0	5	**366**
Forest Grove	302	7	0	0	0	0	57	**366**
Gresham	291	20	1	0	0	0	54	**366**
Hillsboro	344	22	0	0	0	0	0	**366**
McMinnville	346	12	0	0	0	0	8	**366**
Tualatin	342	24	0	0	0	0	0	**366**
Portland	**Sites**							
Cully Neighborhood	335	30	0	0	0	0	1	**366**
Jefferson HS	354	8	0	0	0	0	4	**366**
Lincoln HS	339	5	0	0	0	0	22	**366**
McDaniel HS	345	15	0	0	0	0	6	**366**
Roosevelt HS	350	6	0	0	0	0	10	**366**
Sauvie Island	347	9	0	0	0	0	10	**366**
Salmon & Main	229	0	0	0	0	0	137	**366**
SE Lafayette & 57th	331	34	0	0	0	0	1	**366**
Woodstock Neighborhood	286	52	0	0	0	0	28	**366**
Portland Metro	315	46	5	0	0	0	0	**366**

Table 14. 2024 Summary of Willamette Vally AQI Sites

Air Shed	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Albany	341	25	0	0	0	0	0	**366**
Cottage Grove	297	63	0	0	0	0	6	**366**
Corvallis	338	12	0	0	0	0	16	**366**
Dallas	332	12	0	0	0	0	22	**366**
Eugene Sites								
Amazon Park	334	32	0	0	0	0	0	**366**
Hwy 99 W	314	52	0	0	0	0	0	**366**
Wilkes Dr	320	45	0	0	0	0	1	**366**
Springfield Sites								
City Hall	311	48	0	0	0	0	7	**366**
Youth Farm	321	35	0	1	0	0	9	**366**
metro area	299	65	1	1	0	0	0	**366**
Santiam Pass								
Lyons	194	51	0	1	0	0	120	**366**
Mill City	295	47	4	0	0	0	20	**366**
Salem Sites								
Central Salem	325	41	0	0	0	0	0	**366**
NE Salem	313	34	3	0	0	0	16	**366**
Silverton	347	19	0	0	0	0	0	**366**
Turner	335	31	0	0	0	0	0	**366**
metro area	304	57	5	0	0	0	0	**366**
Oakridge	286	69	7	3	1	0	0	**366**
Sweet Home	335	28	0	0	0	0	3	**366**
Woodburn	327	32	2	0	0	0	5	**366**

Table 15. 2024 Summary of Southwest Oregon AQI Sites

Air Shed	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Cave Junction	313	46	6	0	0	0	1	**366**
Grants Pass	310	56	0	0	0	0	0	**366**
Rogue Valley Sites								
Ashland	323	41	2	0	0	0	0	**366**
Medford	280	84	1	1	0	0	0	**366**
Shady Cove	339	26	1	0	0	0	0	**366**
Rogue Valley metro area	271	92	2	1	0	0	0	**366**
Roseburg	303	41	0	0	0	0	22	**366**
Talent	326	35	0	1	0	0	4	**366**

Table 16. 2024 Summary of Cascade AQI Sites

Air Shed	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Crater Lake	86	18	9	4	1	0	248	**366**
Detroit Lake	266	9	0	0	0	0	91	**366**
Hood River	307	48	0	0	0	0	11	**366**
Mt. Hood - Govt. Camp	92	8	2	0	0	0	264	**366**

Table 17. 2024 Summary of Northeast Oregon AQI Sites

Air Shed	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Baker City	280	83	1	2	0	0	0	**366**
Burns	200	139	6	16	4	0	1	**366**
Cove	322	43	1	0	0	0	0	**366**
Enterprise	283	69	1	0	0	0	13	**366**
Hermiston	266	69	4	0	0	0	27	**366**
John Day	190	157	5	13	1	0	0	**366**
La Grande	303	62	1	0	0	0	0	**366**
Ontario	278	82	1		0	0	5	**366**
Pendleton	306	59	0	0	0	0	1	**366**
The Dalles	317	47	0	0	0	0	2	**366**

Table 18. 2024 Summary of Central Oregon AQI Sites

Air Shed	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Bend Sites								
Bend High School	257	82	8	4	0	0	15	**366**
Bend Pine Ridge	273	68	8	2	0	0	15	**366**
Bend Ponderosa	271	69	7	1	0	0	18	**366**
Bend - Portland Ave. Bridge	277	72	12	5	0	0	0	**366**
Bend Metro area	264	84	13	5	0	0	0	**366**
La Pine	226	119	10	5	1	0	5	**366**
Madras	290	75	1	0	0	0	0	**366**
Prineville	293	67	4	2	0	0	0	**366**
Redmond	272	64	6	0	0	0	24	**366**
Sisters	281	47	5	0	0	0	33	**366**
Sun River	279	63	4	5	0	0	15	**366**

Table 19. 2024 Summary of Central Oregon AQI Sites

Air Shed	Good	Moderate	USG	Unhealthy	Very Unhealthy	Hazardous	Missing	Sum
Chiloquin	322	27	8	2	0	0	7	**366**
Klamath Falls	276	81	7	2	0	0	0	**366**
Lakeview	293	66	6	1	0	0	0	**366**

AQI Graphs

The AQI graphs below show the AQI value for each day for each monitoring city in Oregon. The AQI calculation uses $PM_{2.5}$ data for most locations and uses both $PM_{2.5}$ and ozone at the following locations: Portland Metro, Eugene-Springfield, Hermiston, Medford, and Salem. Within each graph is a table of AQI health categories, the number of days within each category, and the number of wildfire days within categories of Unhealthy for Sensitive Groups (USG) or higher.

Coastal AQI

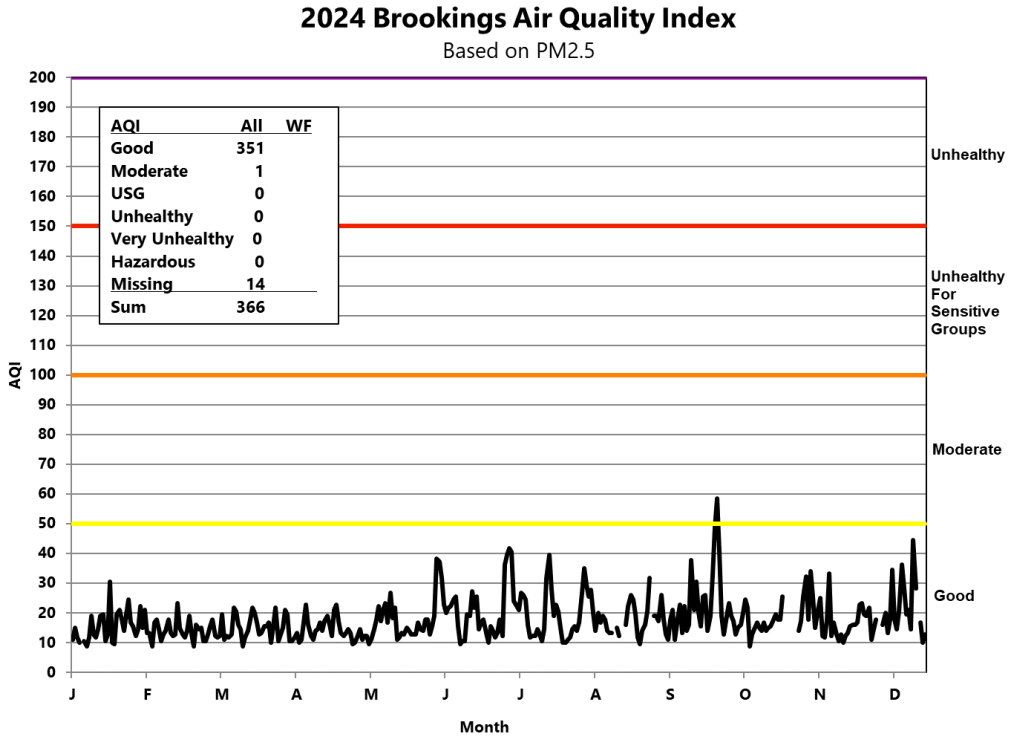

Figure 36. 2024 Brookings AQI

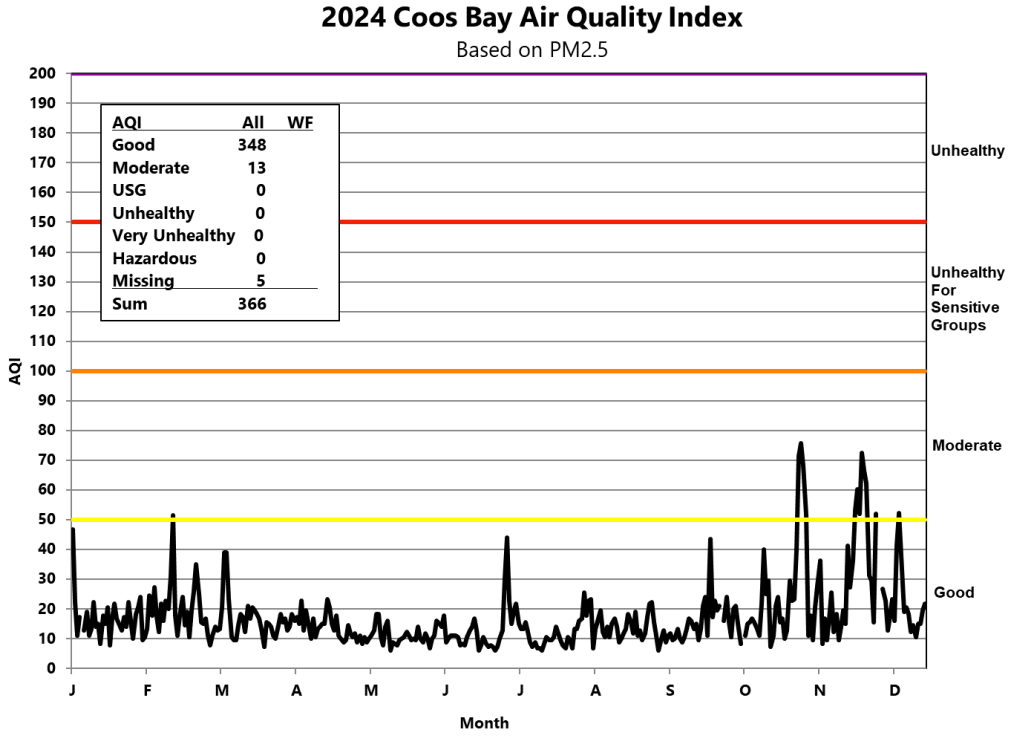

Figure 37. 2024 Coos Bay AQI

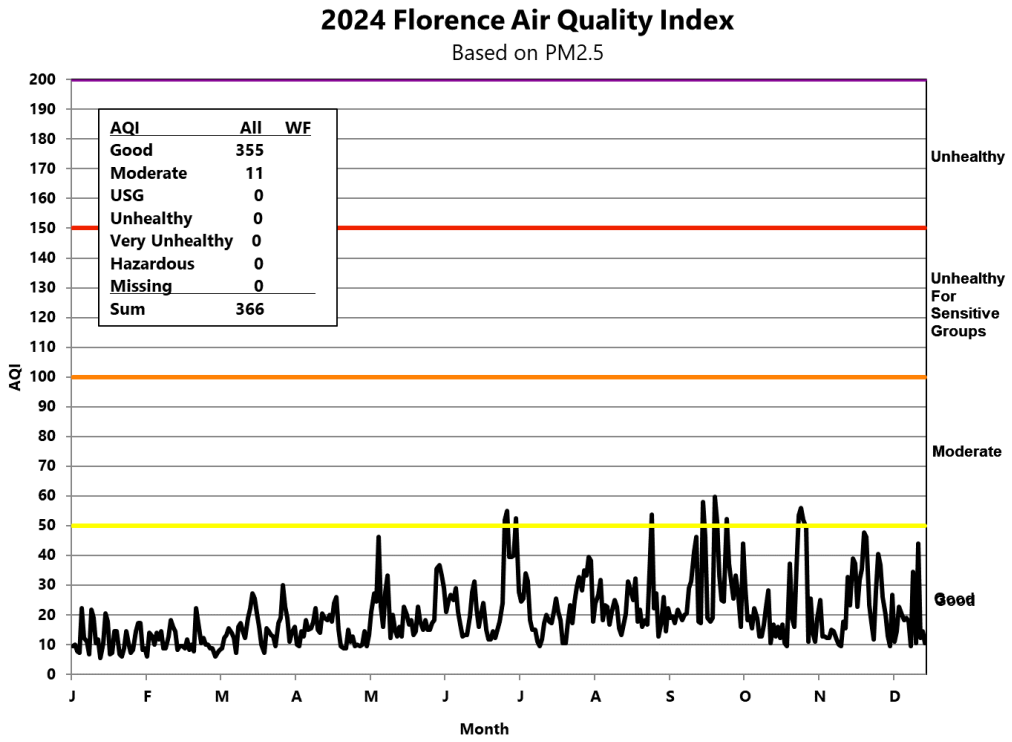

Figure 38. 2024 Florence AQI

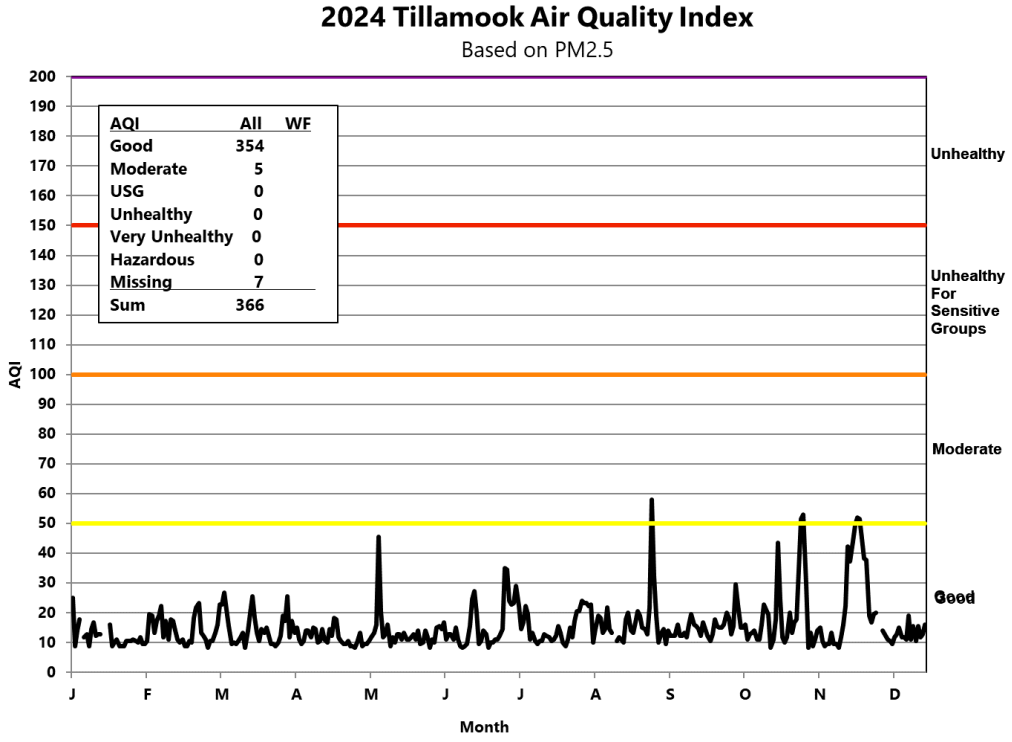

Figure 39. 2024 Tillamook AQI

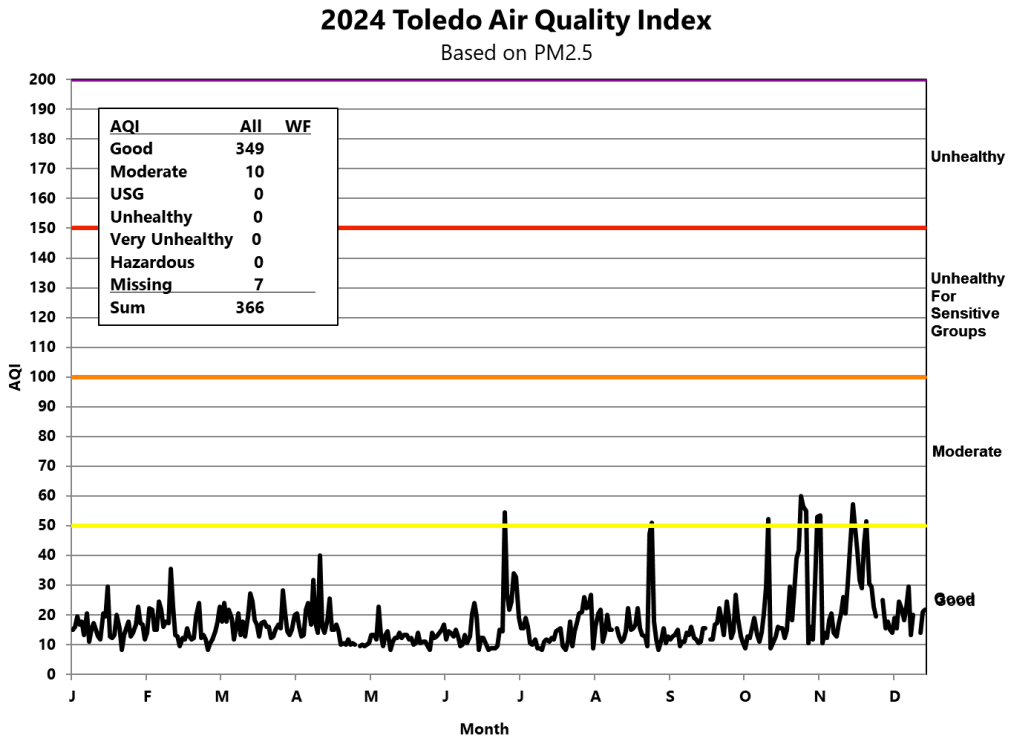

Figure 40. 2024 Toledo AQI

Greater Portland Metro Area

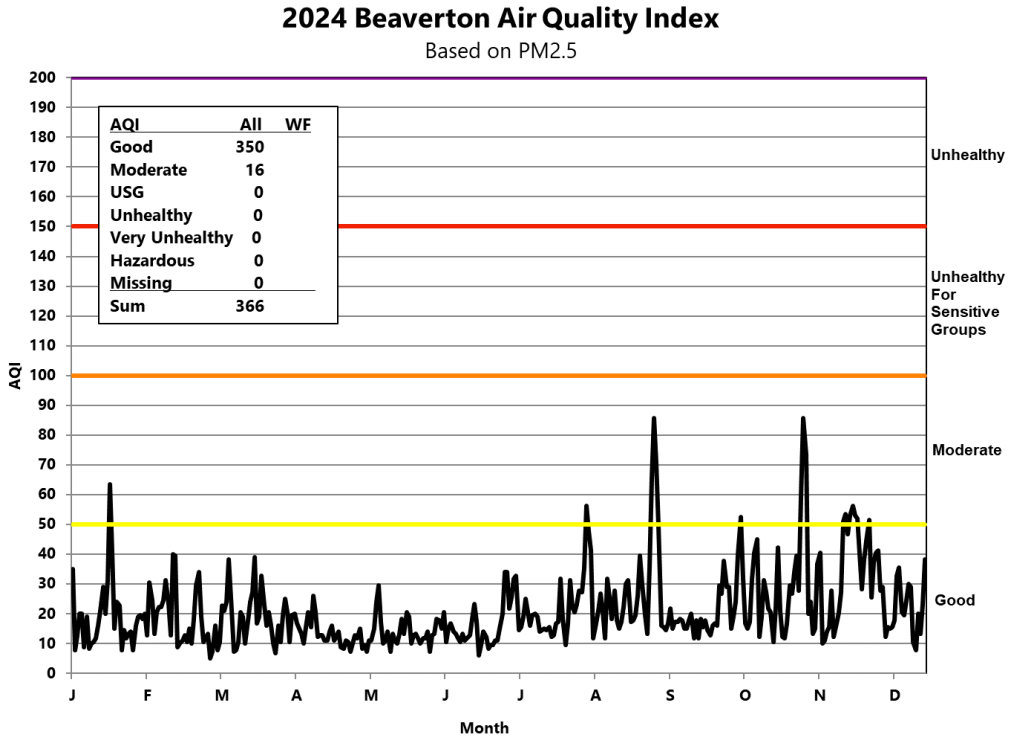

Figure 41. 2024 Beaverton AQI

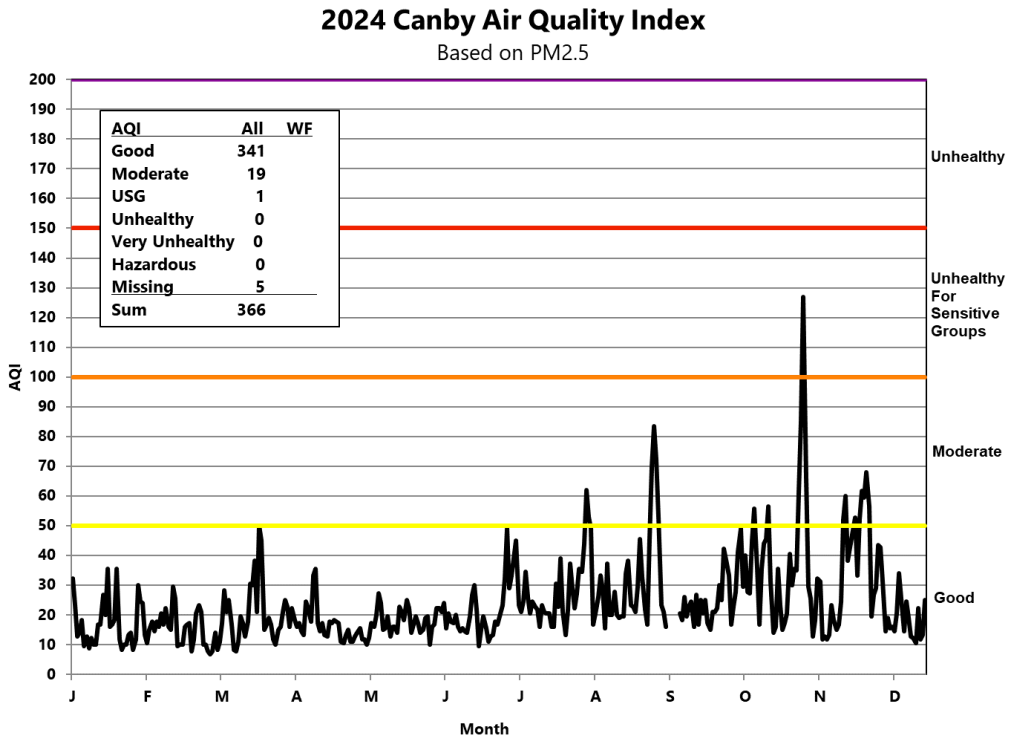

Figure 42. 2024 Canby AQI

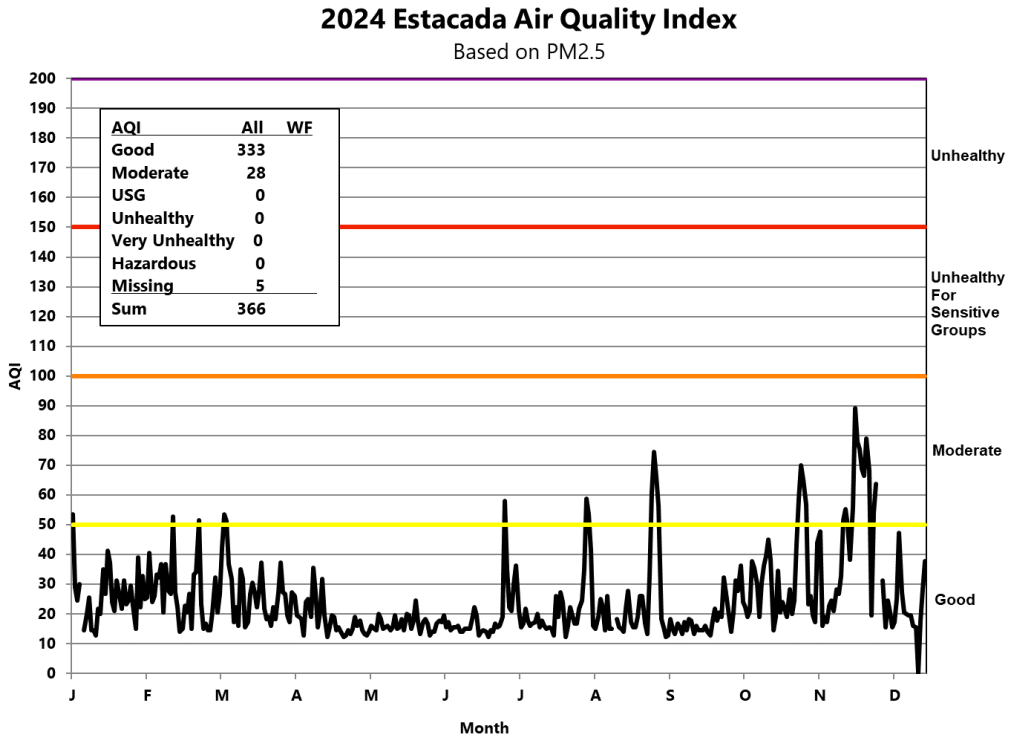

Figure 43. 2024 Estacada AQI

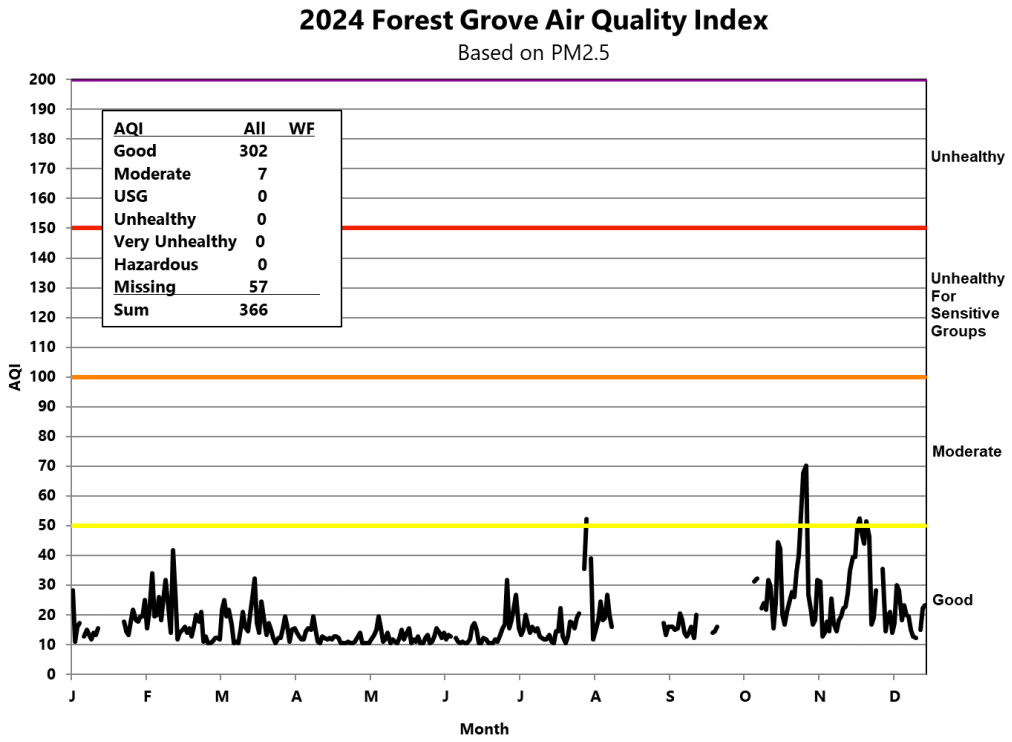

Figure 44. 2024 Forest Grove AQI

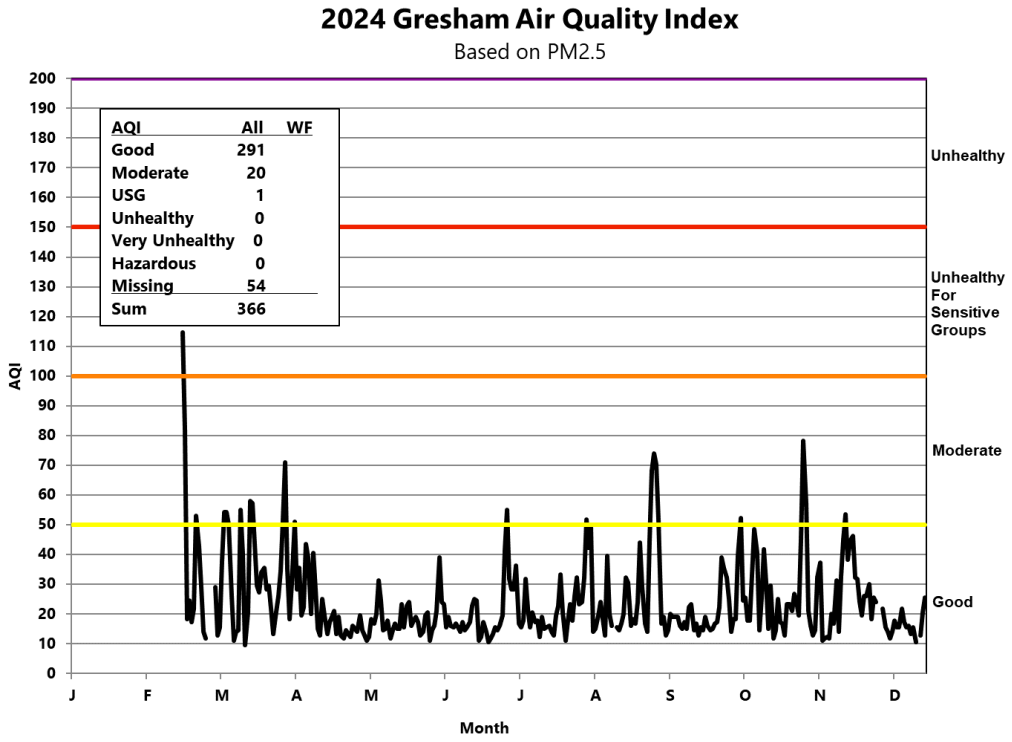

Figure 45. 2024 Gresham AQI

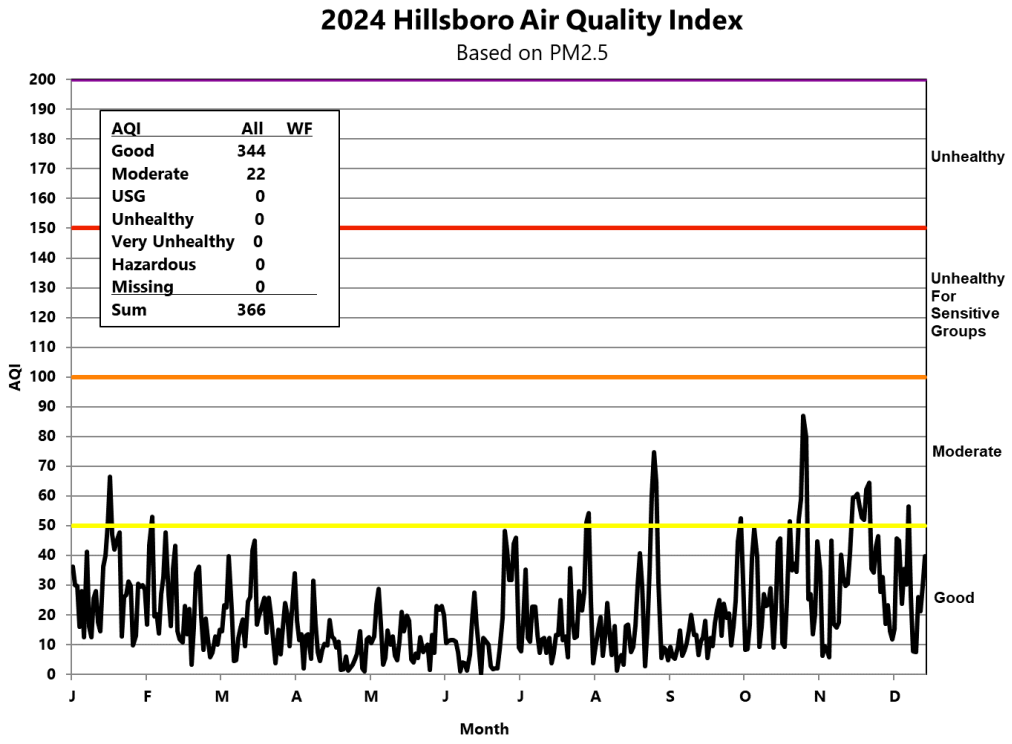

Figure 46. 2024 Hillsboro AQI

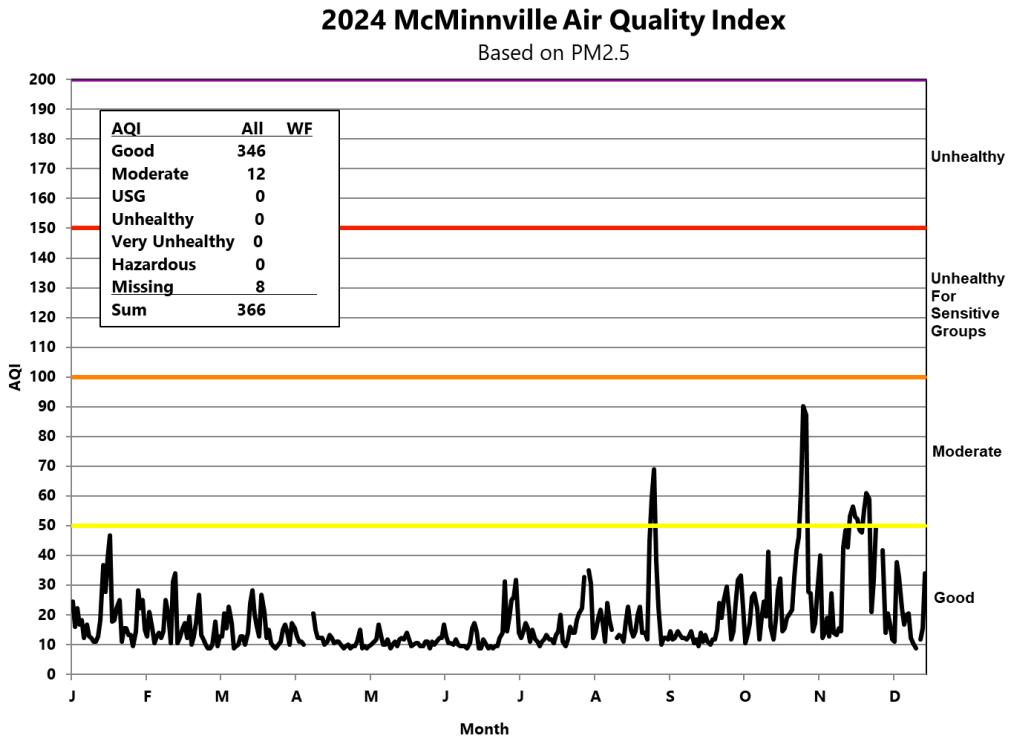

Figure 47. 2024 McMinnville AQI

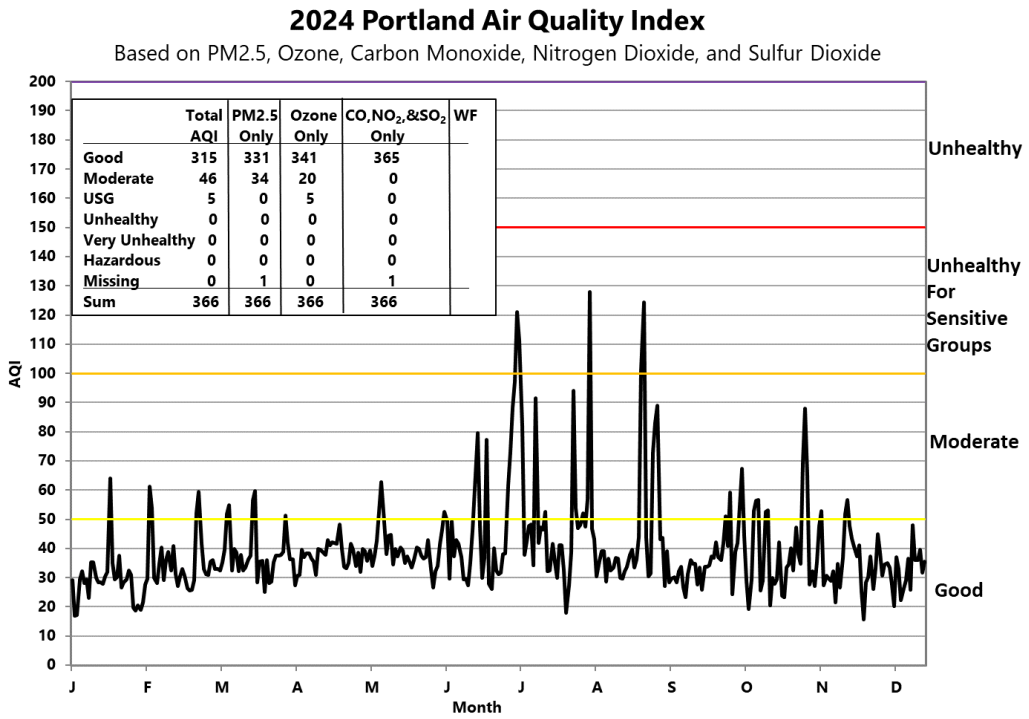

Figure 48. 2024 Portland AQI

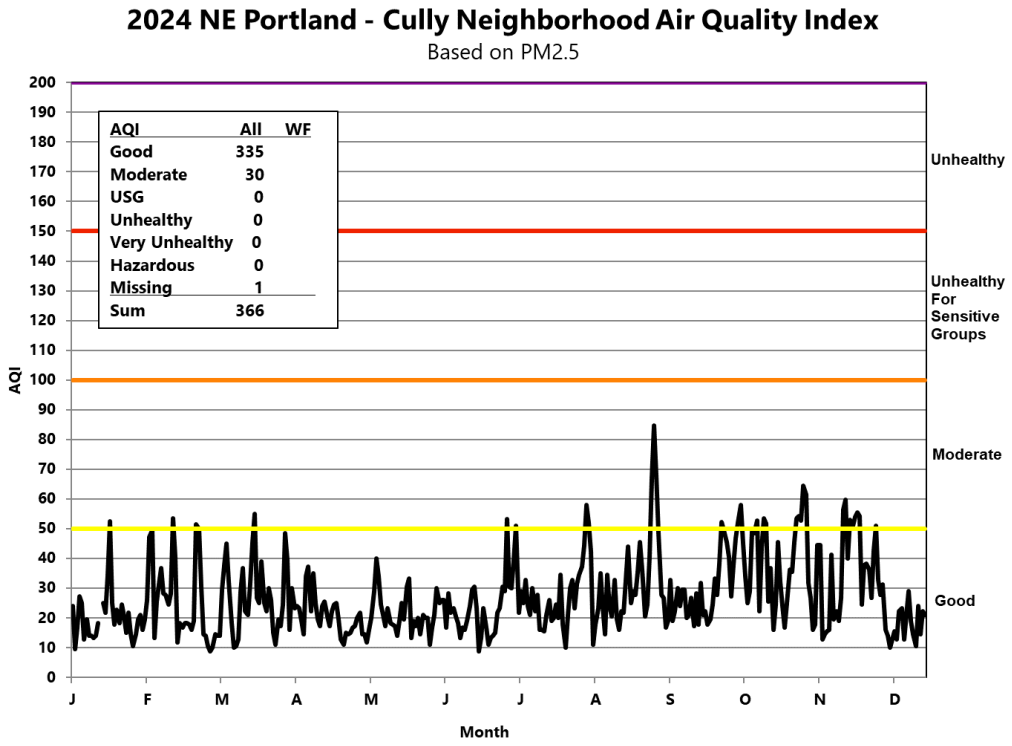

Figure 49. 2024 NE Portland - Cully Neighborhood AQI

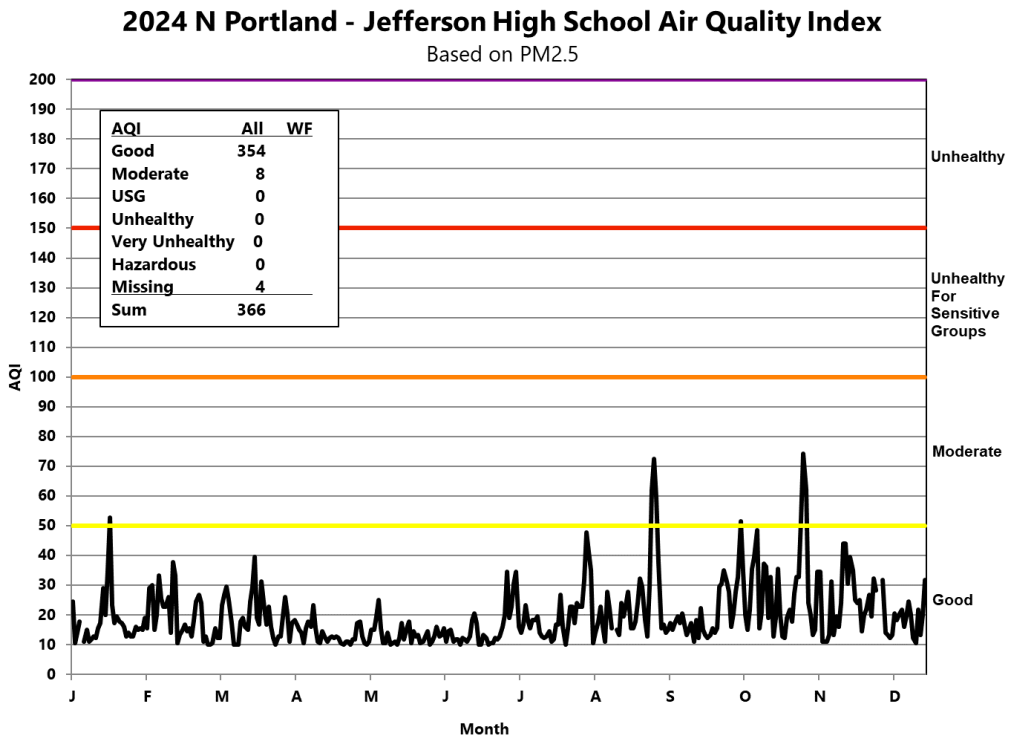

Figure 50. 2024 North Portland – Jefferson High School AQI

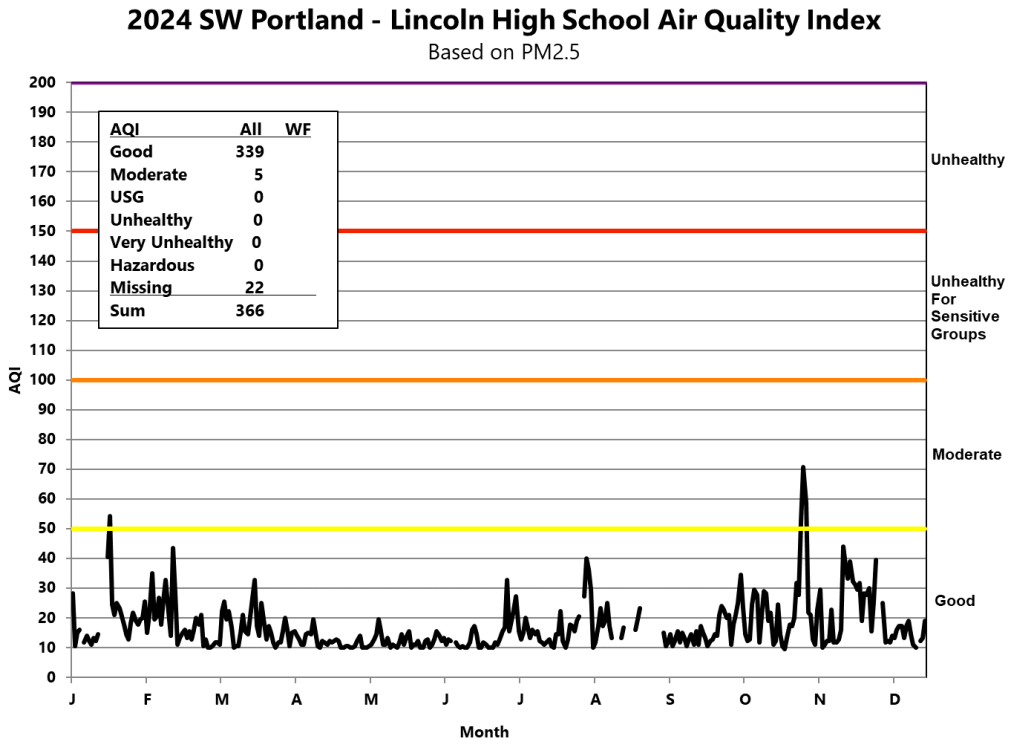

Figure 51. 2024 NW Portland – Lincoln High School AQI

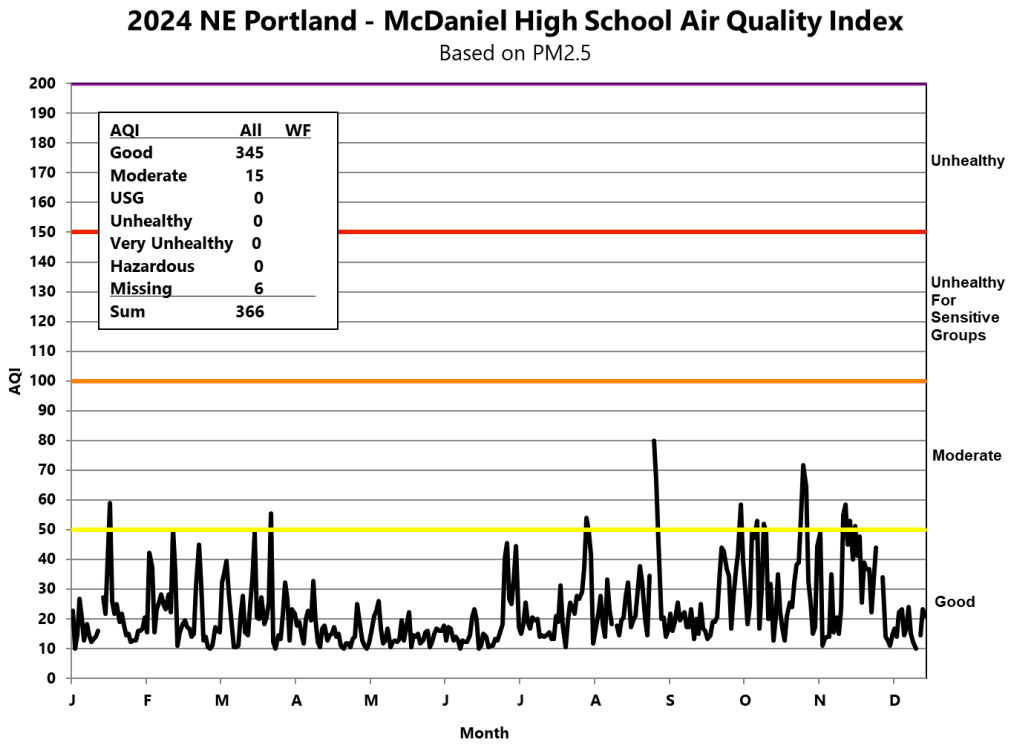

Figure 52. 2024 NE Portland – McDaniel High School AQI

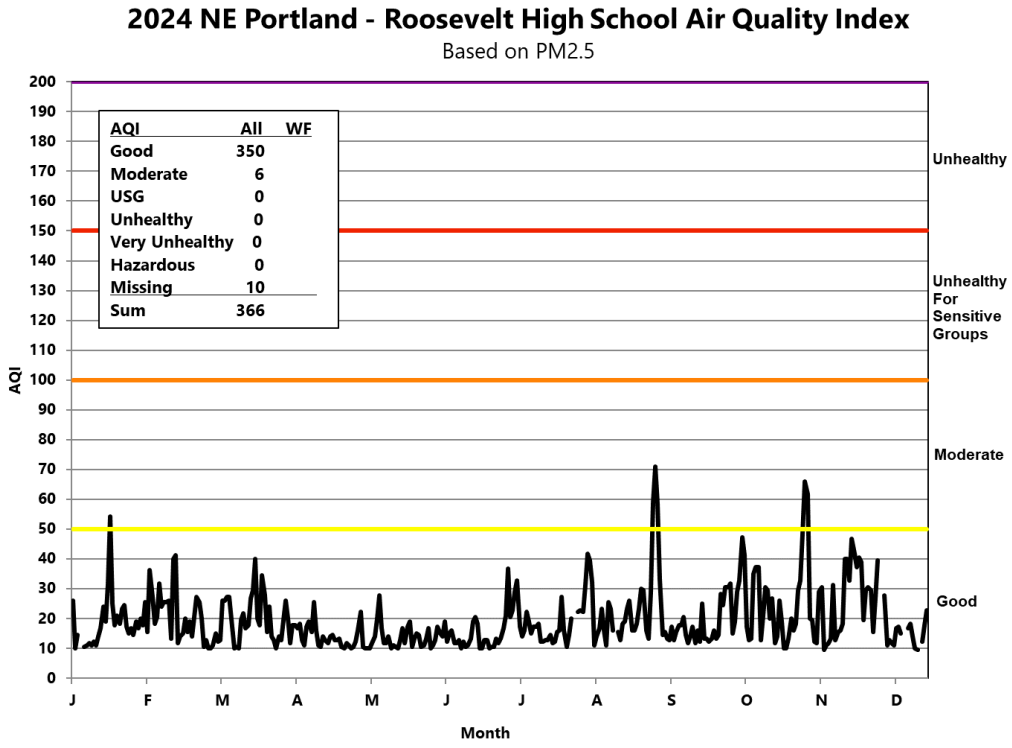

Figure 53. 2024 North Portland – Roosevelt High School AQI

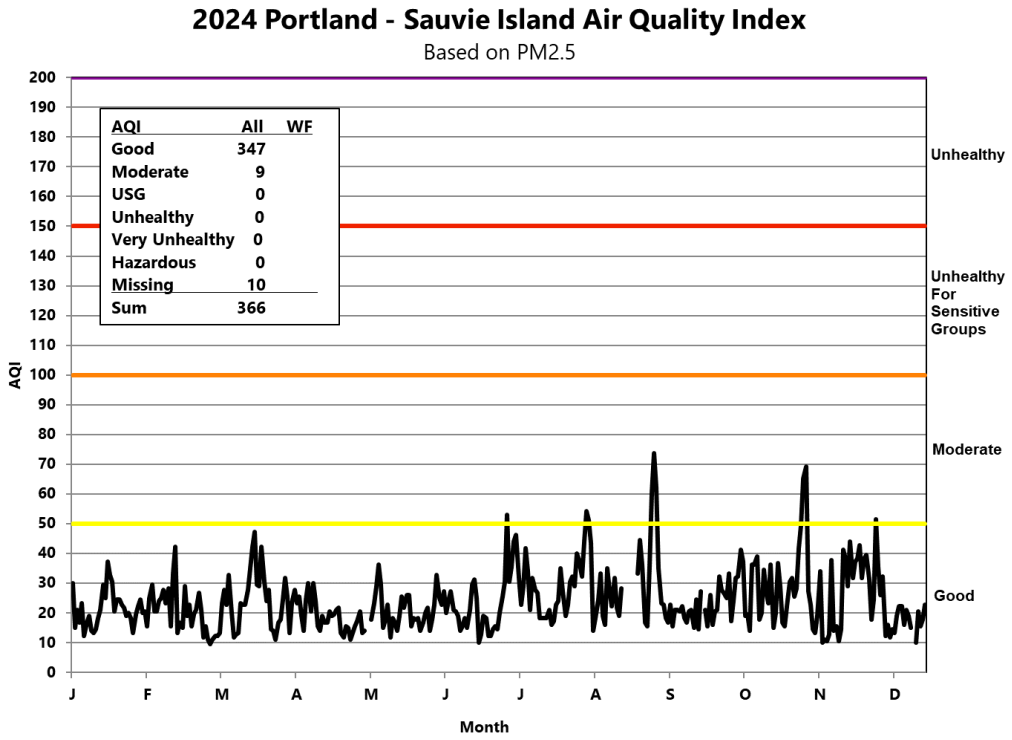

Figure 54. 2024 Sauvie Island AQI

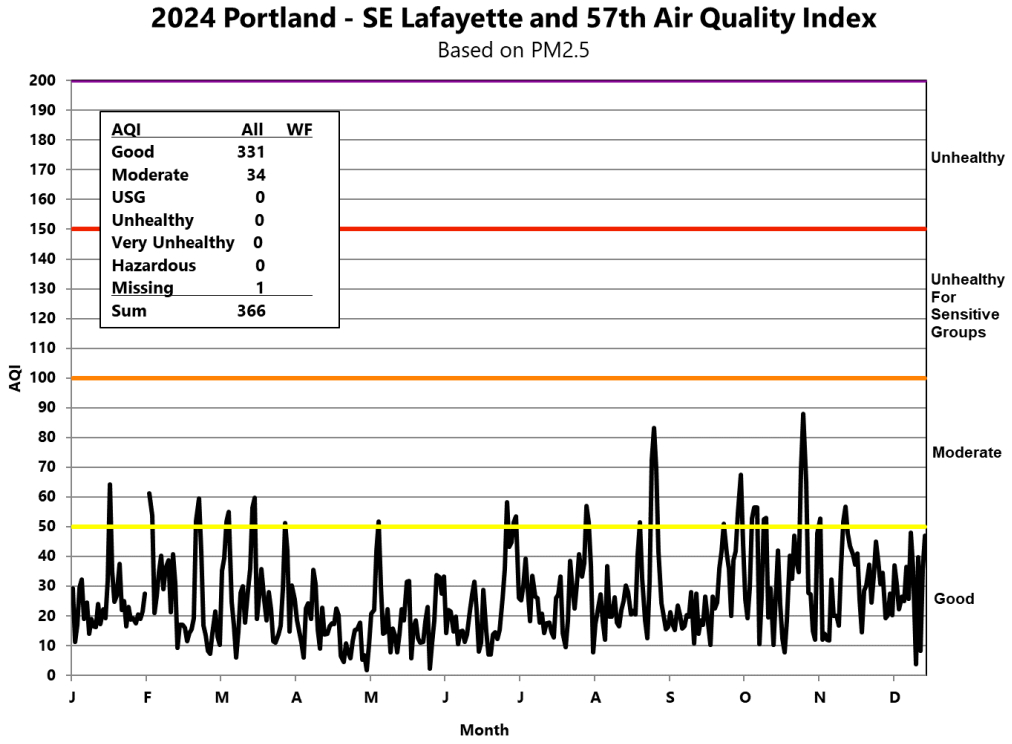

Figure 55. 2024 SE Portland – SE Lafayette and 57th AQI

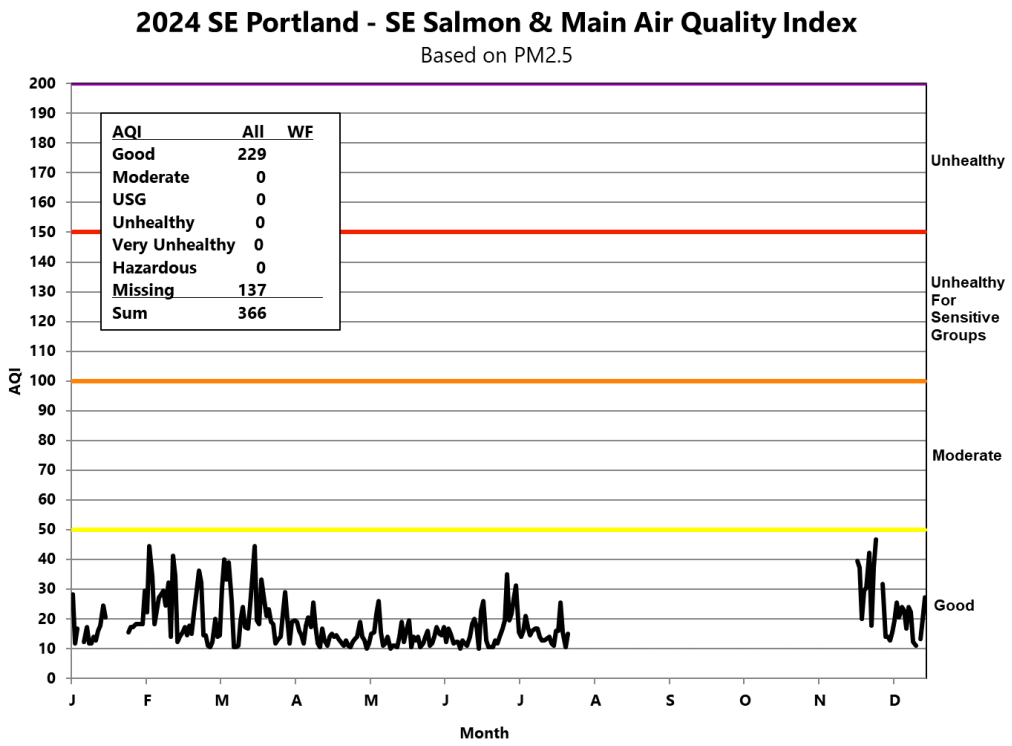

Figure 56. 2024 SE Portland – SE Salmon & Main AQI

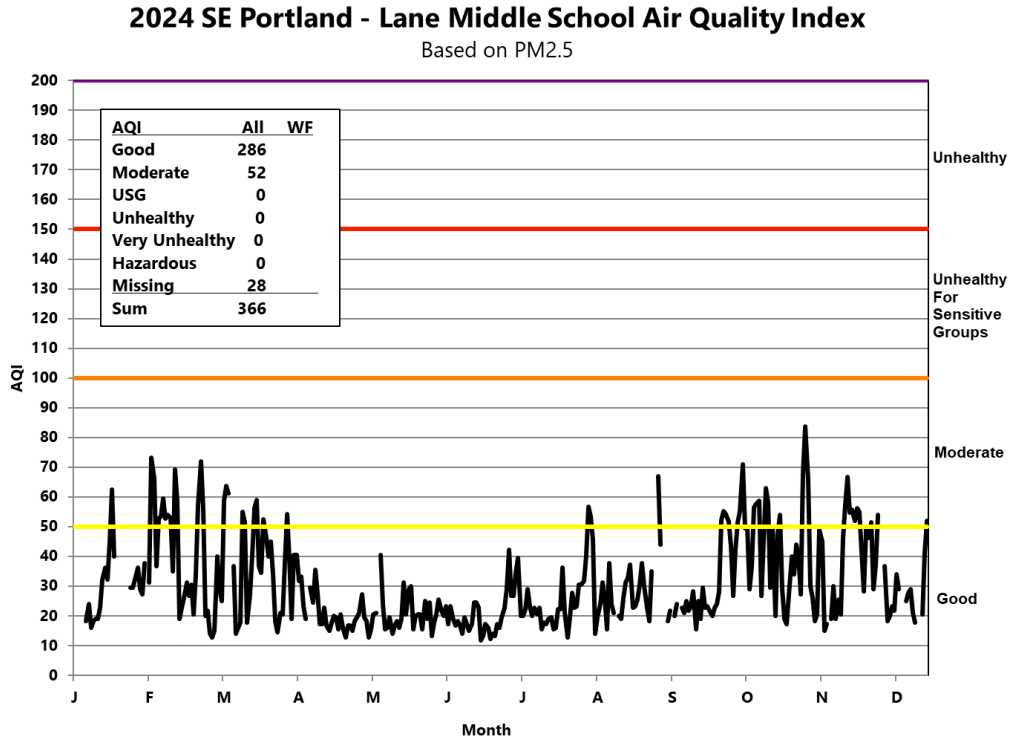

Figure 57. 2024 SE Portland – Woodstock Neighborhood AQI

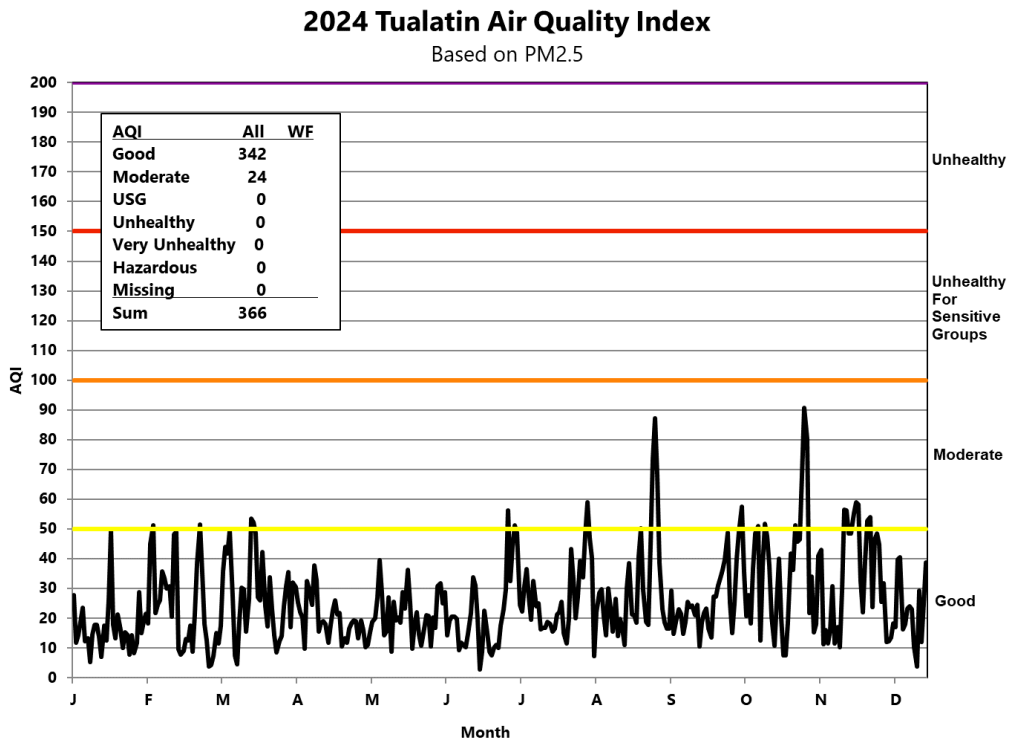

Figure 58. 2024 Tualatin AQI

Willamette Valley

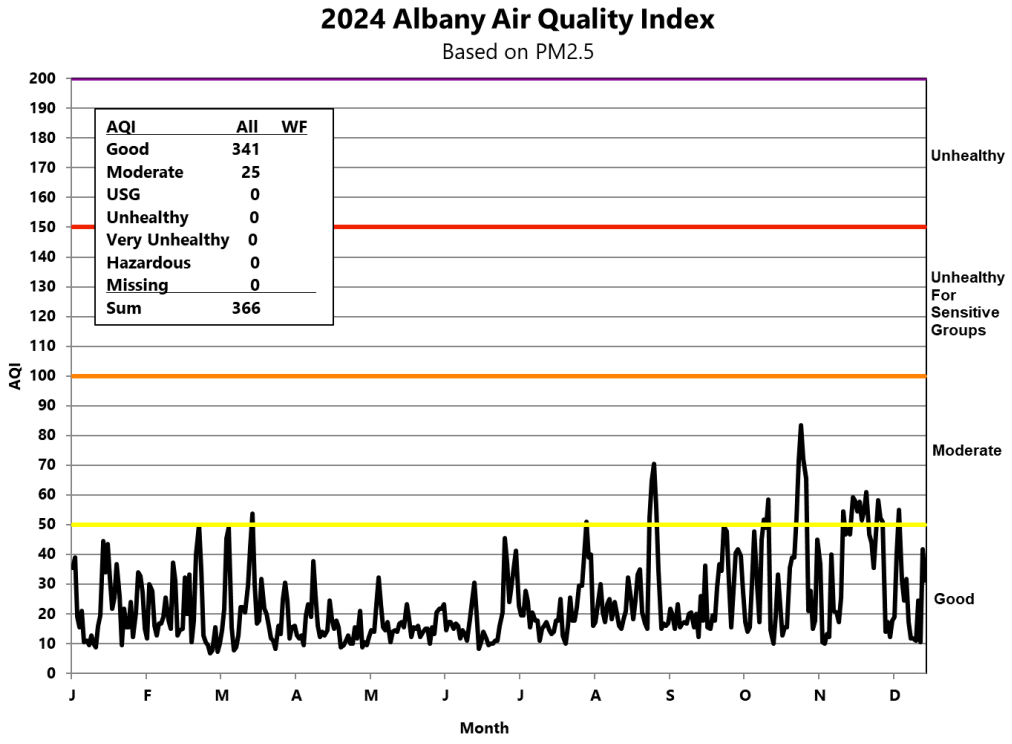

Figure 59. 2024 Albany AQI

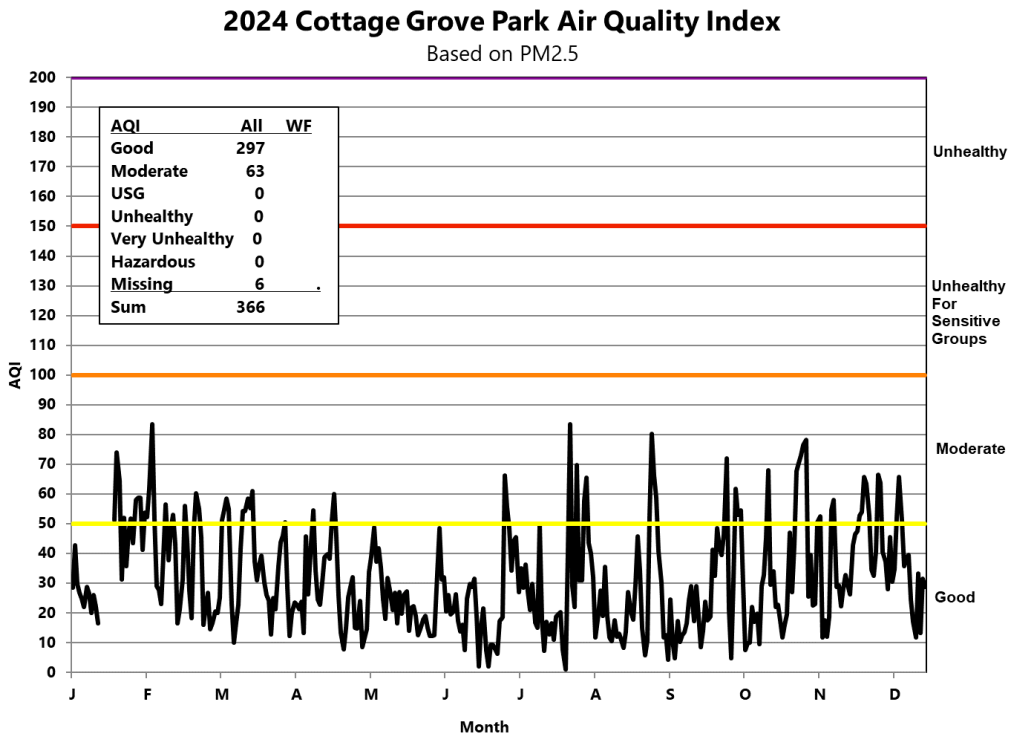

Figure 60. 2024 Cottage Grove AQI

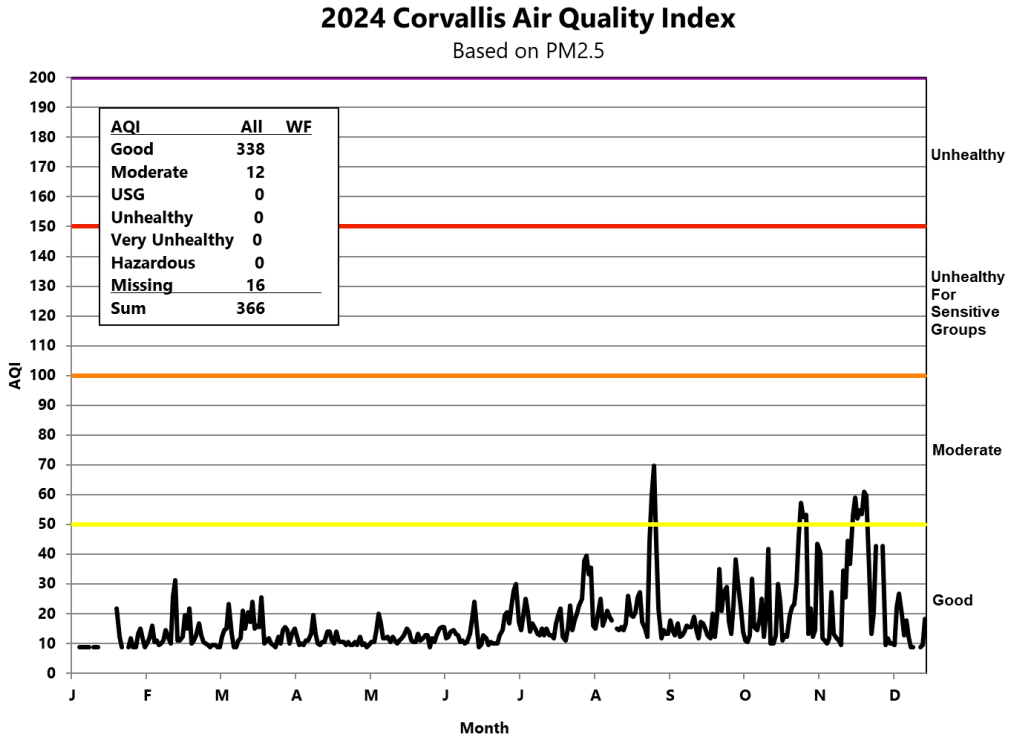

Figure 61. 2024 Corvallis AQI

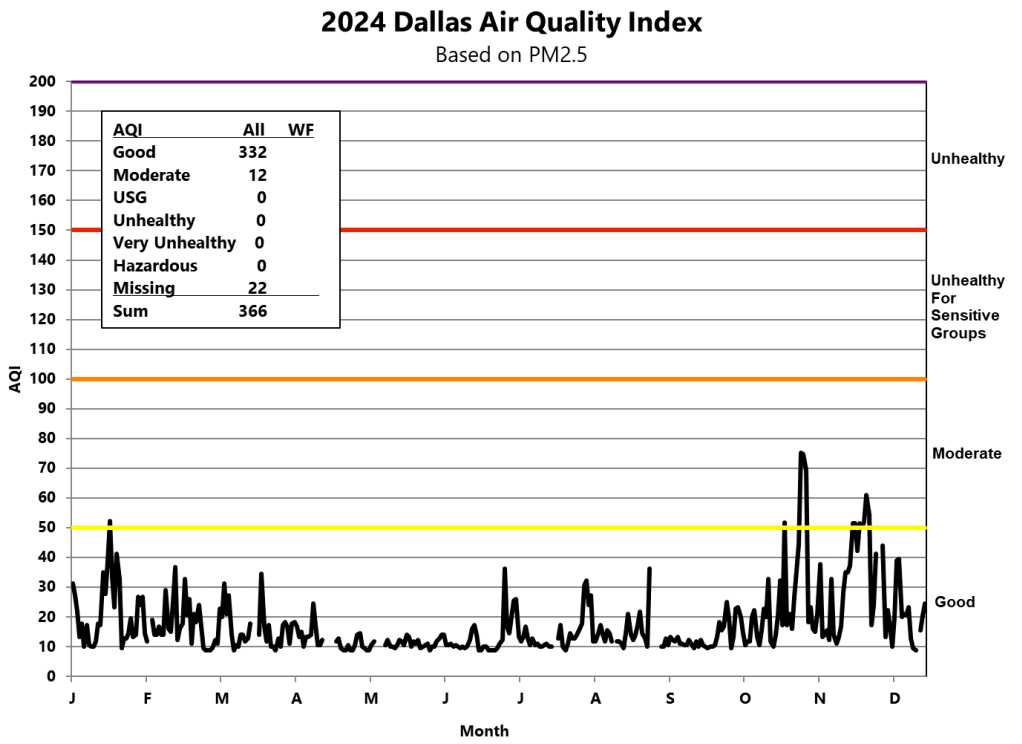

Figure 62 2024 Dallas AQI

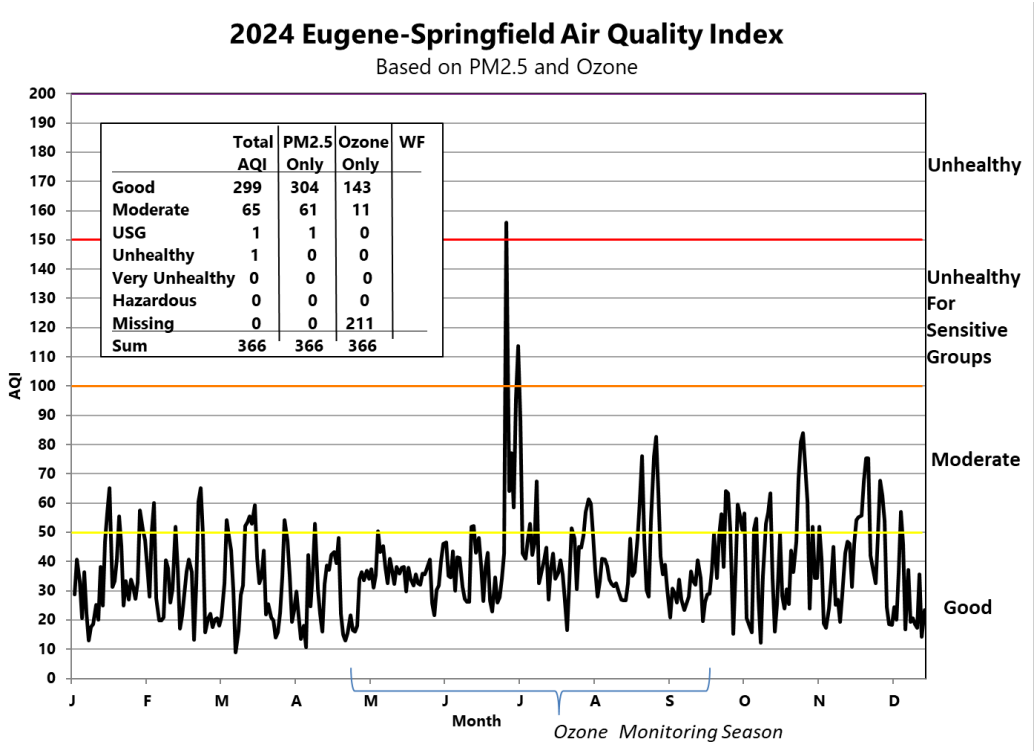

Figure 63. 2024 Eugene-Springfield AQI

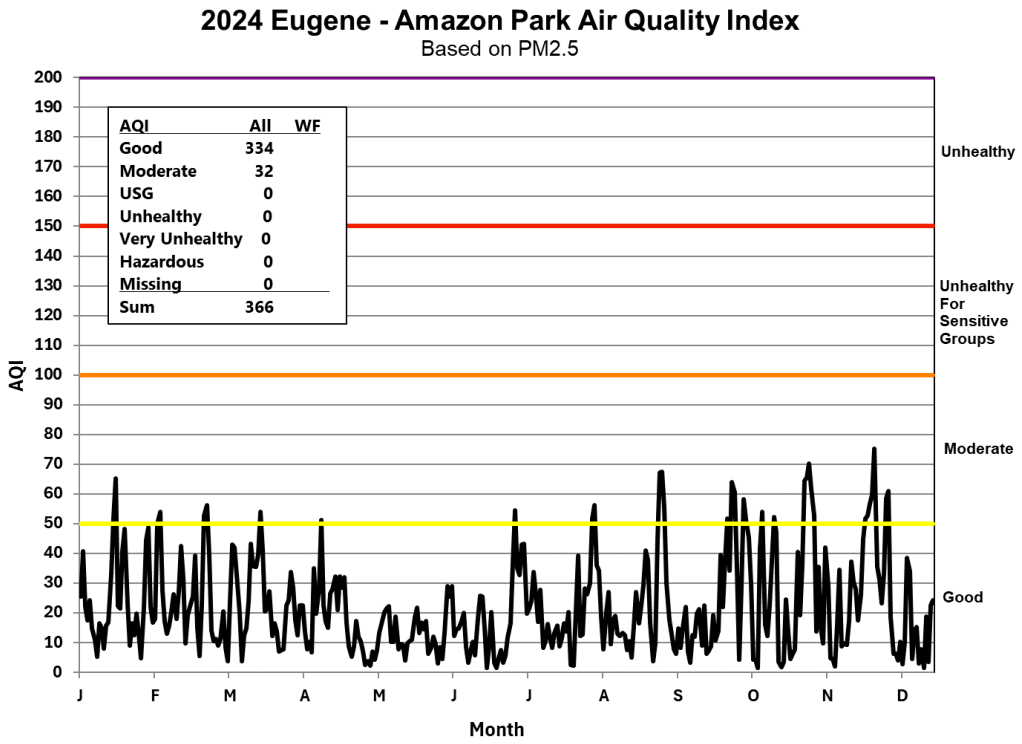

Figure 64. 2024 Eugene – Amazon Park AQI

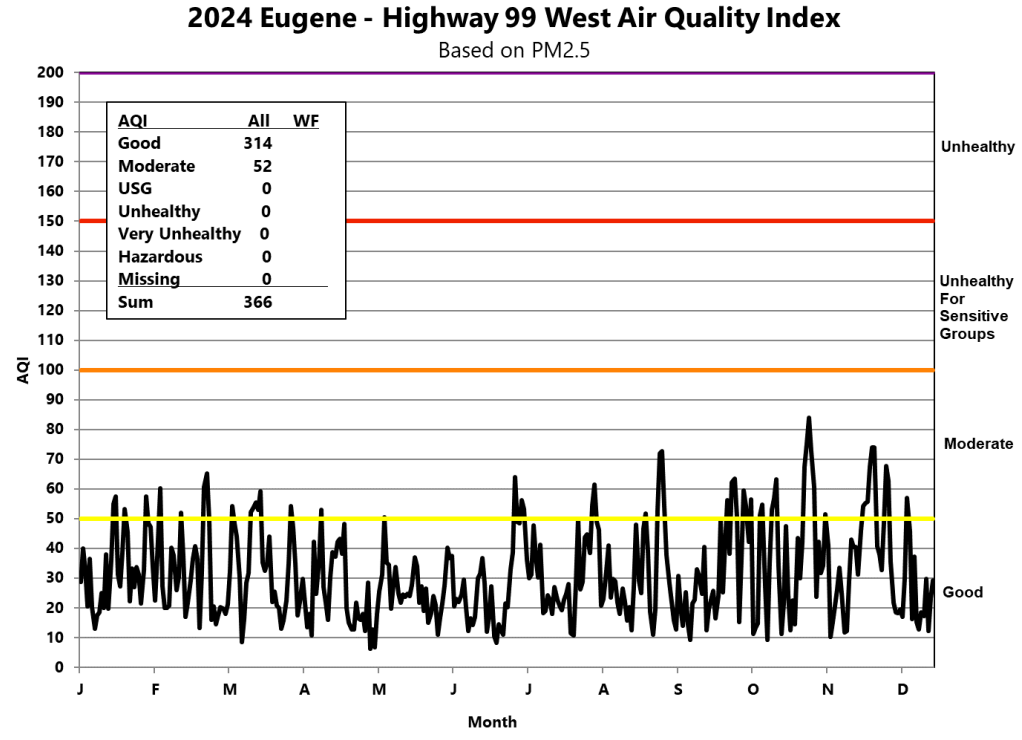

Figure 65 2024 Eugene – Highway 99 West AQI

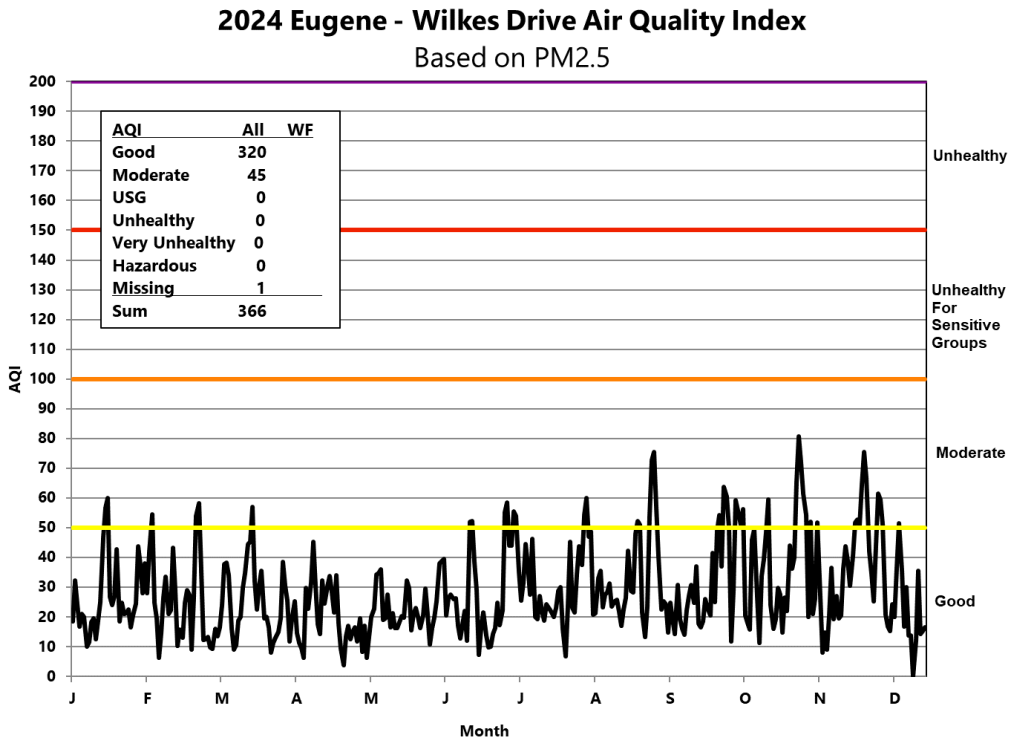

Figure 66 2024 Eugene - Wilkes Drive AQI

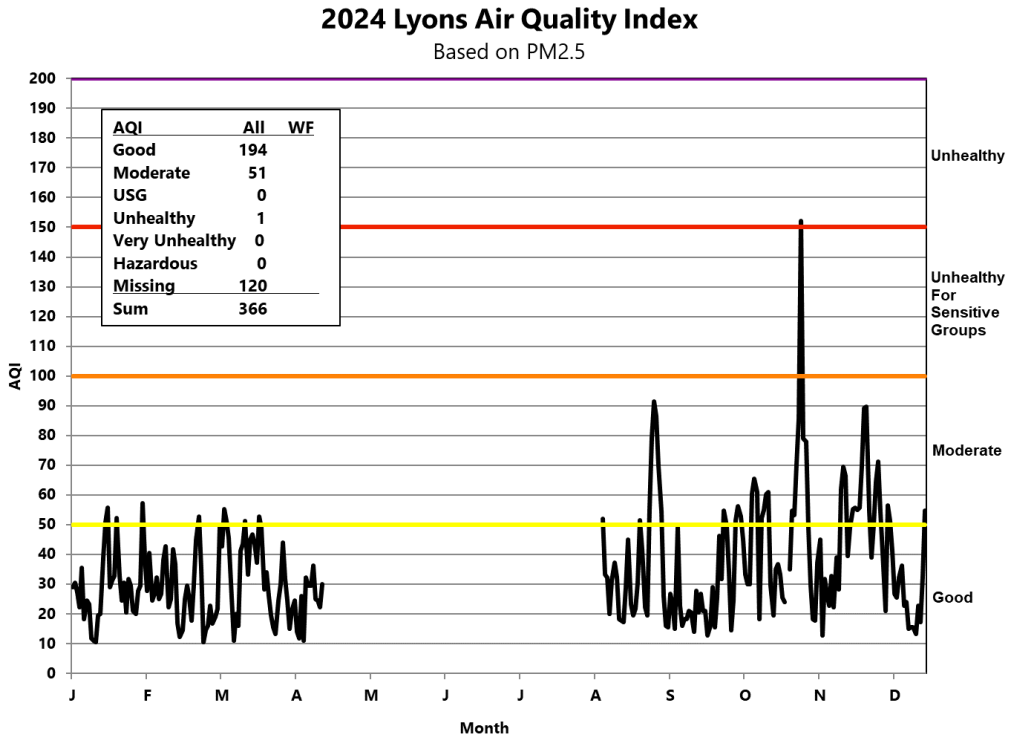

Figure 67 2024 Lyons AQI

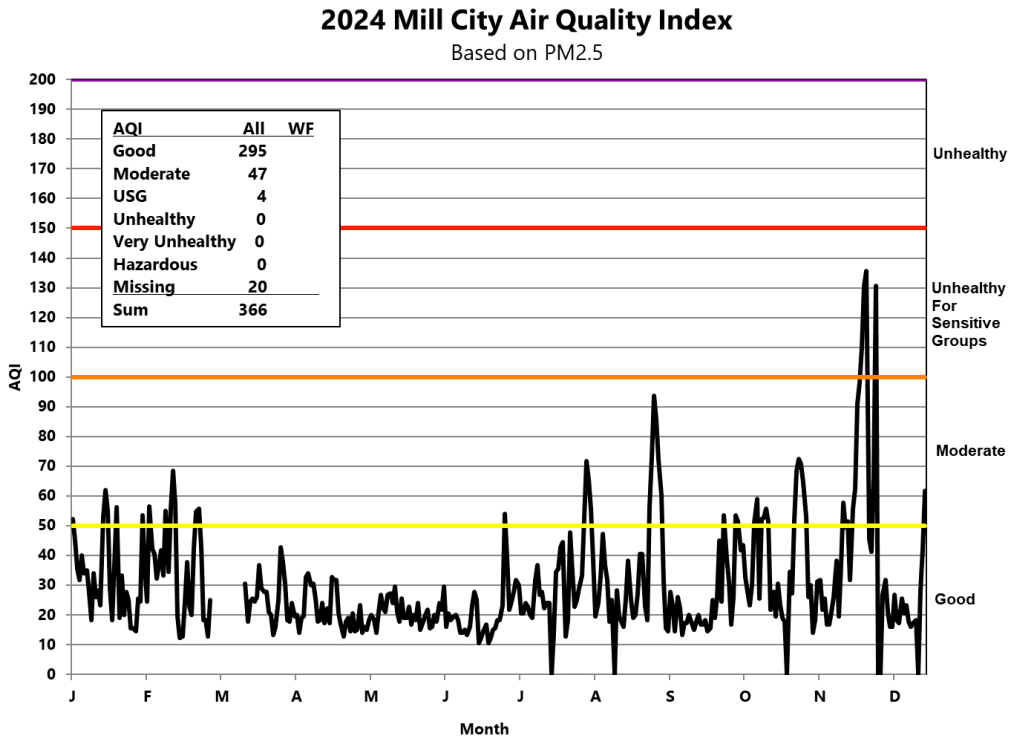

Figure 68. 2024 Mill City AQI

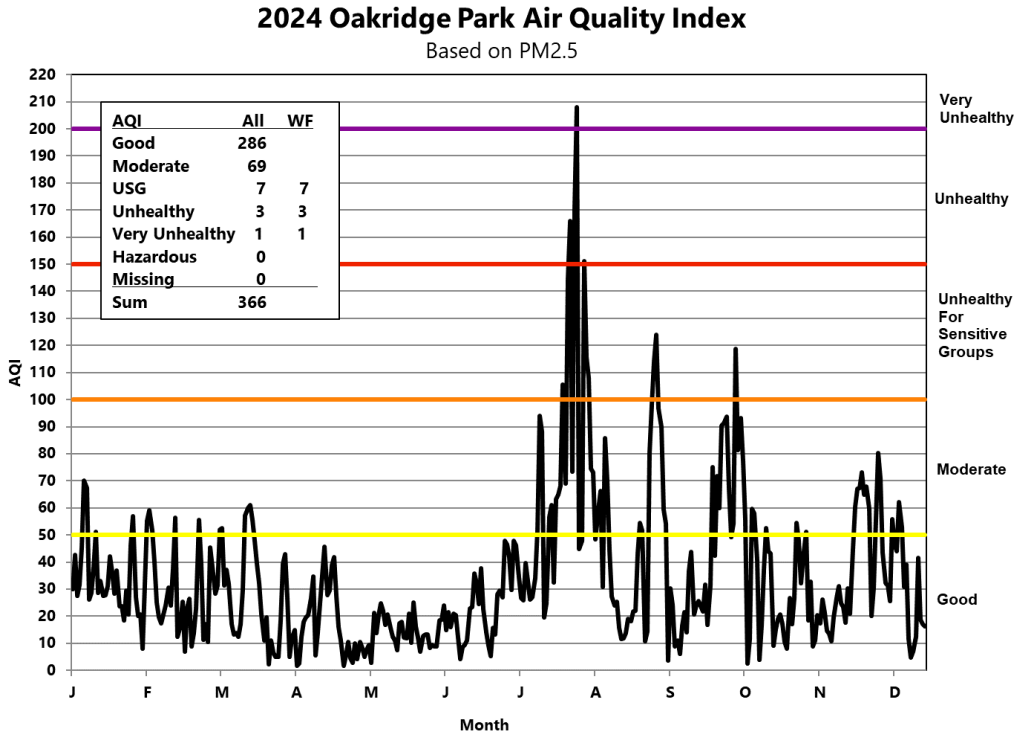

Figure 69. 2024 Oakridge AQI

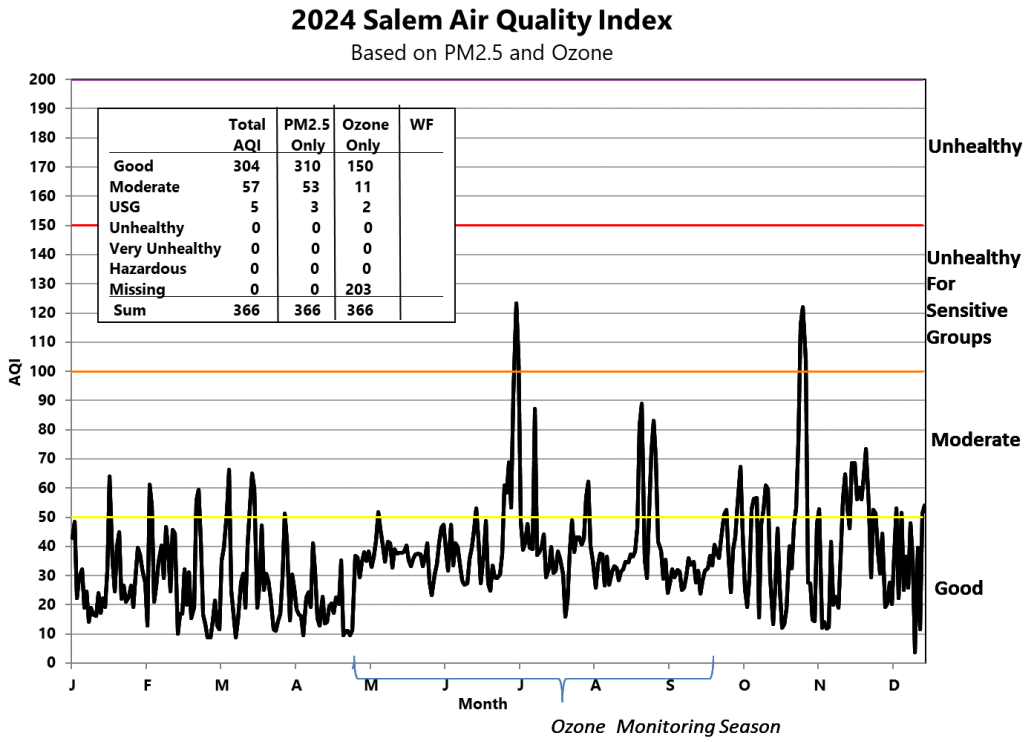

Figure 70. 2024 Salem AQI

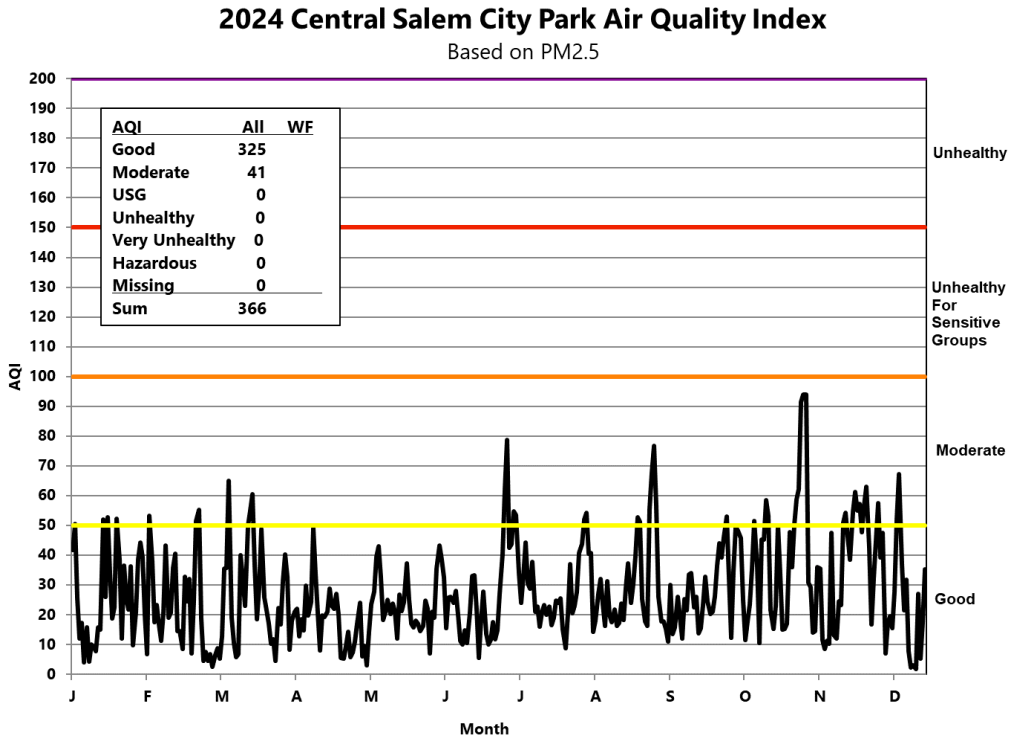

Figure 71. 2024 Central Salem AQI

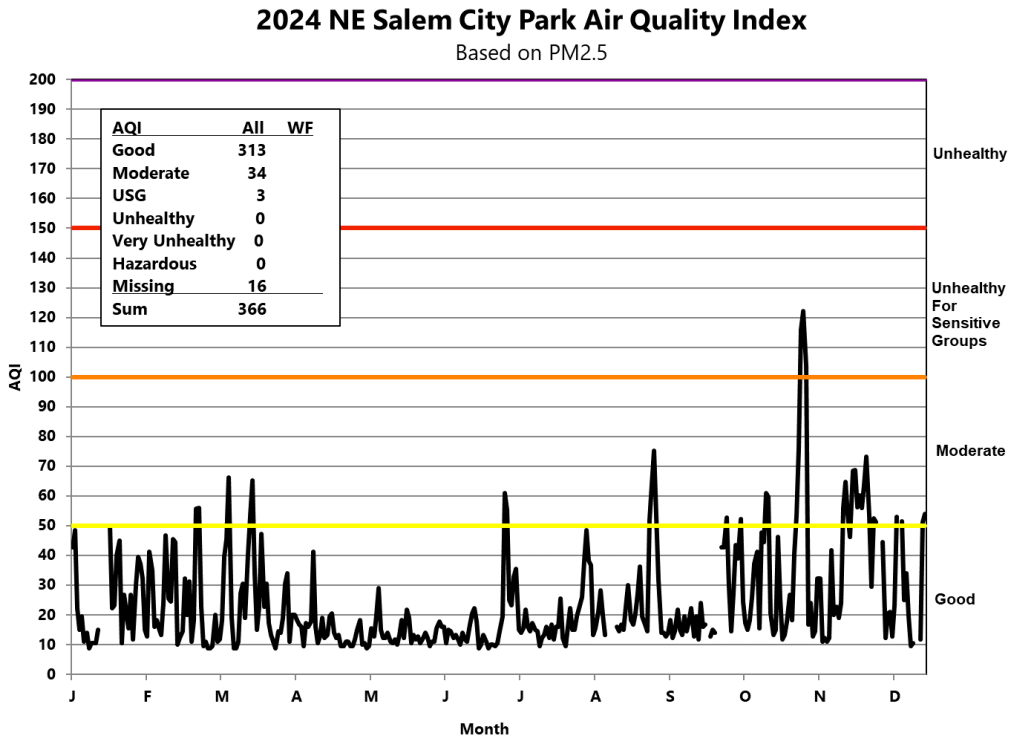

Figure 72. 2024 Northeast Salem AQI

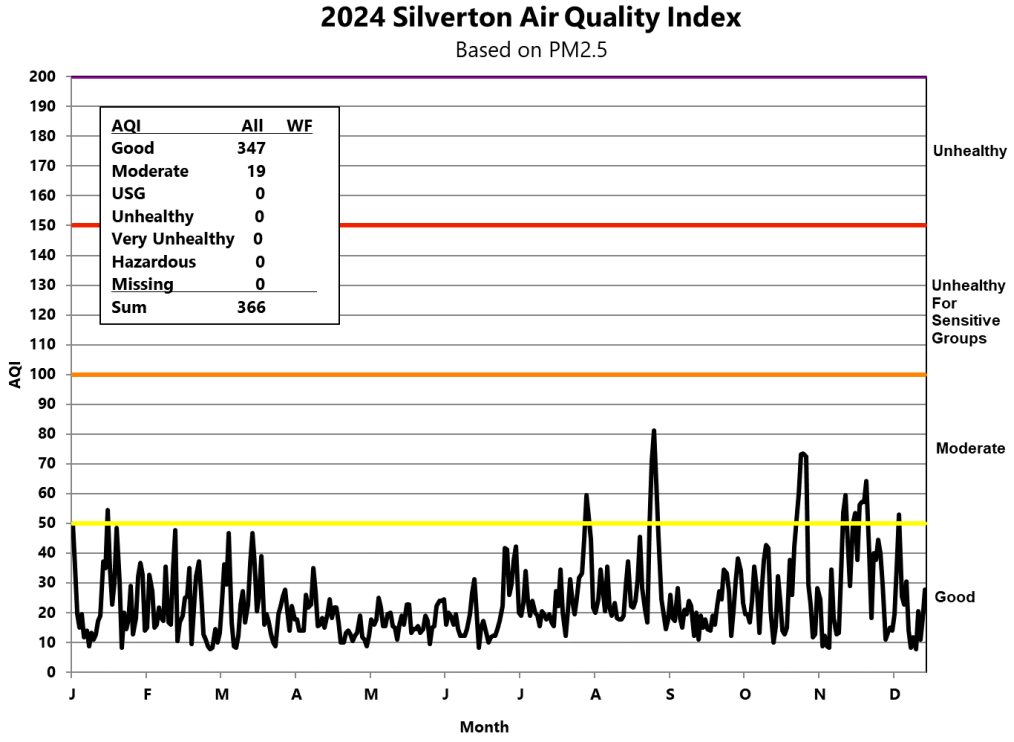

Figure 73. 2024 Silverton AQI

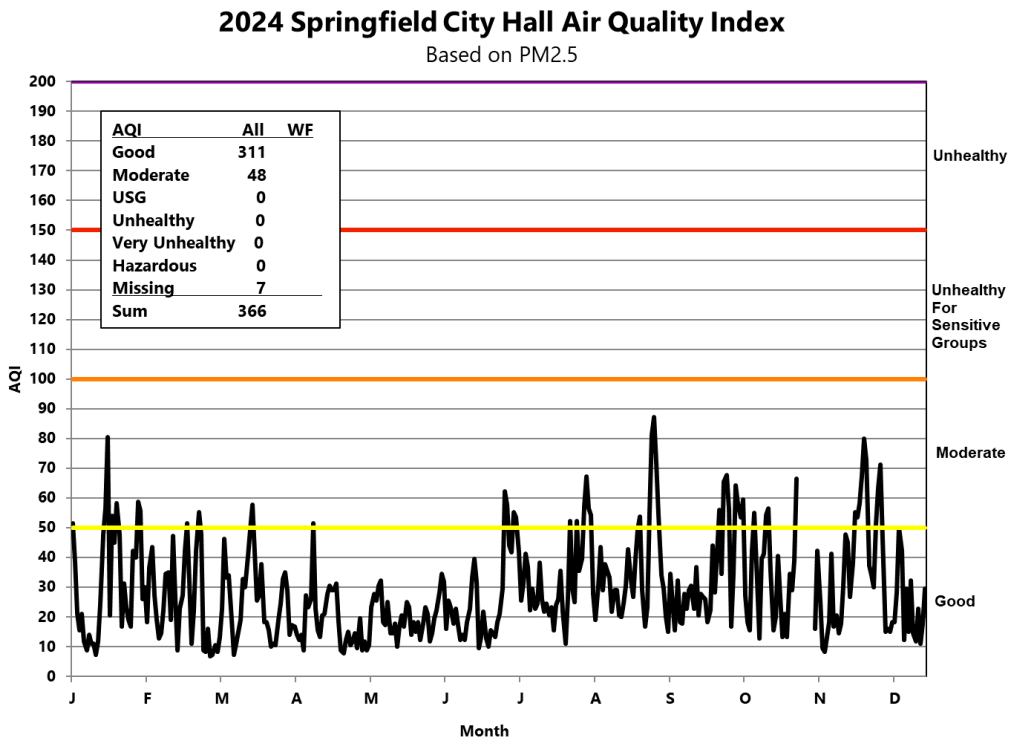

Figure 74. 2024 Springfield City Hall AQI

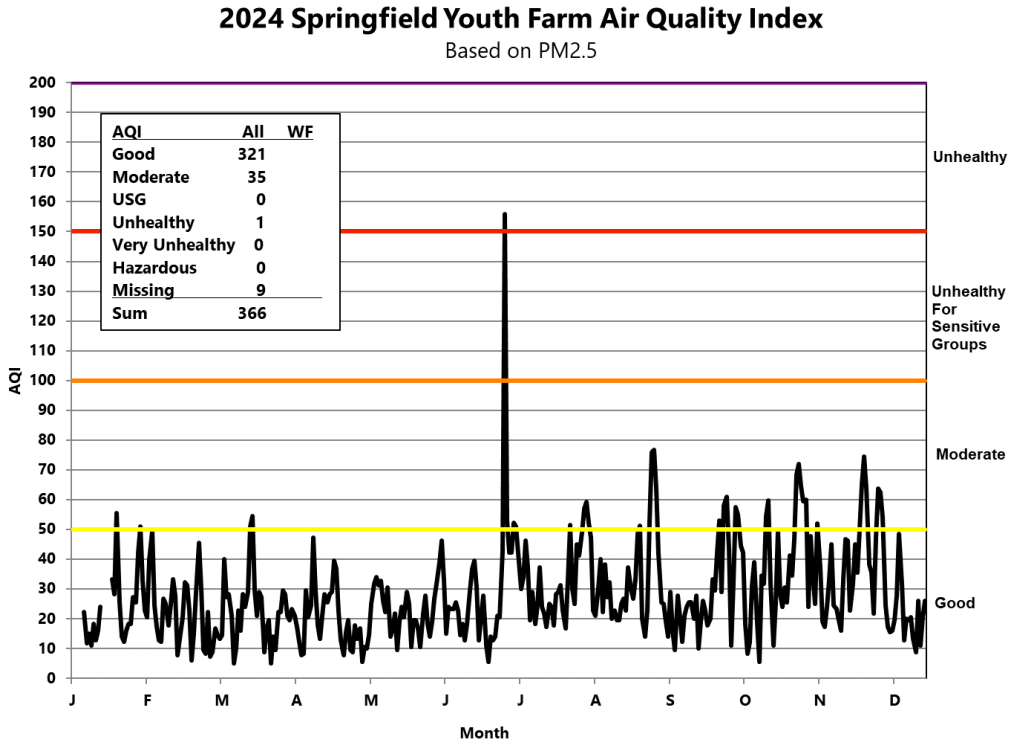

Figure 75. 2024 Springfield Youth Farm AQI

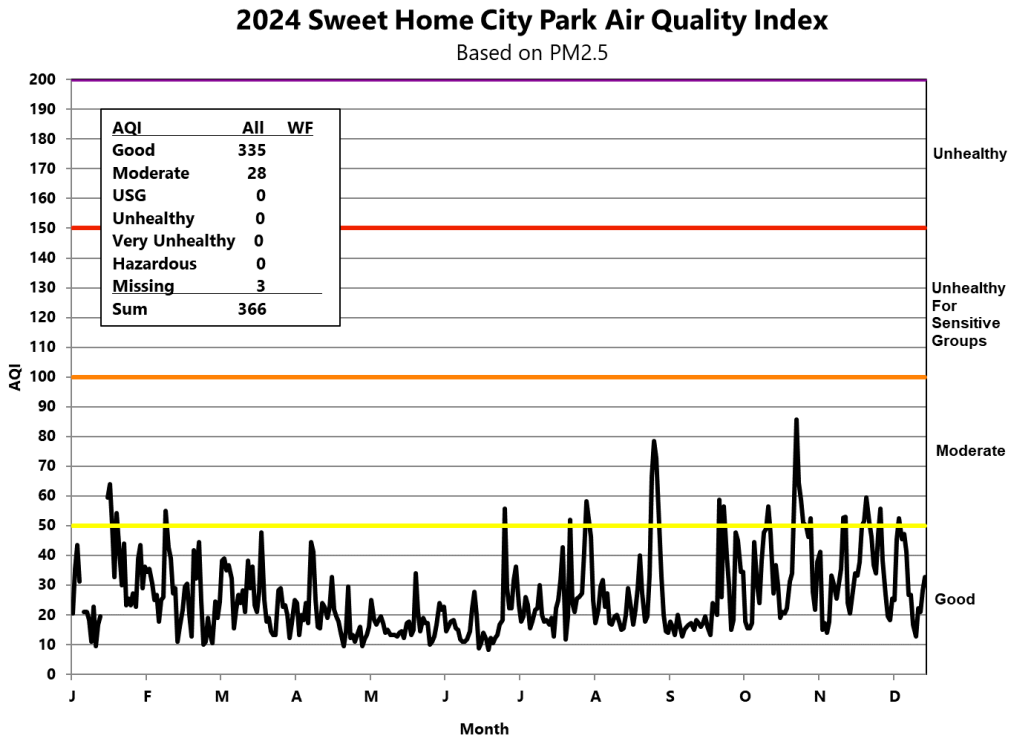

Figure 76. 2024 Sweet Home AQI

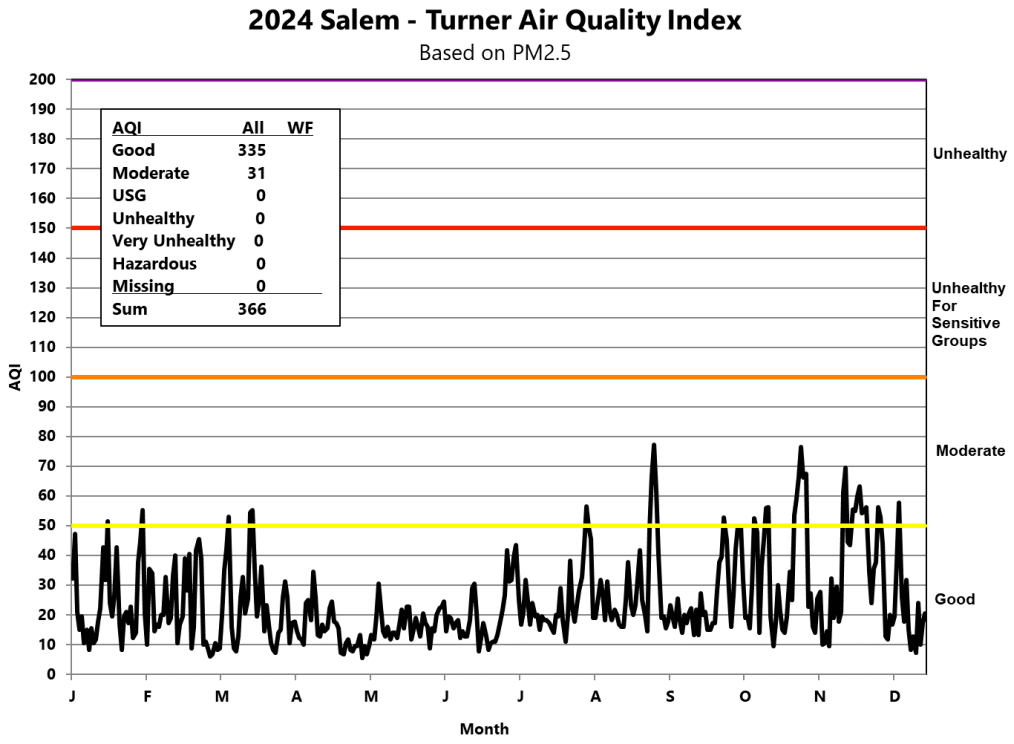

Figure 77. 2024 Turner

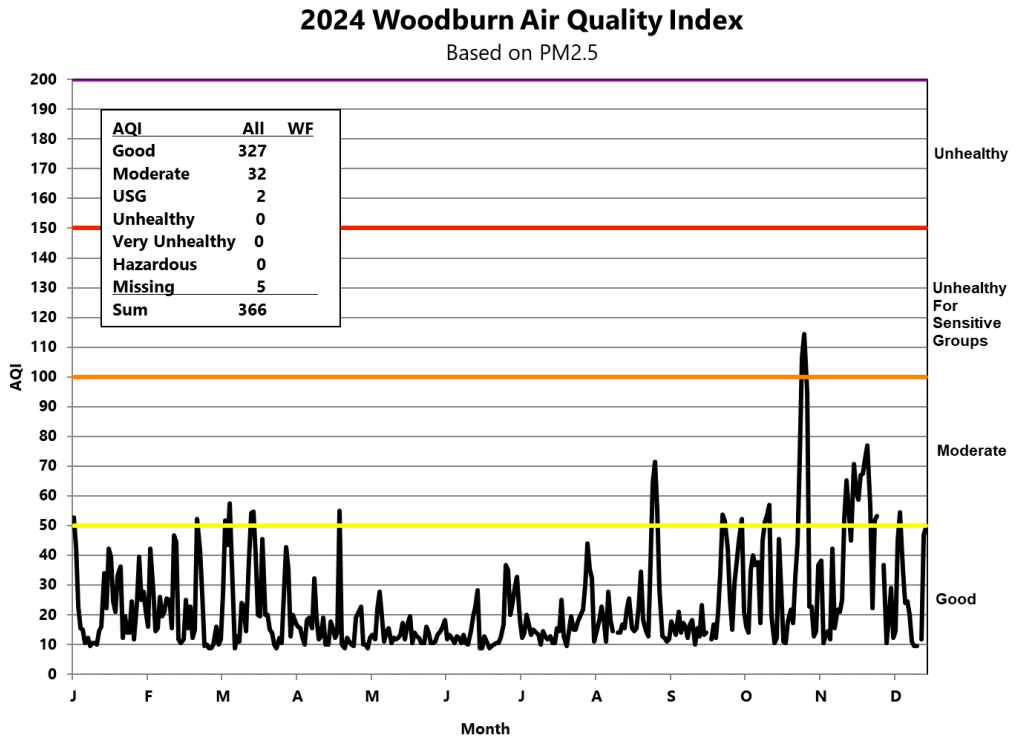

Figure 78. 2024 Woodburn AQI

SW Oregon

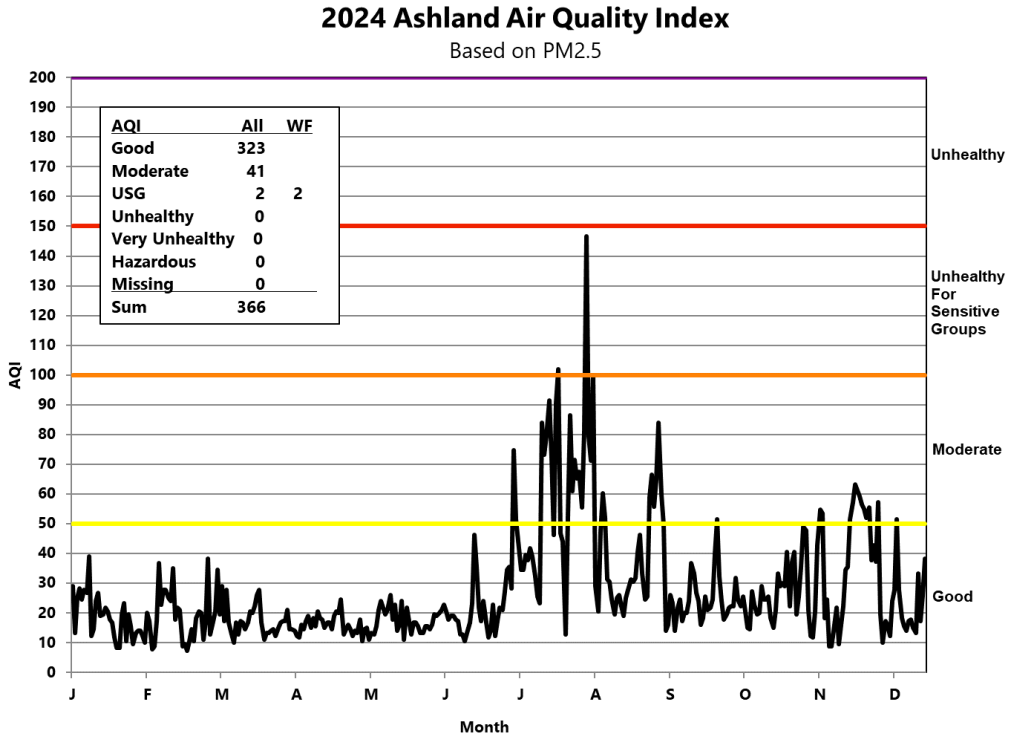

Figure 79. 2024 Ashland AQI

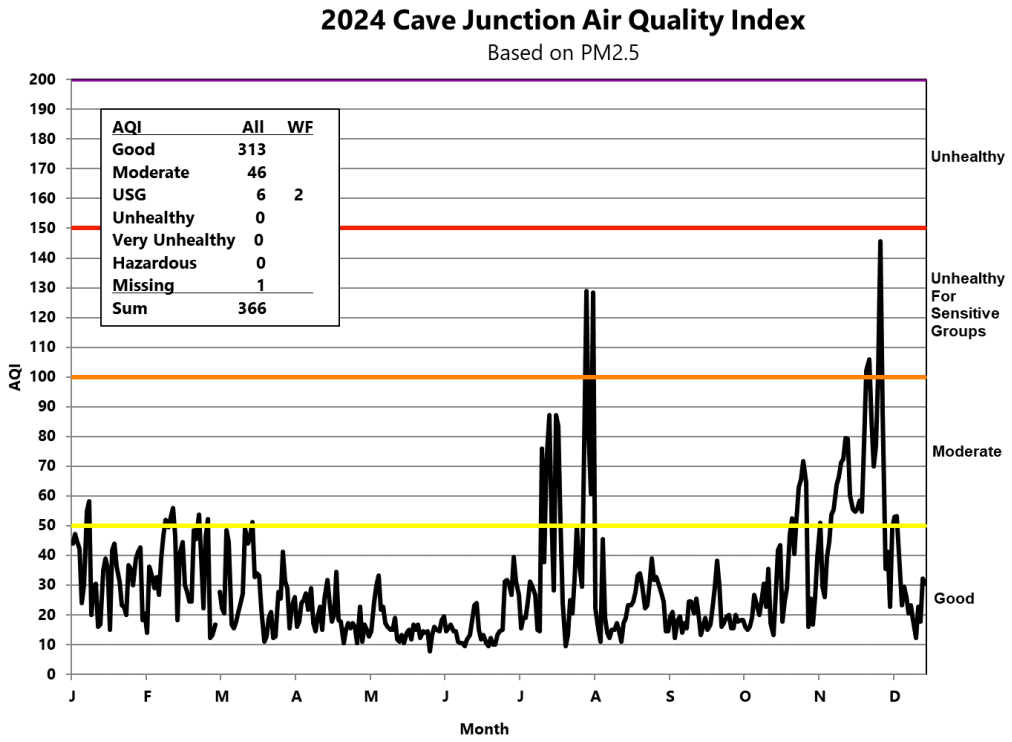

Figure 80 2024 Cave Junction AQI

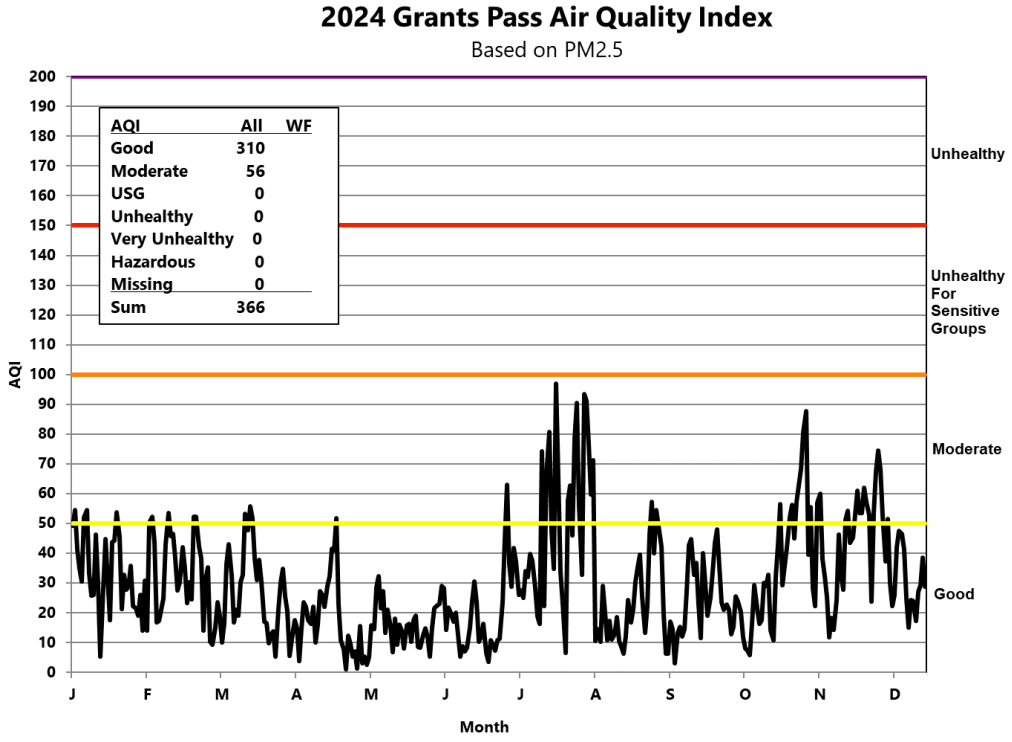

Figure 81 2024 Grants Pass AQI

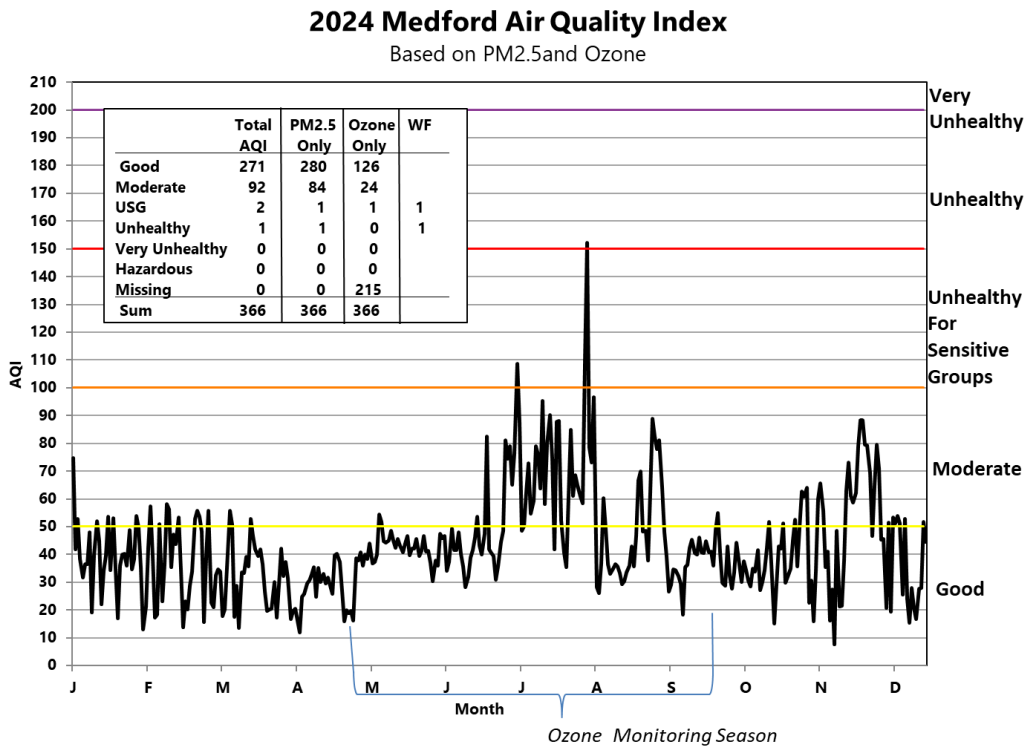

Figure 82 2024 Medford AQI

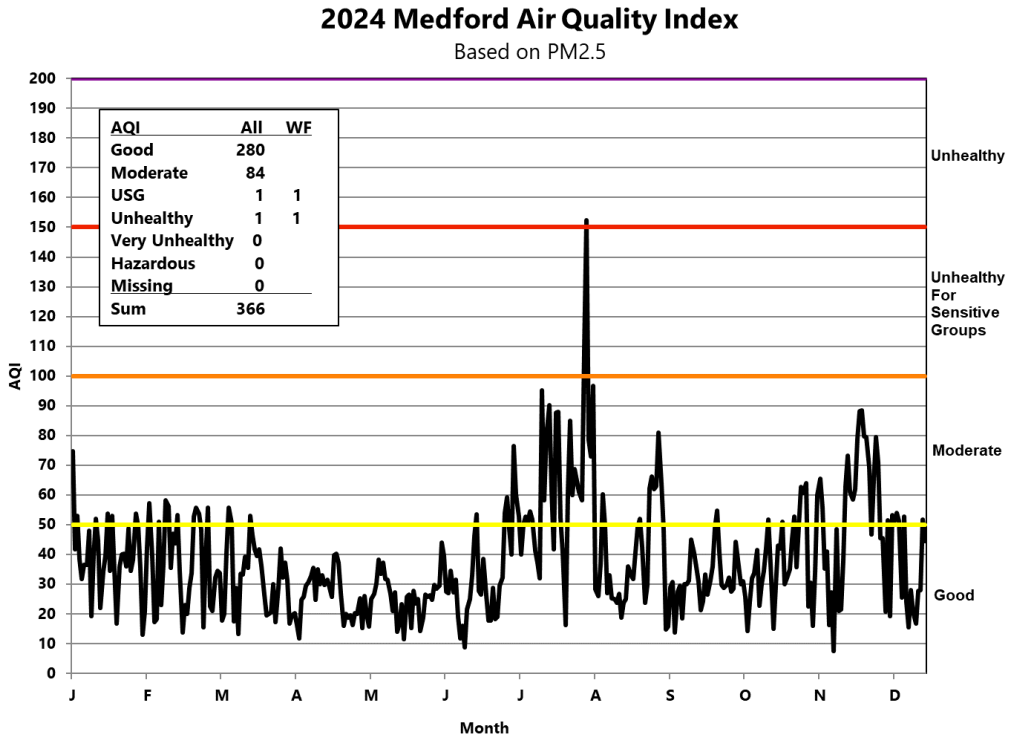

Figure 83 2024 Medford AQI - PM2.5 only

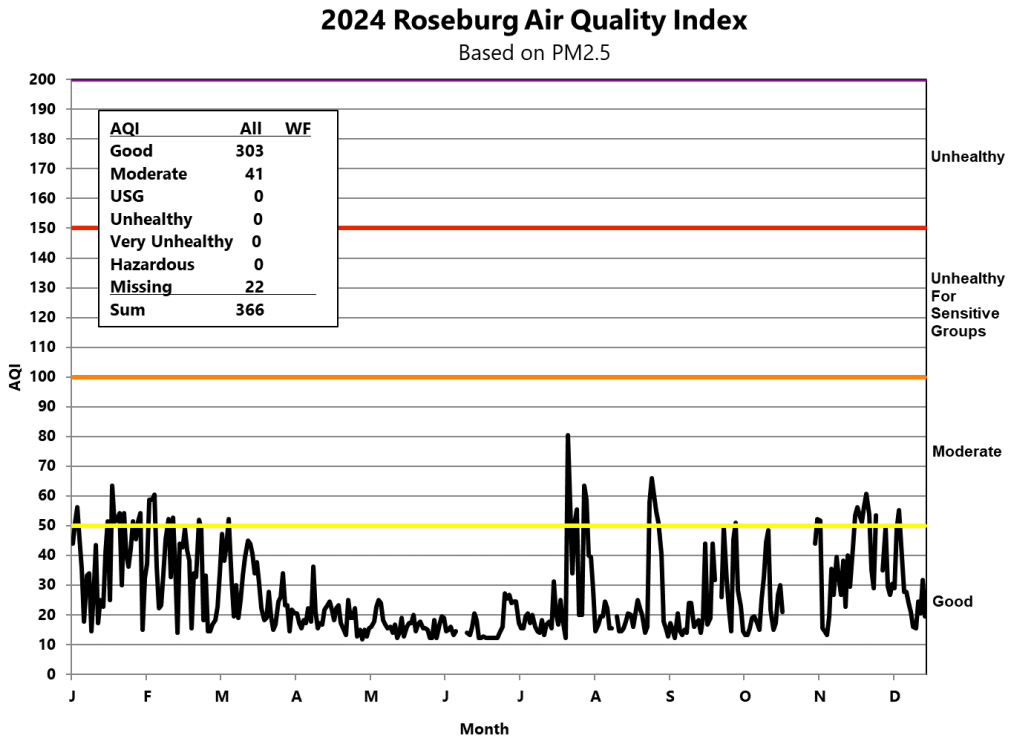

Figure 84. 2024 Roseburg AQI

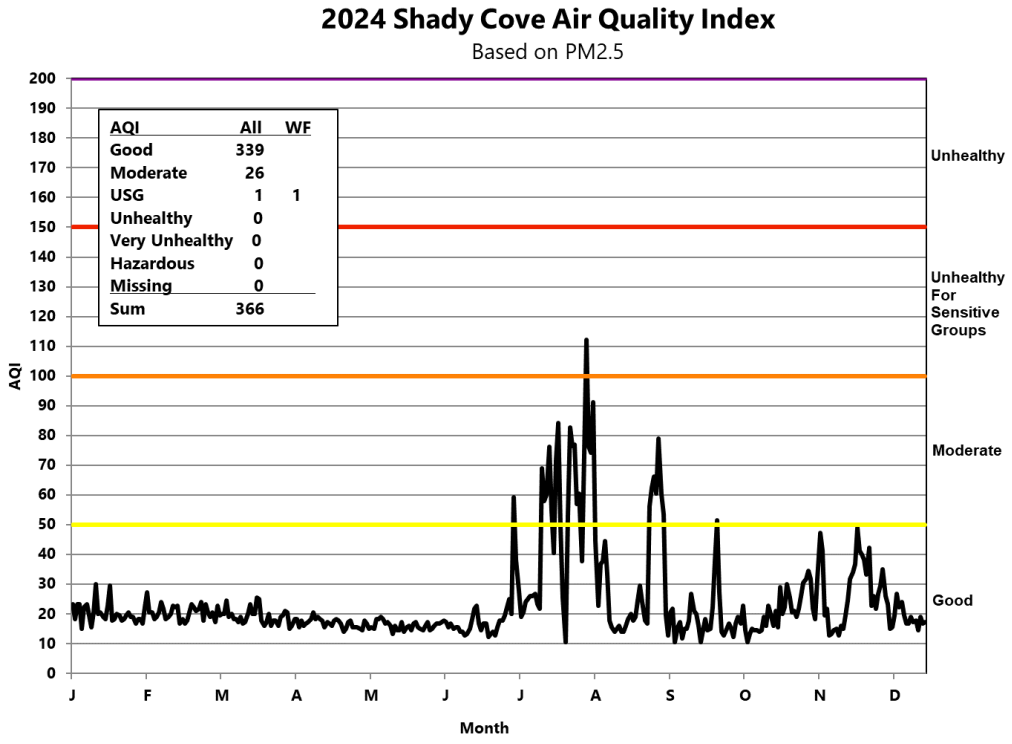

Figure 85 2024 Shady Cove AQI

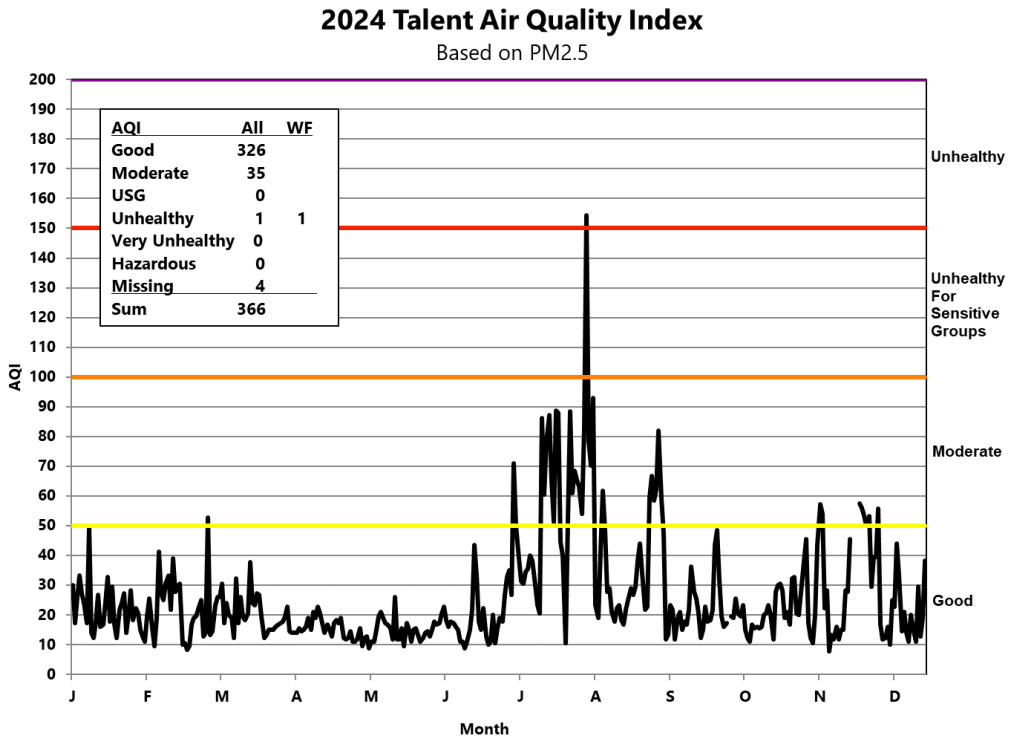

Figure 86 2024 Talent AQI

Cascades

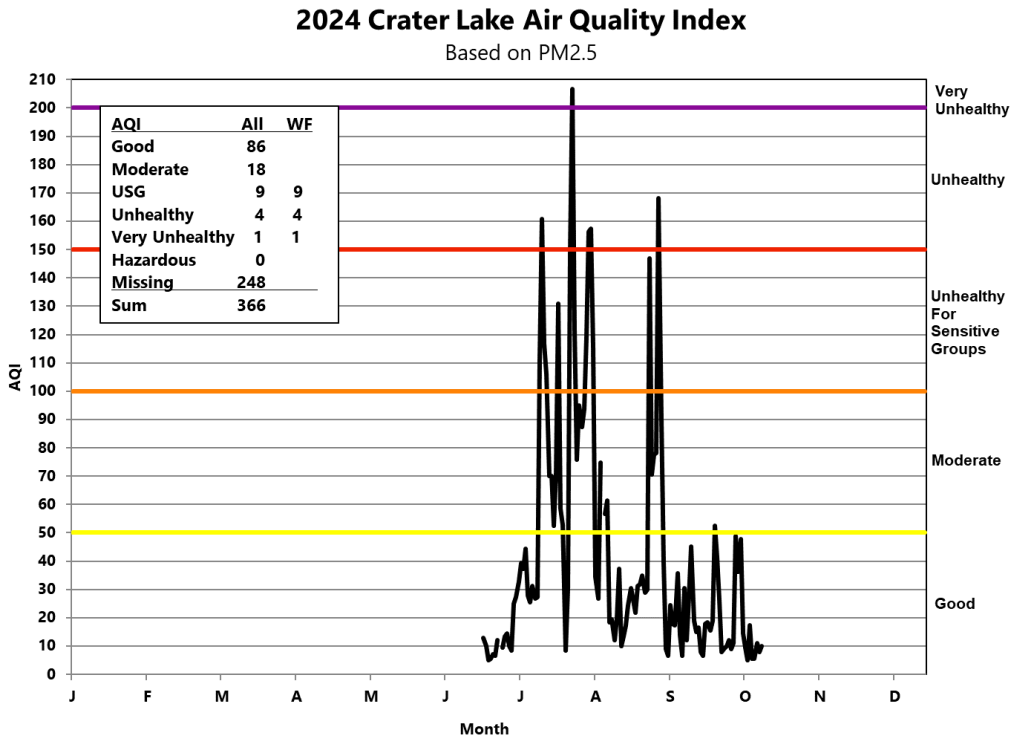

Figure 87 2024 Crater Lake AQI

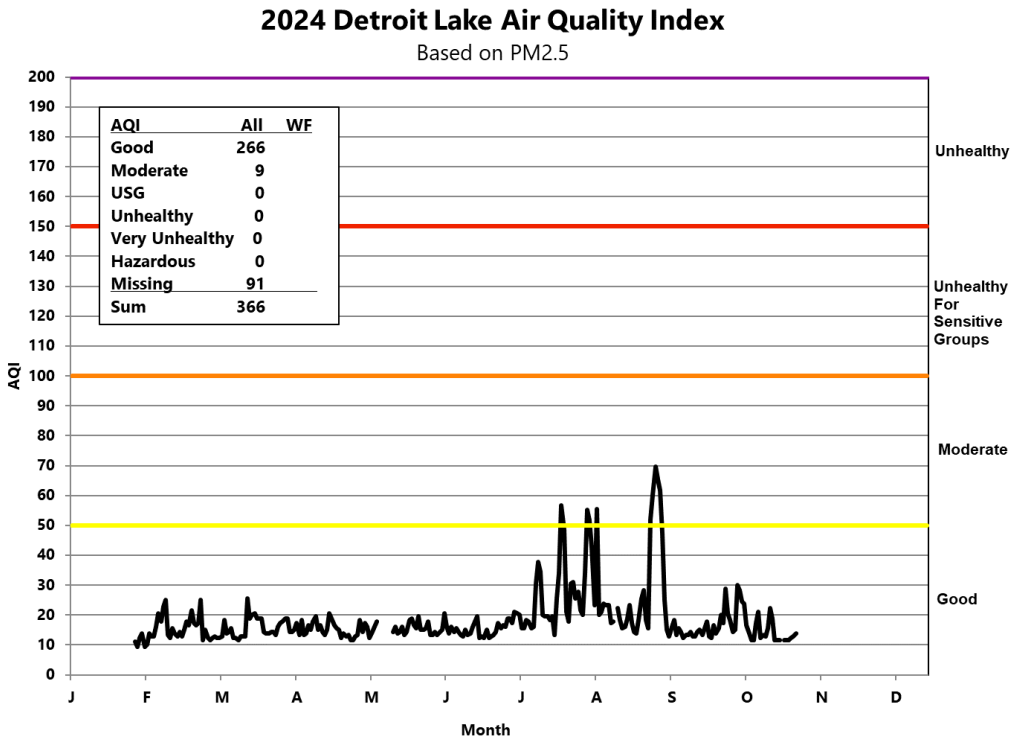

Figure 88 2024 Detroit Lake AQI

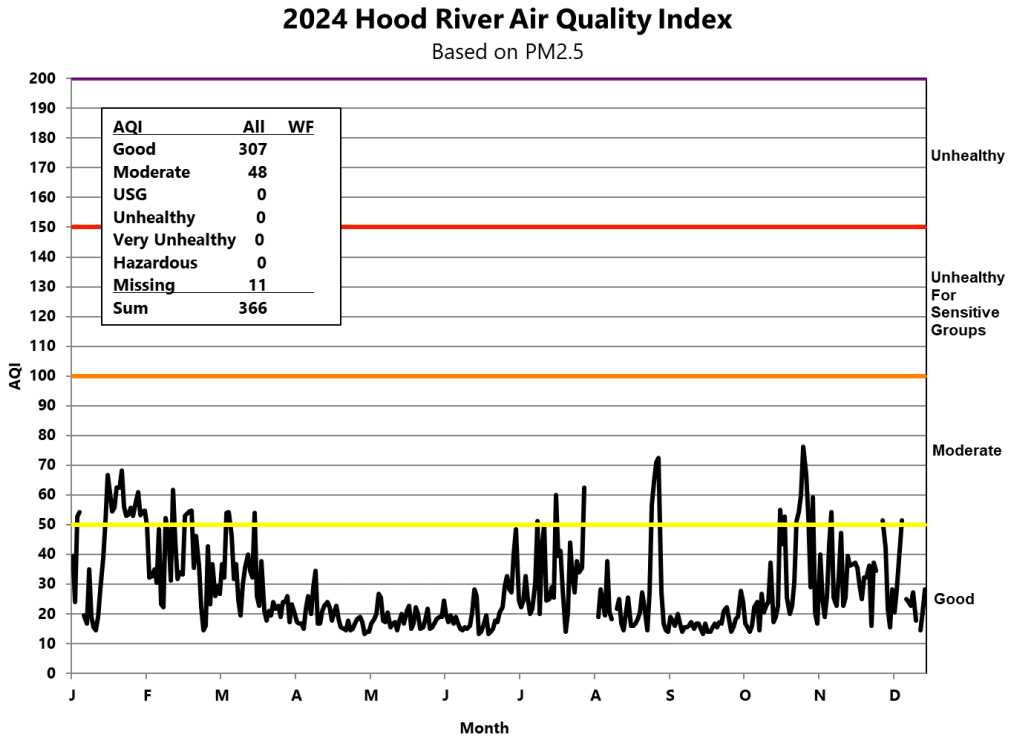

Figure 89 2024 Hood River AQI

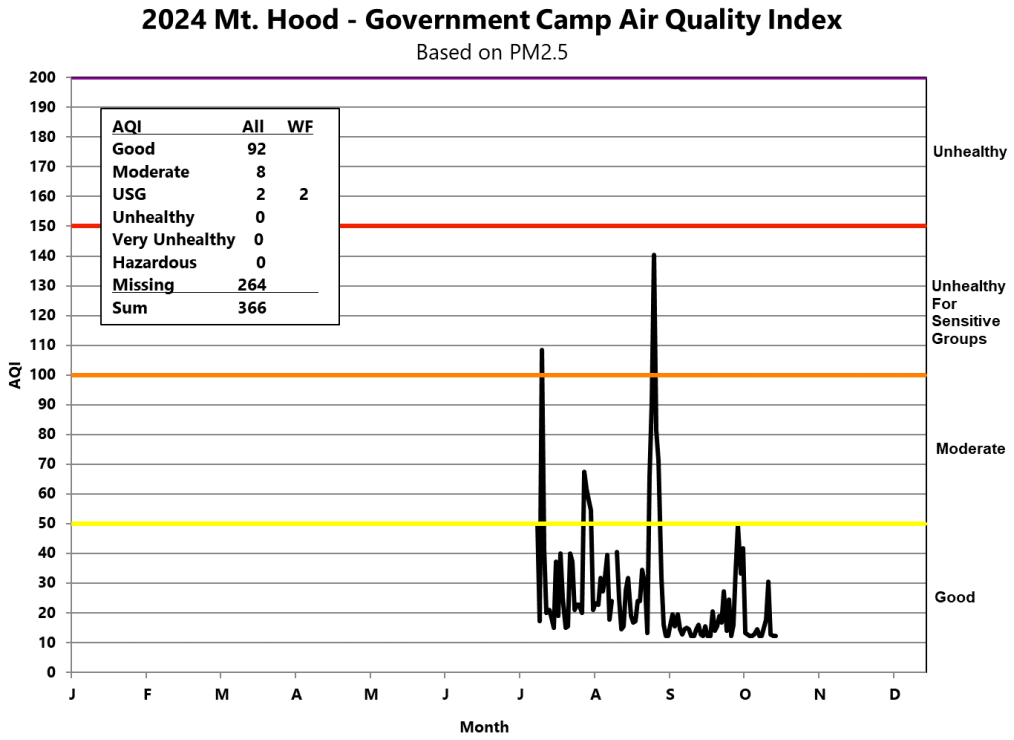

Figure 90 2024 Mt. Hood – Government Camp AQI

Northeast Oregon

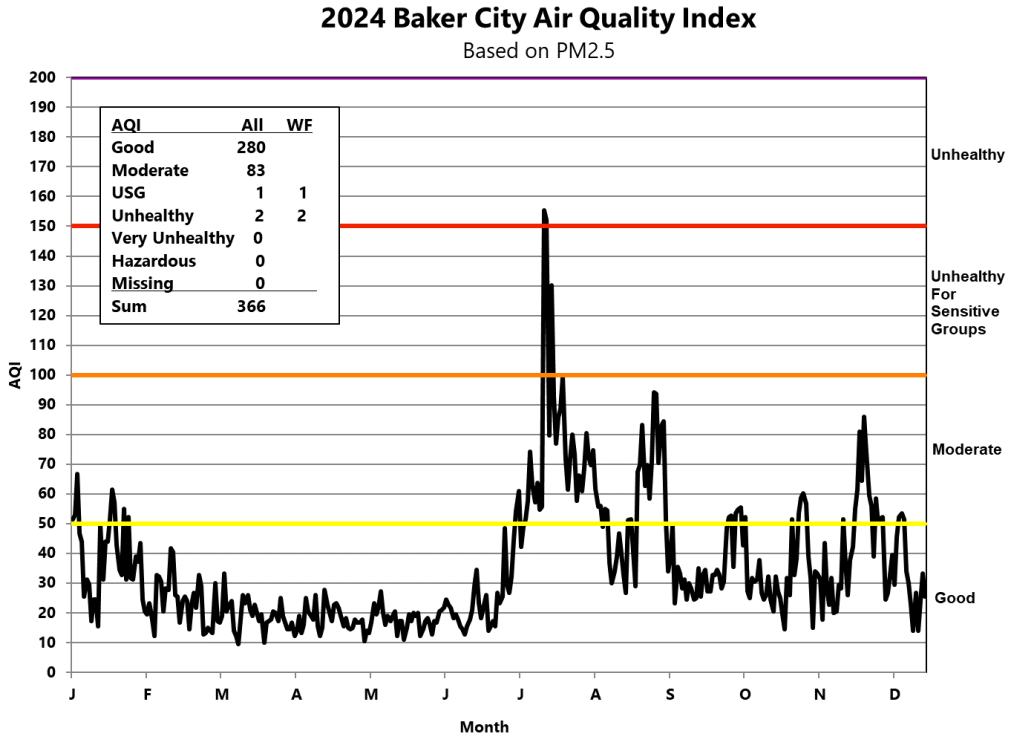

Figure 91 2024 Baker City

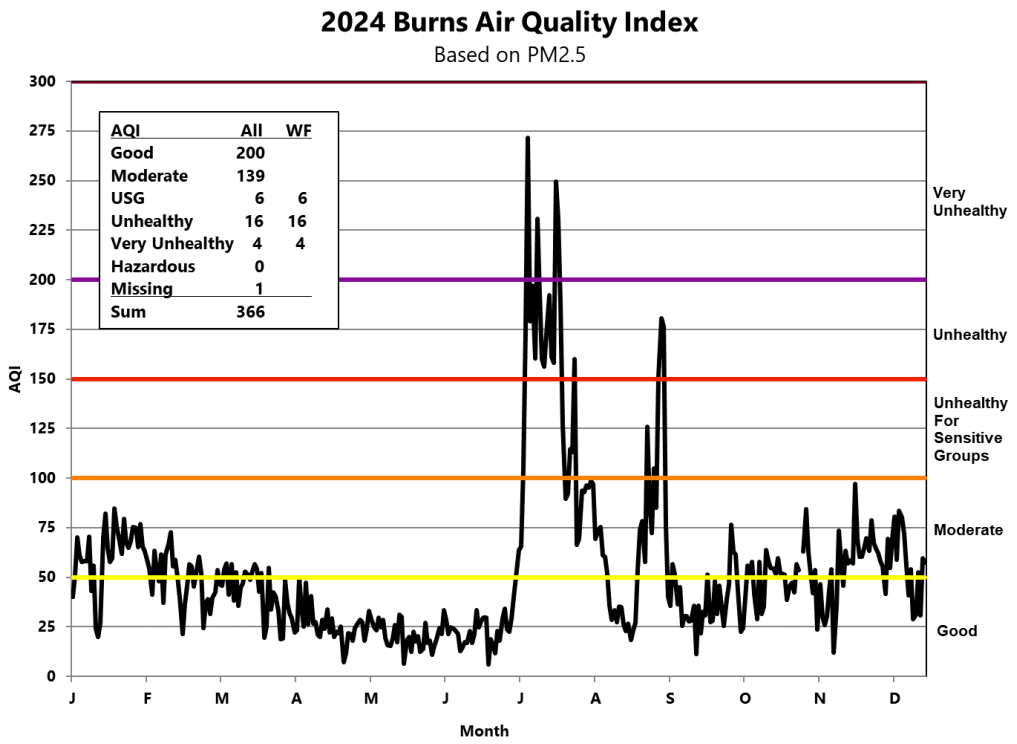

Figure 92 2024 Burns

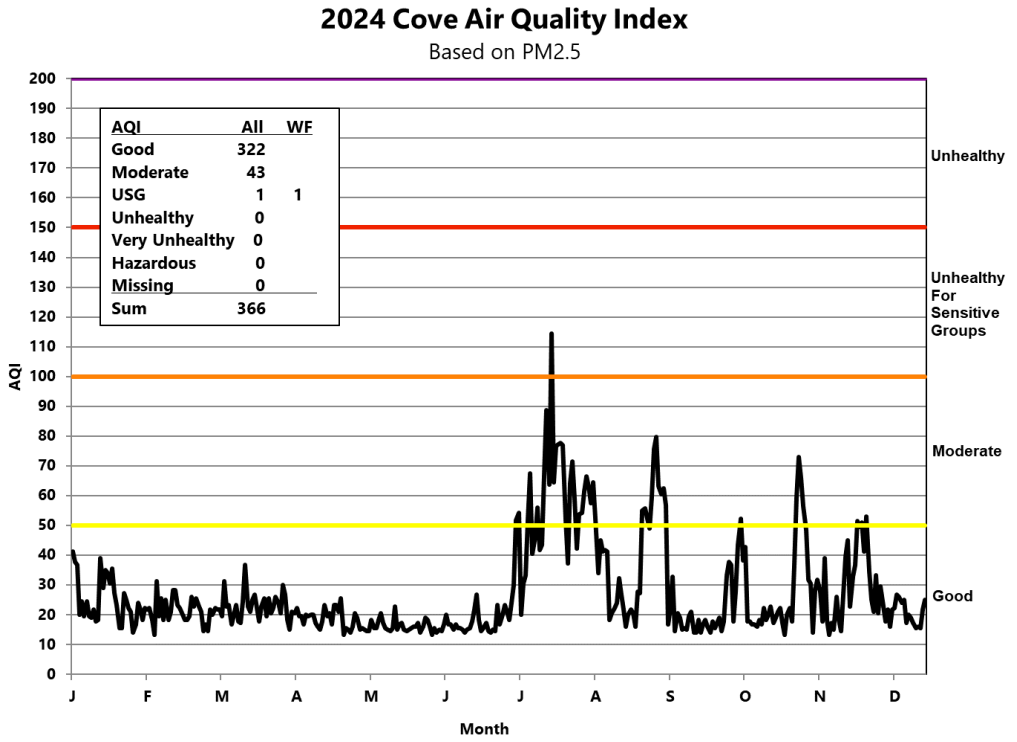

Figure 93 2024 Cove

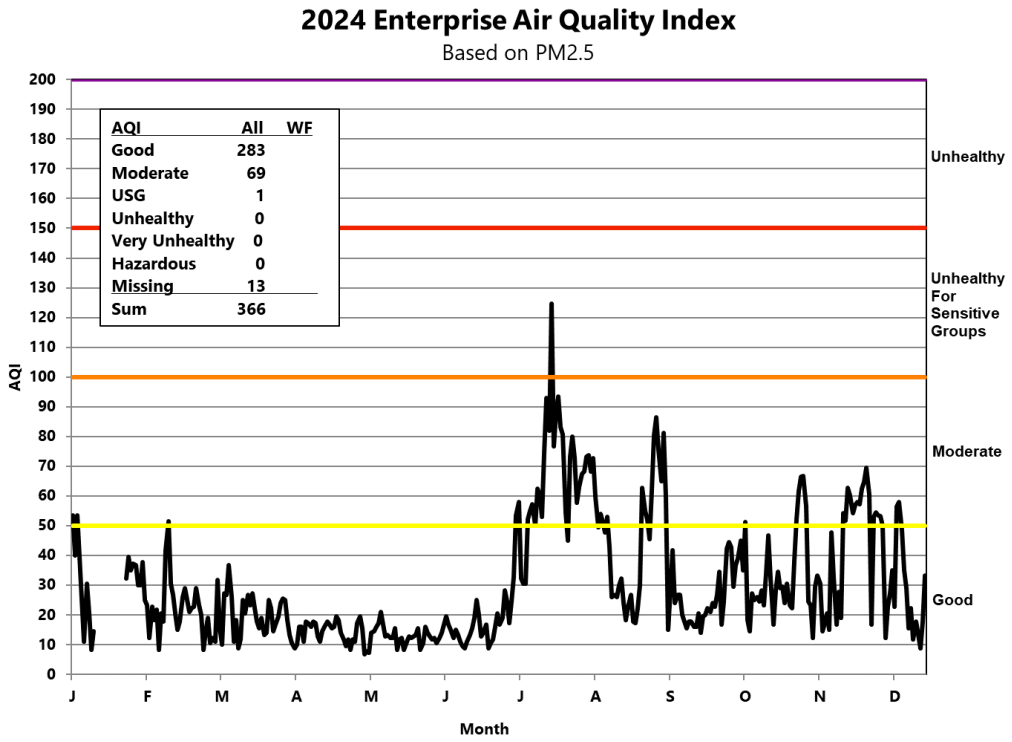

Figure 94. 2024 Enterprise

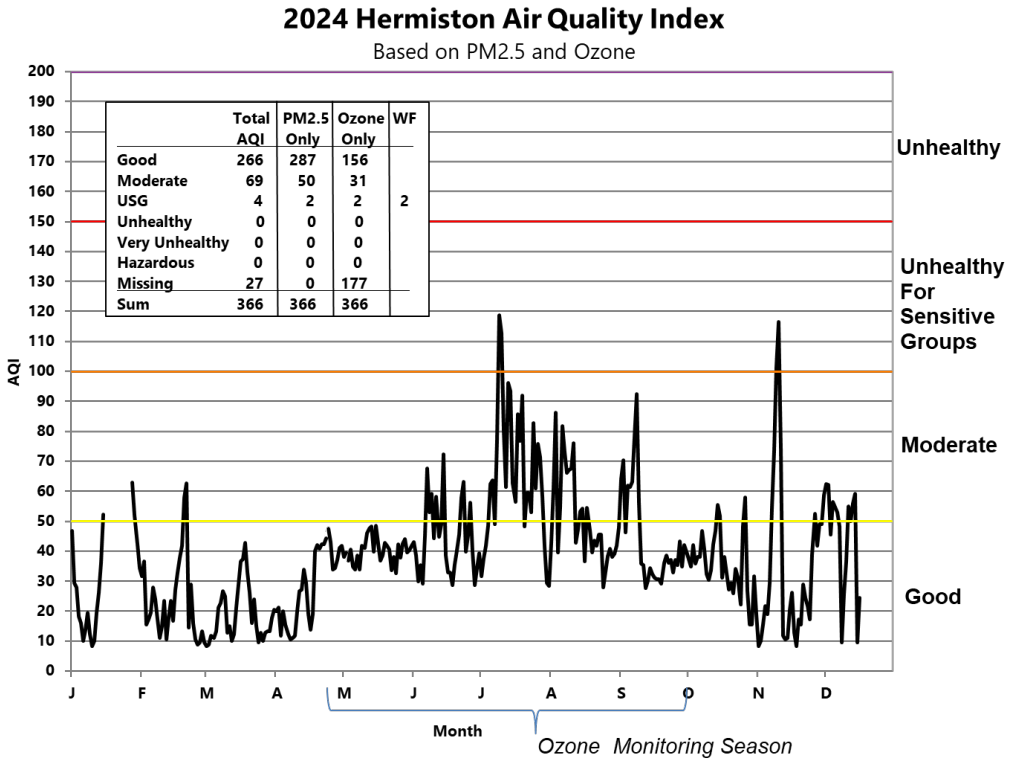

Figure 95. 2024 Hermiston

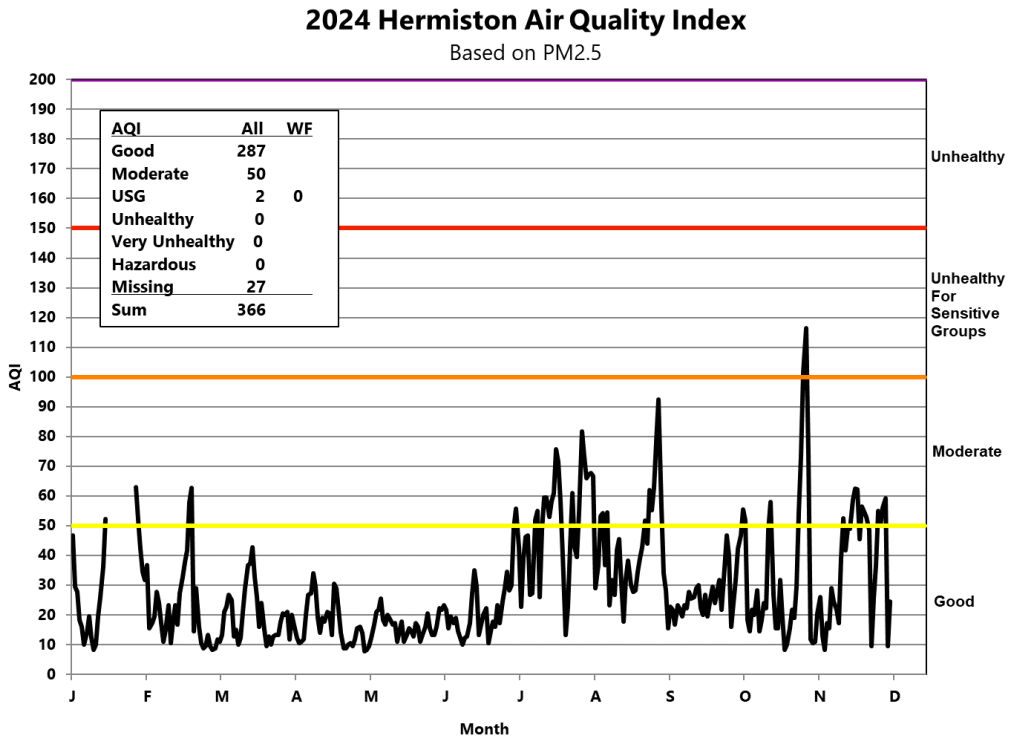

Figure 96. 2024 Hermiston – $PM_{2.5}$ only

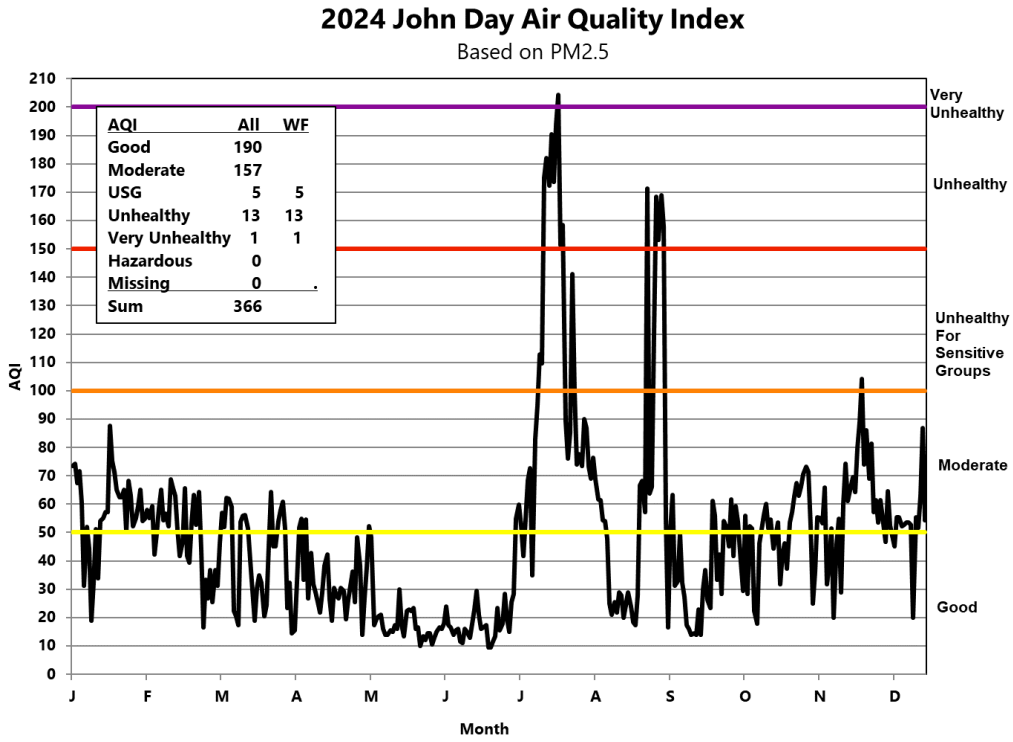

Figure 97. 2024 John Day AQI

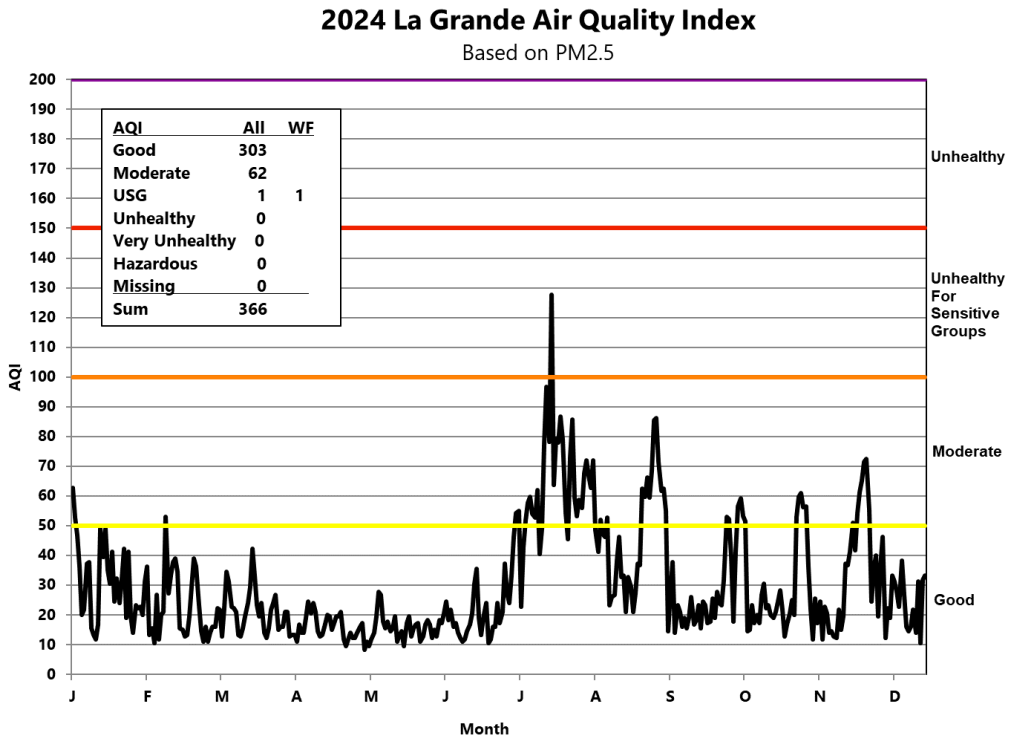

Figure 98. 2024 La Grande AQI

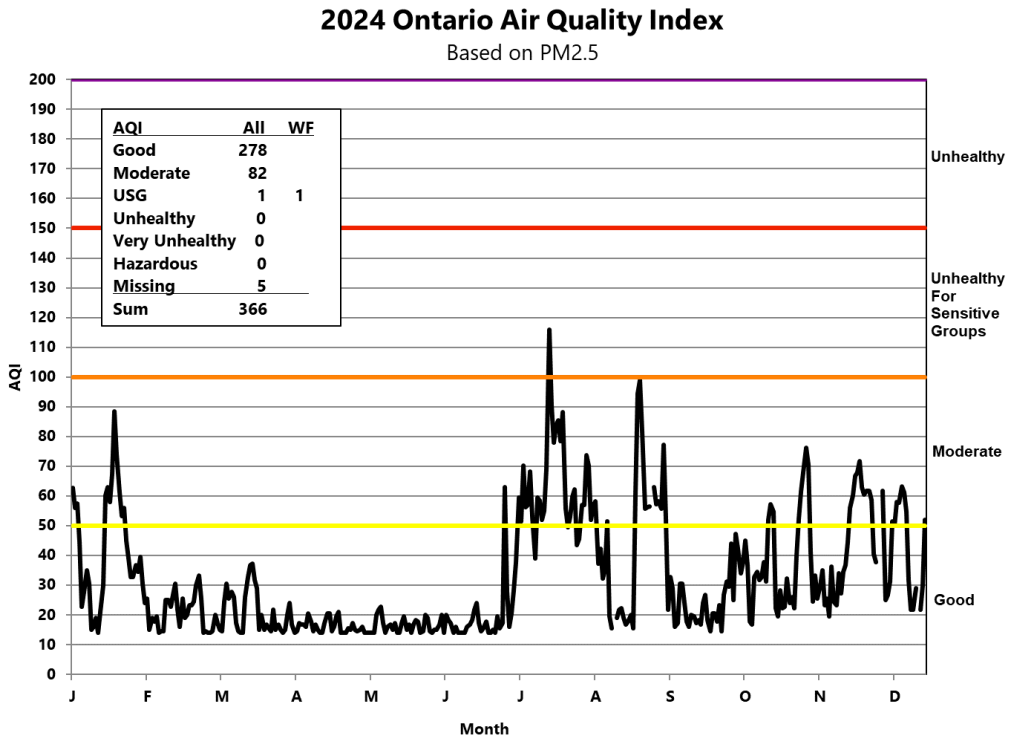

Figure 99. 2024 Ontario AQI

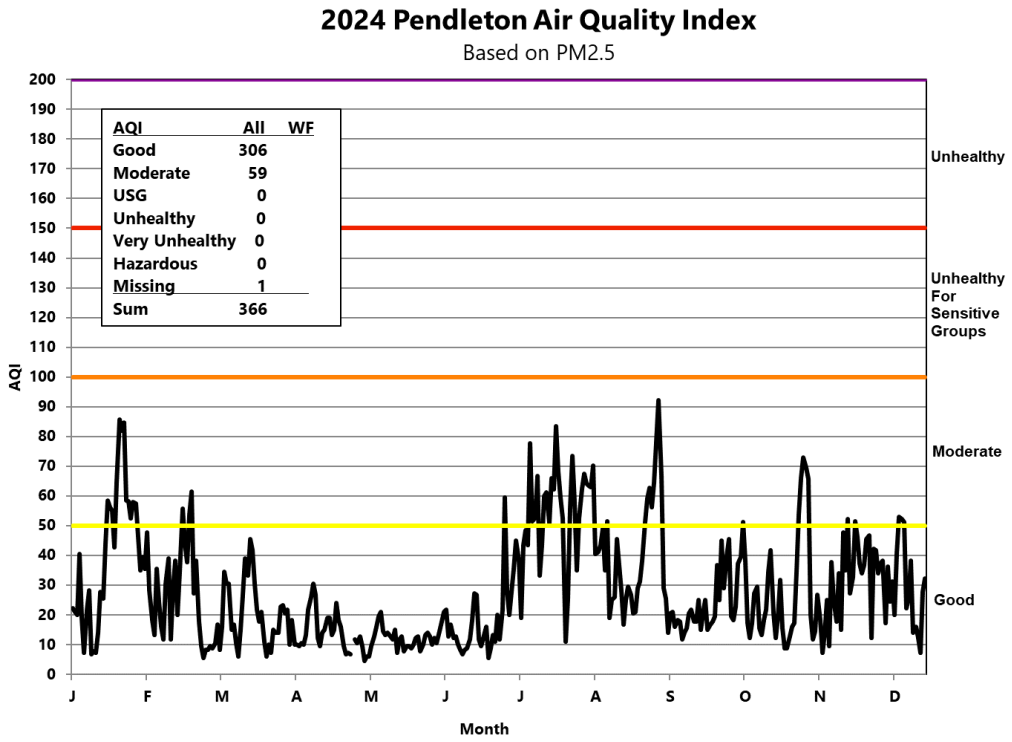

Figure 100. 2024 Pendleton AQI

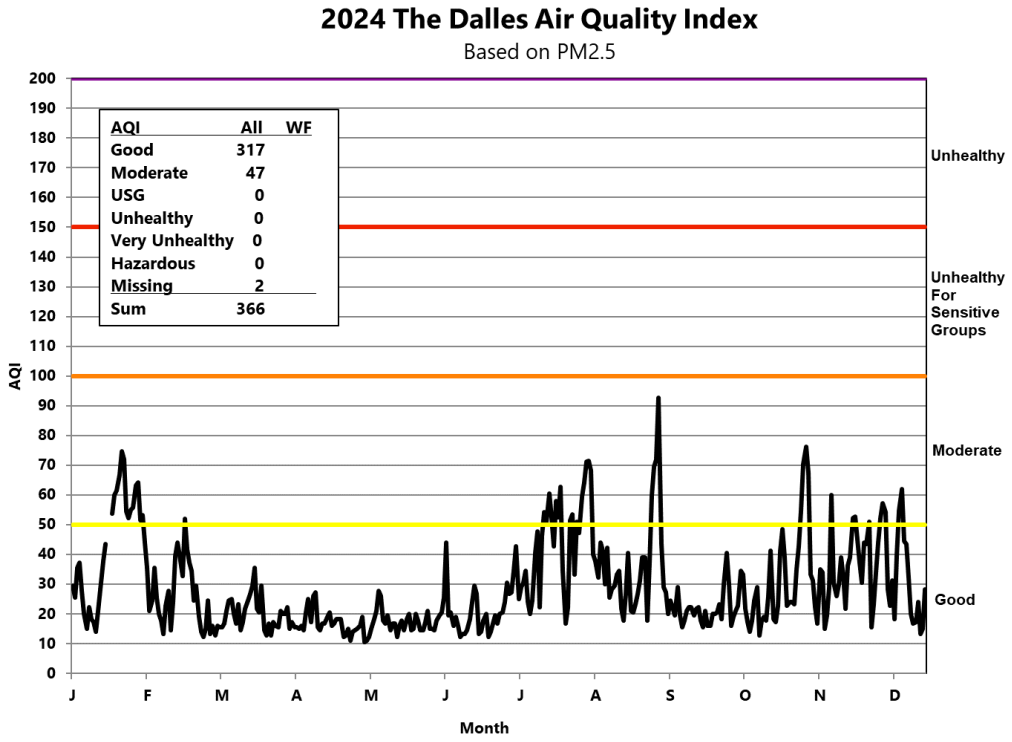

Figure 101. 2024 The Dalles AQI

Central Oregon

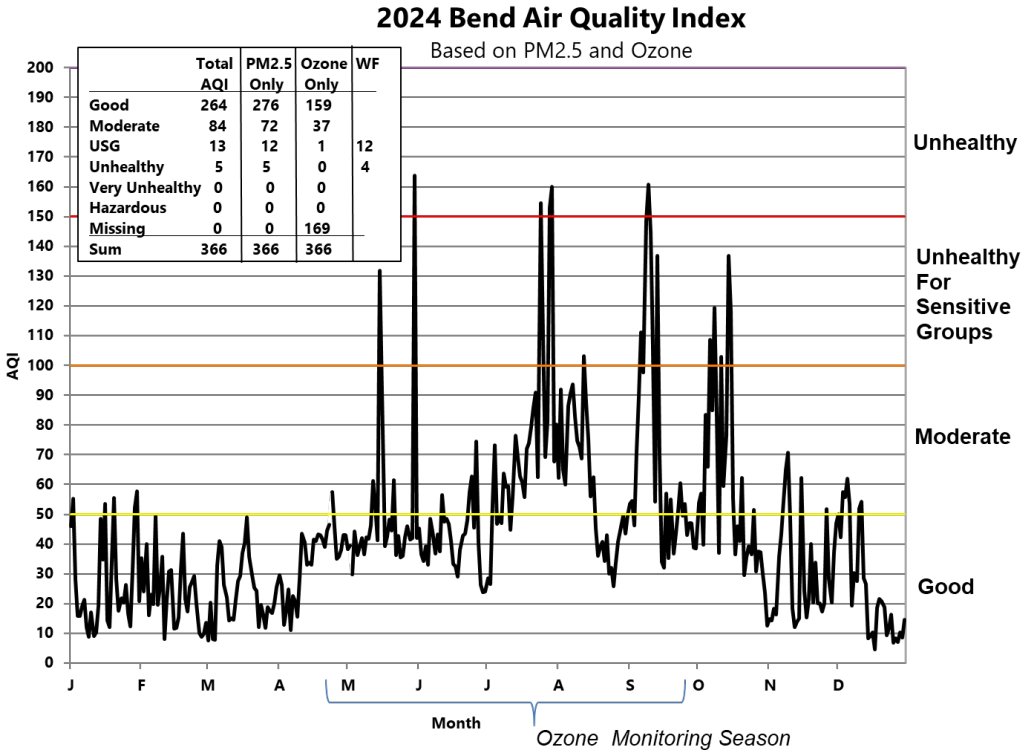

Figure 102. 2024 Bend AQI

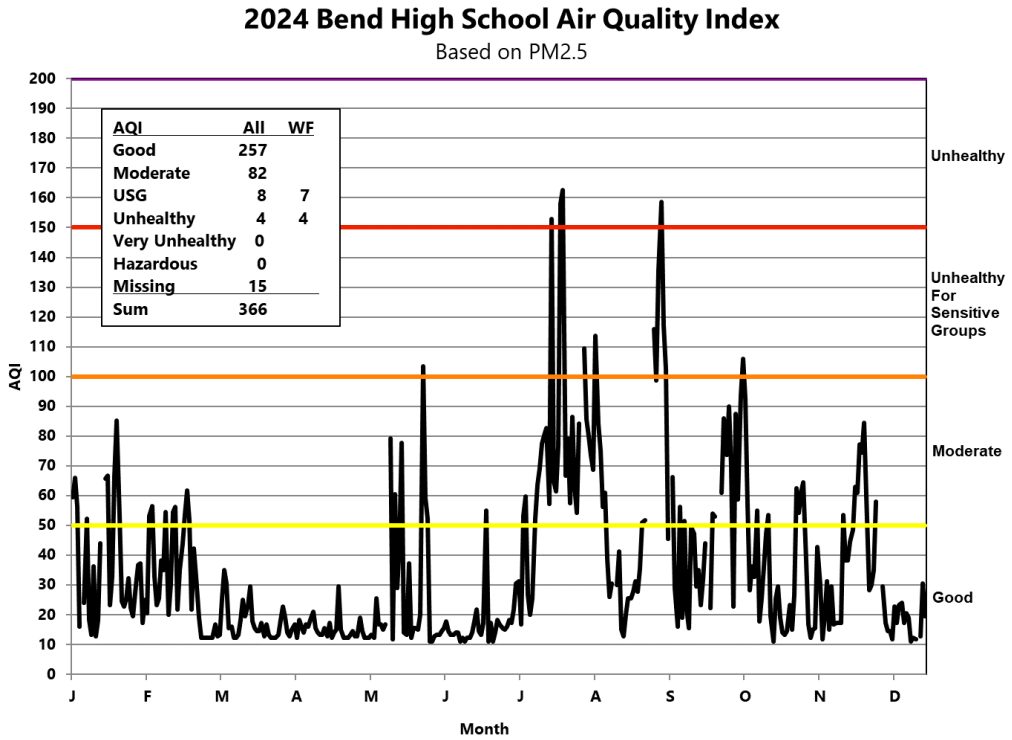

Figure 103. 2024 Central Bend – Bend High School AQI

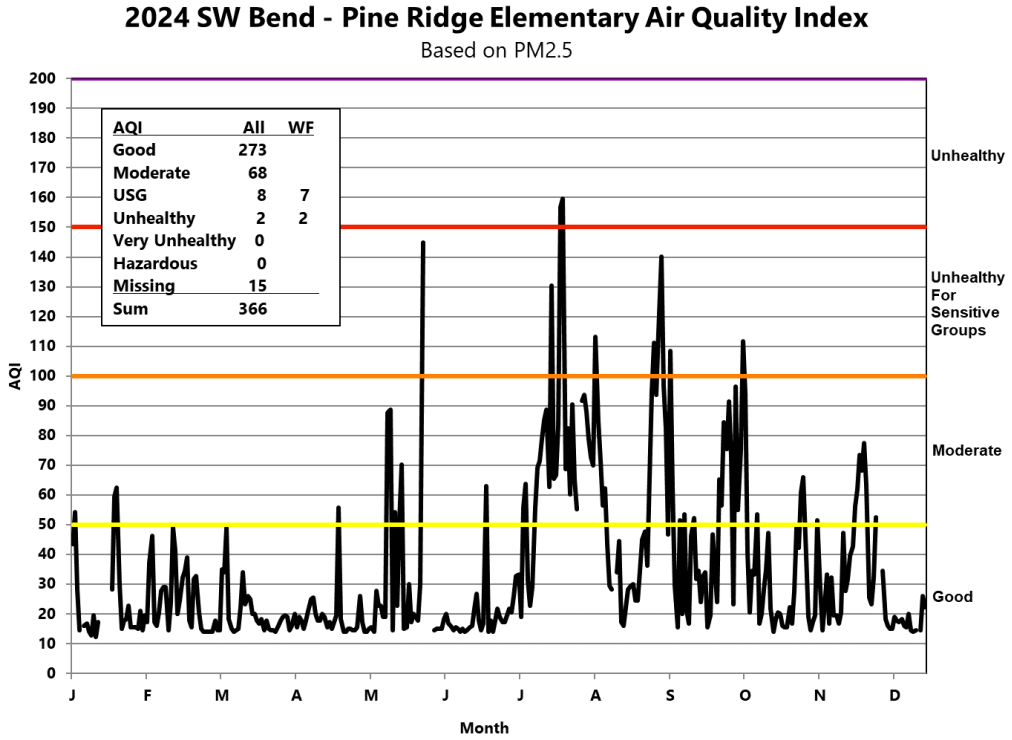

Figure 104. 2024 Southwest Bend – Pine Ridge Elementary AQI

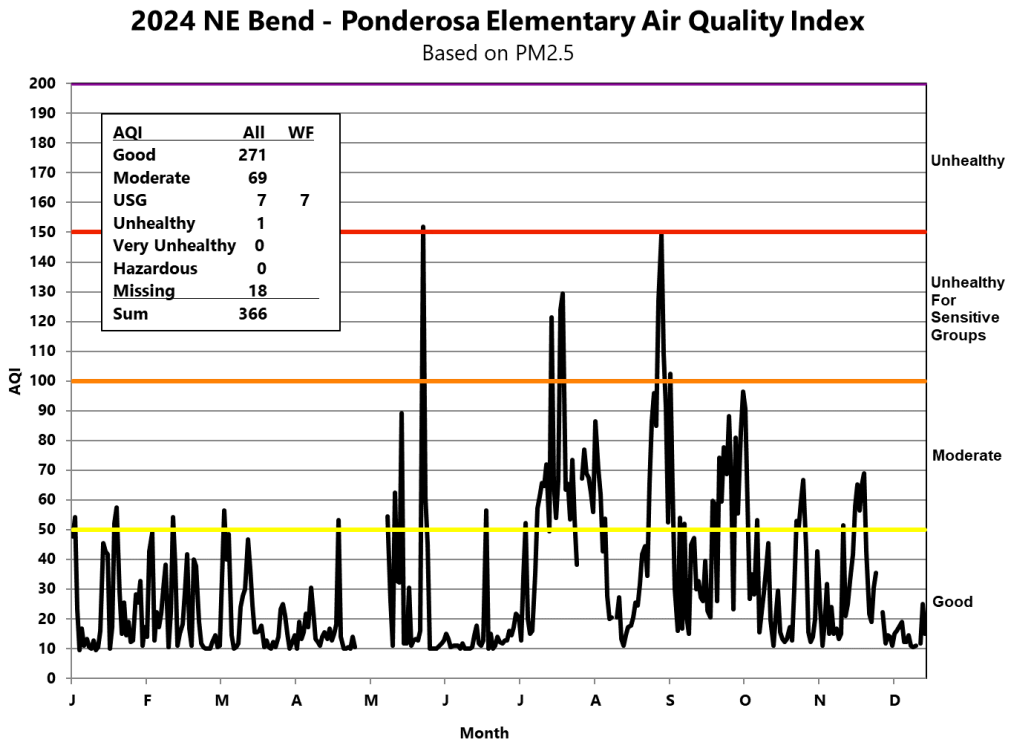

Figure 105. 2024 Northeast Bend – Ponderosa Ridge Elementary AQI

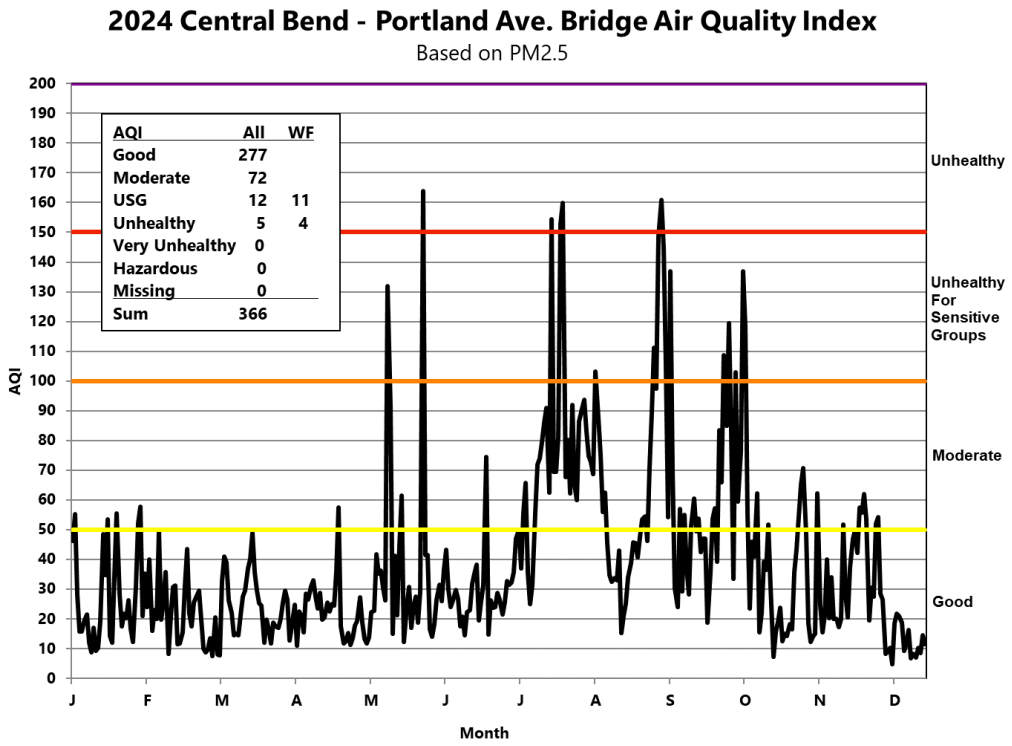

Figure 106. 2024 Central Bend – Portland Avenue Bridge AQI

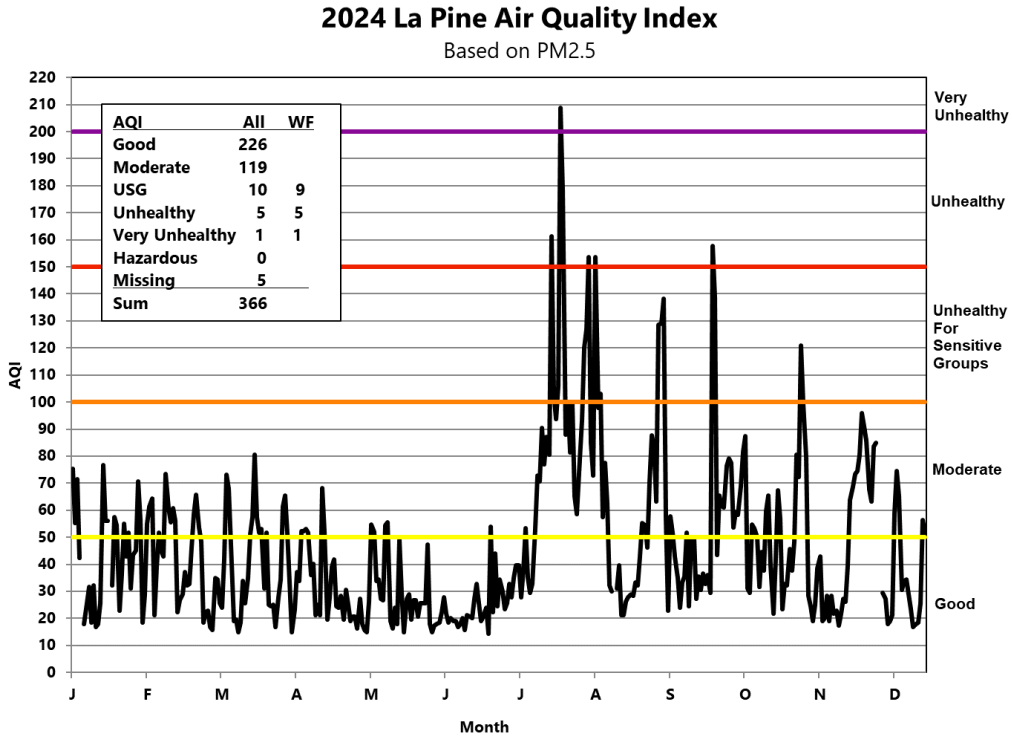

Figure 107. 2024 La Pine AQI

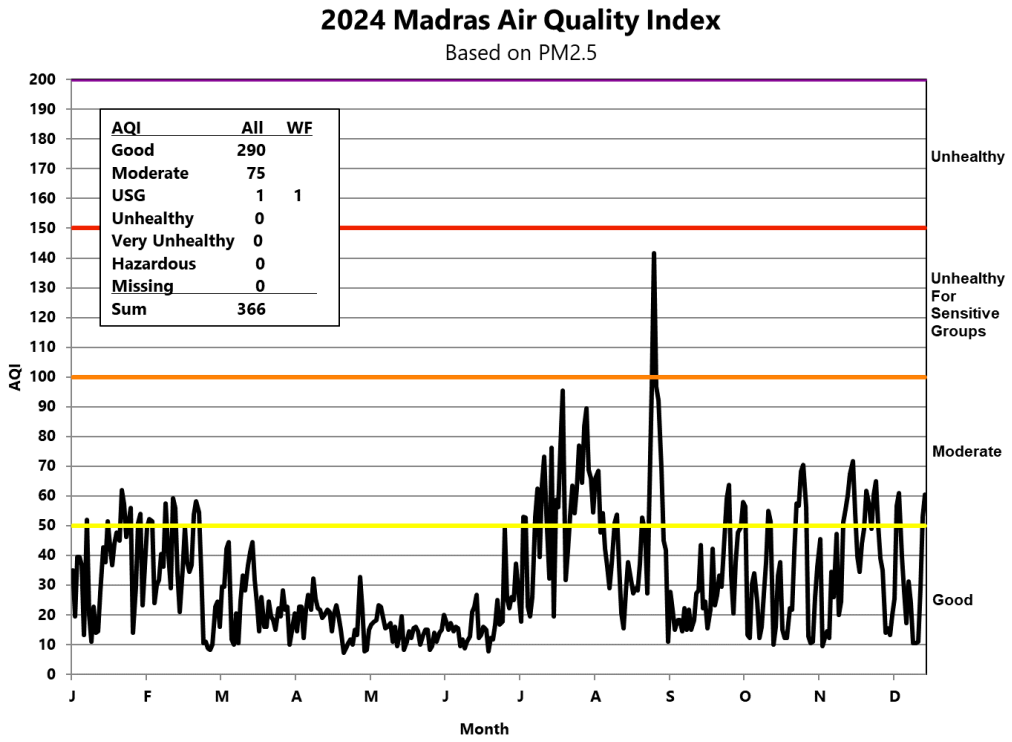

Figure 108. 2024 Madras AQI

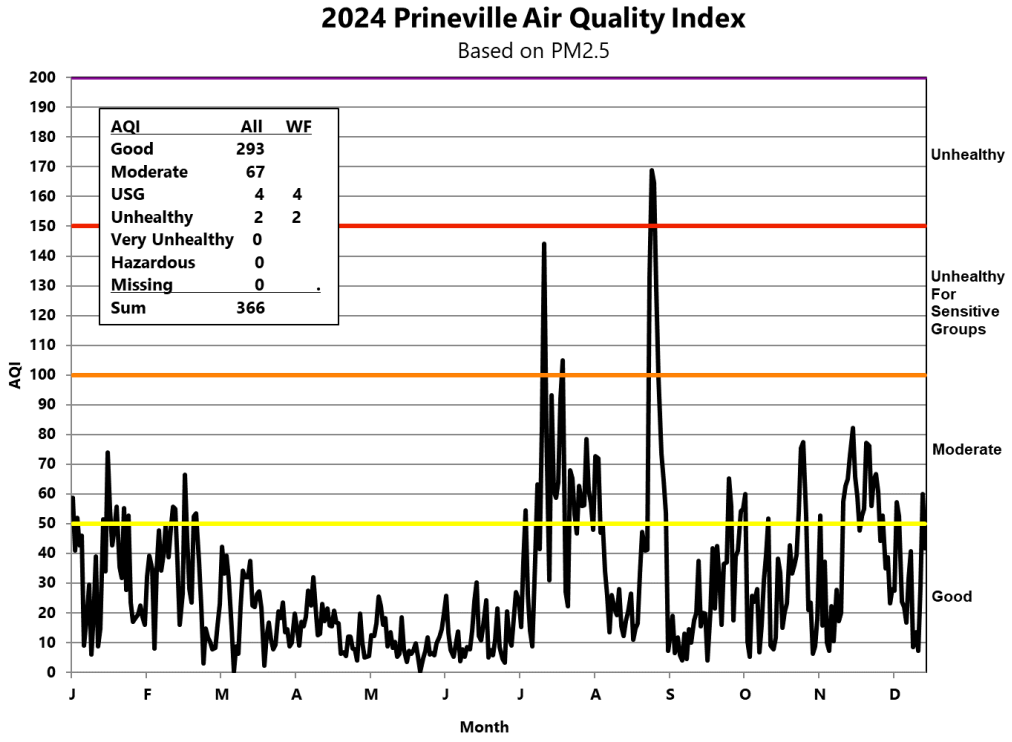

Figure 109. 2024 Prineville AQI

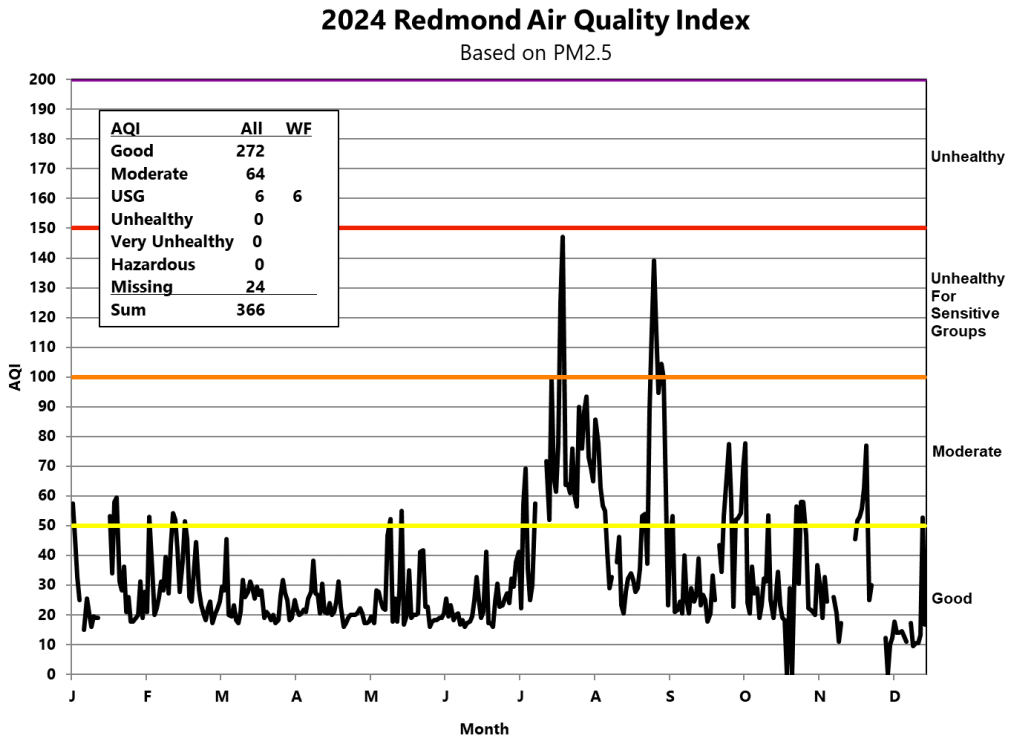

Figure 110. 2024 Redmond AQI

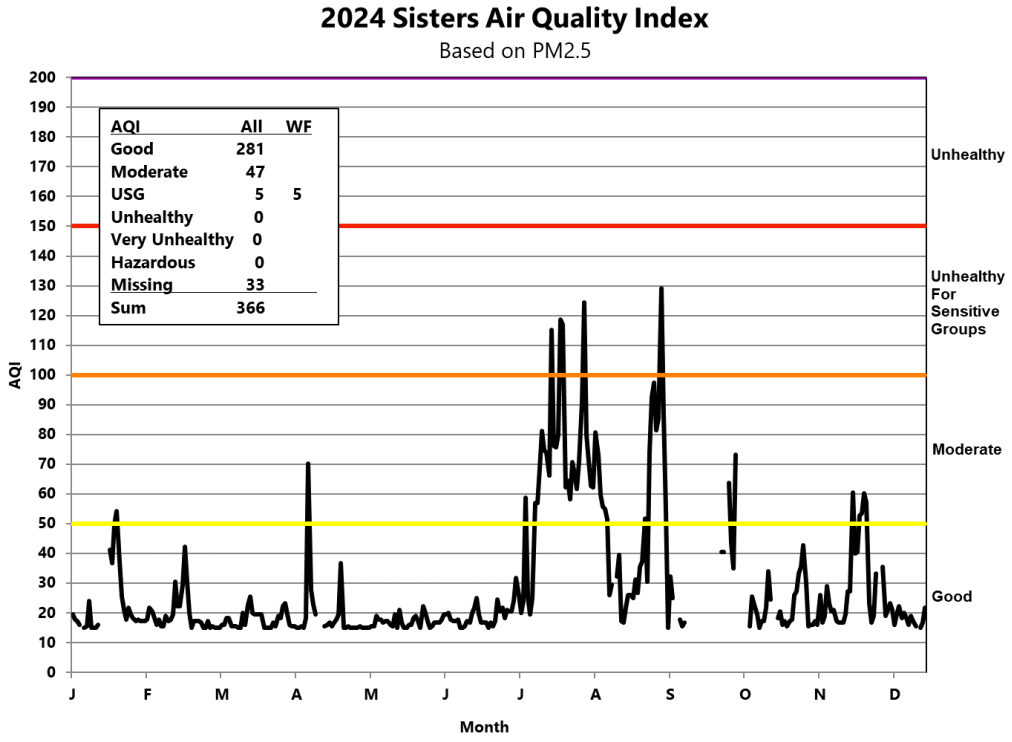

Figure 111. 2024 Sisters AQI

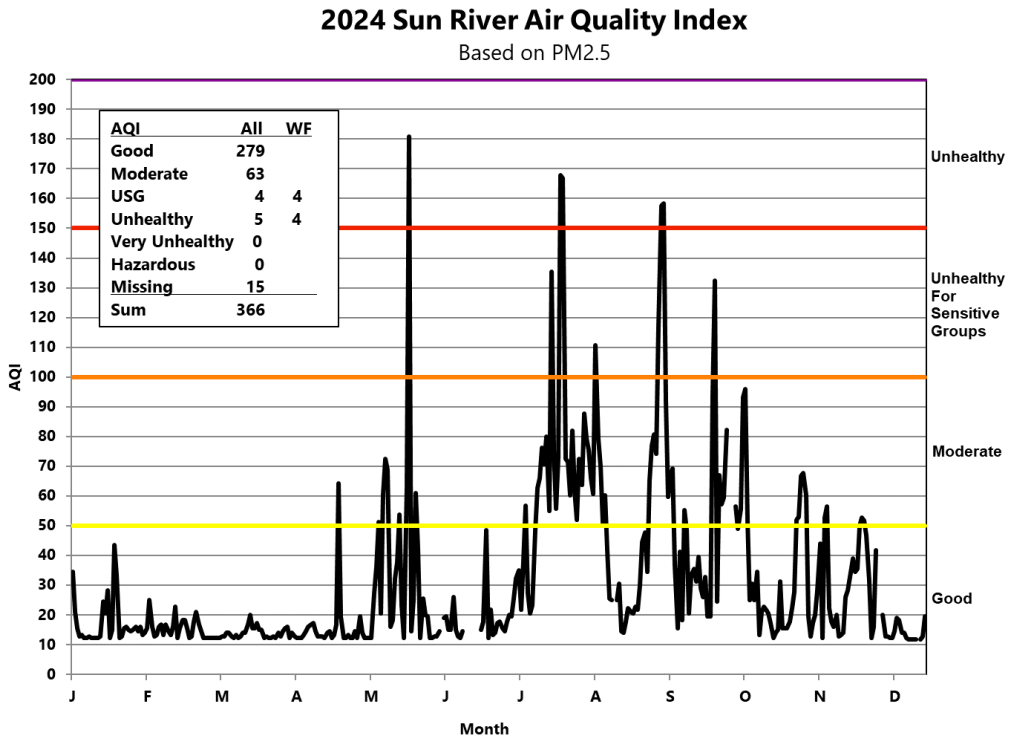

Figure 112. 2024 Sun River AQI

Southeast Oregon

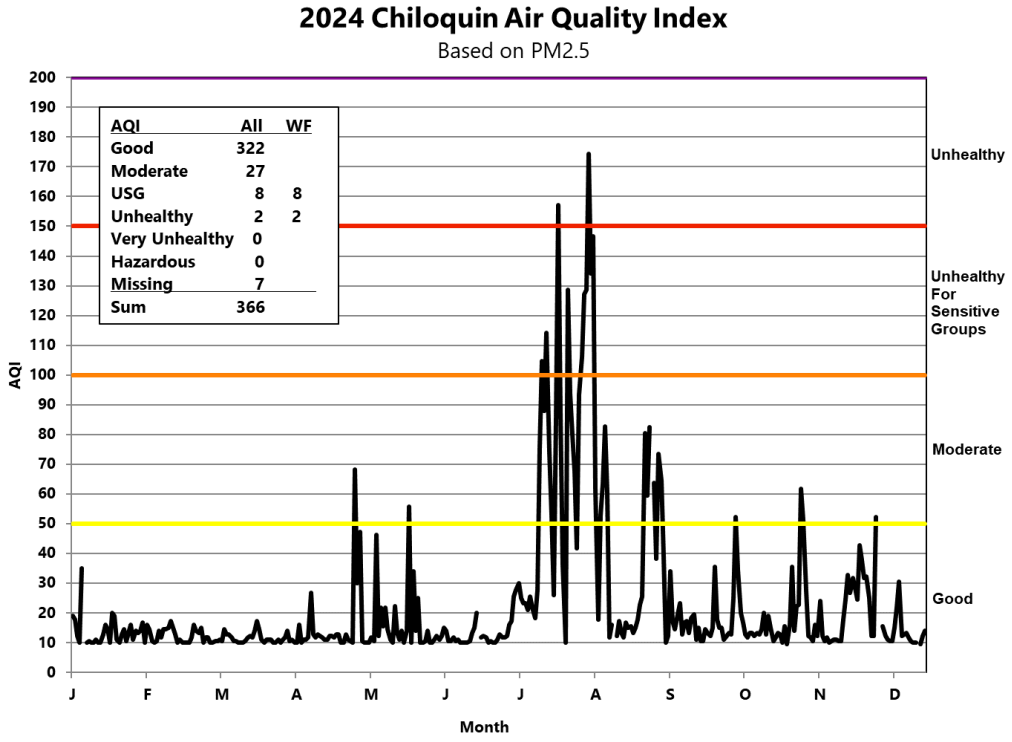

Figure 113. 2024 Chiloquin AQI

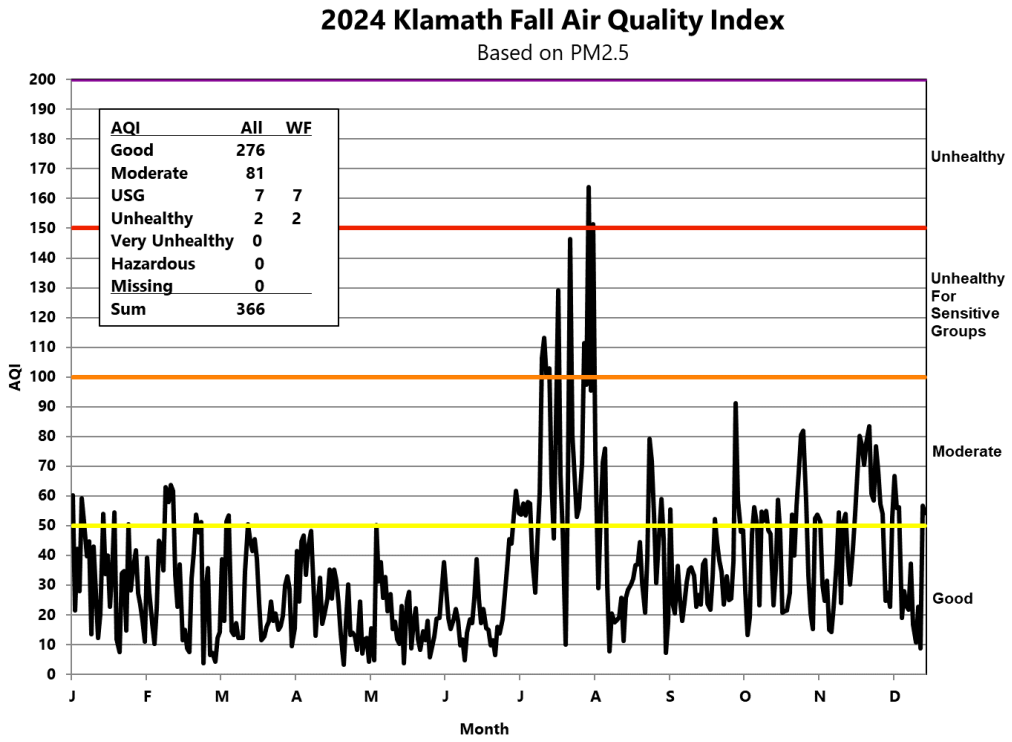

Figure 114. 2024 Klamath Falls AQI

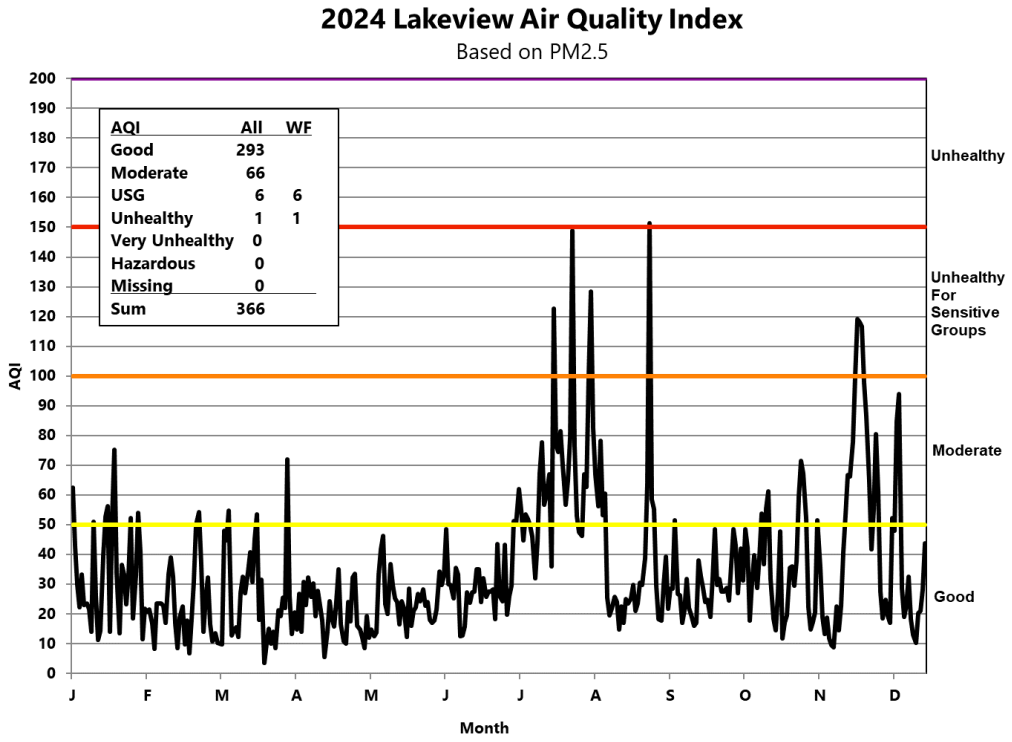

Figure 115. 2024 Lakeview AQI

Appendix 1: Ambient Air Monitoring Network Data

DEQ and LRAPA operate complex ambient air monitor networks, and the parameters monitored can vary. The tables below list the identification information, parameters monitored, monitoring area information, monitoring methods and location of all sites in the network. Some network data is available on DEQ's Air Quality Index website. DEQ can also provide data upon request; email requests to aqm.questions@deq.oregon.gov.Site Information

Table A.1.1. 2024 DEQ and LRAPA air quality monitoring sites and monitored pollutants

Site City	Site Name	DEQ Site Code	EPA Site Number	SO_2	CO	NO_2	O_3	$PM_{2.5}$	PM_{10}	HAPs	Pb	Met
Albany	Calapooia School	ACS	410430009					I				
Ashland	Fire Department	AFD	410290203					I				
Baker City	USFS Office	BFS	410010004					I				
Beaverton	Highland Park School	BHP	410670111					I				
Bend	High School	BEE	410170123					I		X		
Bend	Pine Ridge Elementary	BPR	410170116					I				
Bend	Ponderosa Elementary	BPE	410170115					I				
Bend	Pump Station	BPS	410170120					I				
Bend	Road Dept.	BRD	410140121									X
Brookings	Oregon Dept. of Forestry Office	BDF	410150002					I				
Burns	Washington St.	BWS	410250003					R				X
Carus	Spangler Road	SPR	410050004				X	I				X
Cave Junction	USFS Office	CJFS	410330036					I				
Chiloquin	Duke Drive	CDD	410352040					I				
Coos Bay	Marshfield High School	CBM	410110003					I				
Corvallis	EPA Office	CJT	410030014					I				
Cottage Grove	City Shops	CGC	410399004					R				
Cove	City Hall	CCH	410610120					I				
Crater Lake	Lodge at Rim	CLR	410351002					I				
Dallas	LeCreole School	DLM	410530004					I				
Detroit	USFS Office	DFS	410470123					I				
Enterprise	USFS Office	EFS	410630001					I				
Estacada	Clackamas River School	ECR	410050011					I				
Eugene	Amazon Park	AMZ	410390060				X	R				X
Eugene	Highway 99	E99	410390059					R	X			

Appendix 1: Ambient Air Monitoring Network Data

Site City	Site Name	DEQ Site Code	EPA Site Number	SO_2	CO	NO_2	O_3	$PM_{2.5}$	PM_{10}	HAPs	Pb	Met
Eugene	Wilkes Drive	EWD	410390101					I				X
Florence	Oregon Dept. of Forestry	FDF	410390100					I				
Forest Grove	Pacific University	FGP	410670006					I				
Gov. Camp	Multorpor	MUL	410050102					I				
Grants Pass	Parkside School	GPP	410330114					R				X
Gresham	Centennial HS	GCH	410510031					I				
Hermiston	Municipal Airport	HMA	410591003				X	I				X
Hillsboro	Hare Field	HHF	410670004					R		X	X	X
Hood River	Westside Fire Department #2	HRF	410270001					I				
John Day	Davidson Street	JDD	410230002					I				
Klamath Falls	Peterson School	KFP	410350004					R				X
La Grande	N Hall Avenue and E N Street	LHN	410610123					I	X	X	X	X
La Pine	Fire Station #103	LFD	410172002					I				
Lakeview	Center & M Sts.	LCM	410370001					R	X			X
Lyons	Mari-Linn School	LMS	410432003					I				
Madras	Westside School	MWS	410310007					I				
McMinnville	High School	MHS	410711003									
Medford	Rossanley Drive	MTV	410291002									X
Medford	Jackson Park	MJP	410292129					R	X	X		
Mill City	High School	MCS	410430104					I				
Oakridge	Willamette Activity Center	WAC	410392013					R	X			X
Ontario	May Roberts School	OMR	410450001					I				
Pendleton	McKay Creek	PMC	410590121					I				
Portland	Helensview School/Cully	PCH	410512011					I				X
Portland	Humboldt School	PHS	410512010					I	X	X	X	
Portland	Jefferson HS	PJH	410511191									X
Portland	Lane Middle School	PLM	410510032					I				
Portland	Lincoln HS	PLH	410510034					I				
Portland	McDaniel HS	PMS	410510039					I				
Portland	Roosevelt HS	PRH	410510003					I				

Appendix 1: Ambient Air Monitoring Network Data

Site City	Site Name	DEQ Site Code	EPA Site Number	SO_2	CO	NO_2	O_3	$PM_{2.5}$	PM_{10}	HAPs	Pb	Met
Portland	Sauvie Island	SIS	410090004				X	I				X
Portland	SE 12th Ave and Main St	PTM	410510035					I				
Portland	SE 57th Ave & Lafayette St	SEL	410510080	X	X	X	X	R	X		X	X
Prineville	Davidson Park	PDP	410130100					R				X
Redmond	High School	RHS	410171001					I				
Roseburg	Douglas County Fire Department	RFD	410190004					I				
Saginaw	Delight Valley Road	SAG	410391007				X					
Salem	Chemeketa Comm College	SCC	410470022					I				
	State Hospital	SSH	410470041				X	I				
Shady Cove	Shady Cove Schools	SCS	410290019					I				
Silverton	James St and Western St	SJW	410470007					I				X
Sisters	USFS Office	SFS	410170004					I				
Springfield	City Hall	SCH	410391009					I				X
Sunriver	Three Rivers Elementary	SRE	410170117					I				
Sweet Home	Fire Department	SFD	410432002					I				
Talent	Rapp Lane	TAL	410290201				X	I				
The Dalles	Cherry Heights	TDC	410650007					I				
Tillamook	Junior High School	TJH	410570001					I				
Toledo	NE Hwy 20 and NW A St	TPS	410410004					I				
Tualatin	Bradbury Court	TBC	410670005		X	X	X	R				X
Turner	Cascade Junior High	CJH	410470004				X	I				X
Woodburn	Chemeketa Comm College	WCC	410470023					I				

Key

Pollutants: SO_2 = sulfur dioxide, CO = carbon dioxide, NO_2 = nitrogen dioxide, O_3 = ozone, $PM_{2.5}$ & PM_{10} = particulate matter 2.5 microns or smaller and 10 microns and smaller respectively, HAPs = Hazardous Air Pollutants, Pb = lead, Met = meteorology

Other: R = regulatory monitor, I = Informational monitor, X = monitoring, HS = high school, USFS = United States Forest Service.

Monitoring Area Information

A monitoring area often coincides with city boundaries, but a monitoring area may also cover multiple cities for larger metropolitan areas or cities very close to each other. For monitoring areas with multiple sites, the tables below list which sites are used to monitor for each criteria pollutant by DEQ site code. Regulatory monitor site codes are **bolded**.

Table A.1.2. Monitoring areas with regulatory and informational monitors

Monitoring Area	$PM_{2.5}$	PM_{10}	Ozone	Carbon Monoxide	Nitrogen Dioxide	Sulfur Dioxide
Bend	BEE, BPE, BPR, BPS					
Corvallis	CJT					
Eugene Metro	**E99**, **AMZ**, EWD, SCH	**E99**	**AMZ**, **SAG**			
Medford	**MWJ**	**MWJ**	**TAL**			
Portland Metro	**HHF**, PCH, PHS, PLH, PLM, PMS, PRH, PTM, **SEL**, **TBC**	**PHS**, **SEL**	**SEL**, **SIS**, **SPR**, **TBC**	**SEL**, **TBC**	**SEL**, **TBC**	**SEL**
Salem	CJH, SCC, **SSH**		**CJH, SSH**			

Monitoring Methods

Multiple monitors can measure pollutant concentrations in ambient air, but EPA requires that DEQ only use certain monitors to support regulatory determinations. Monitors approved by EPA are called a Federal Reference Method monitor or Federal Equivalent Method monitor. More information can be found on EPA's approved federal methods website

Table A.1.3. Air quality monitoring methods used by DEQ and LRAPA

Pollutant	Method Code	Method Description
$PM_{2.5}$	145	Low-volume filter sampler and pre- and post-sampling weighing
$PM_{2.5}$	209	FEM beta attenuation
PM_{10}	127	Low-volume filter sampler and pre- and post-sampling weighing
PM_{10}	141	High-volume filter sampler and pre- and post-sampling weighing
PM_{10}	122	FEM beta attenuation
Ozone	087	Ultraviolet photometry
NO_2	200	Chemiluminescence analyzer with photolytic conversion
SO_2	100	Ultraviolet fluorescence spectrometer trace SO_2 analyzer
CO	093	Nondispersive infrared trace CO analyzer
$PM_{2.5}$ Estimate	027/145, 791/145	Light scattering correlated with $PM_{2.5}$ filter sampling

Monitoring Network Maps

Below are maps of monitoring networks for each criteria pollutant monitored in Oregon.

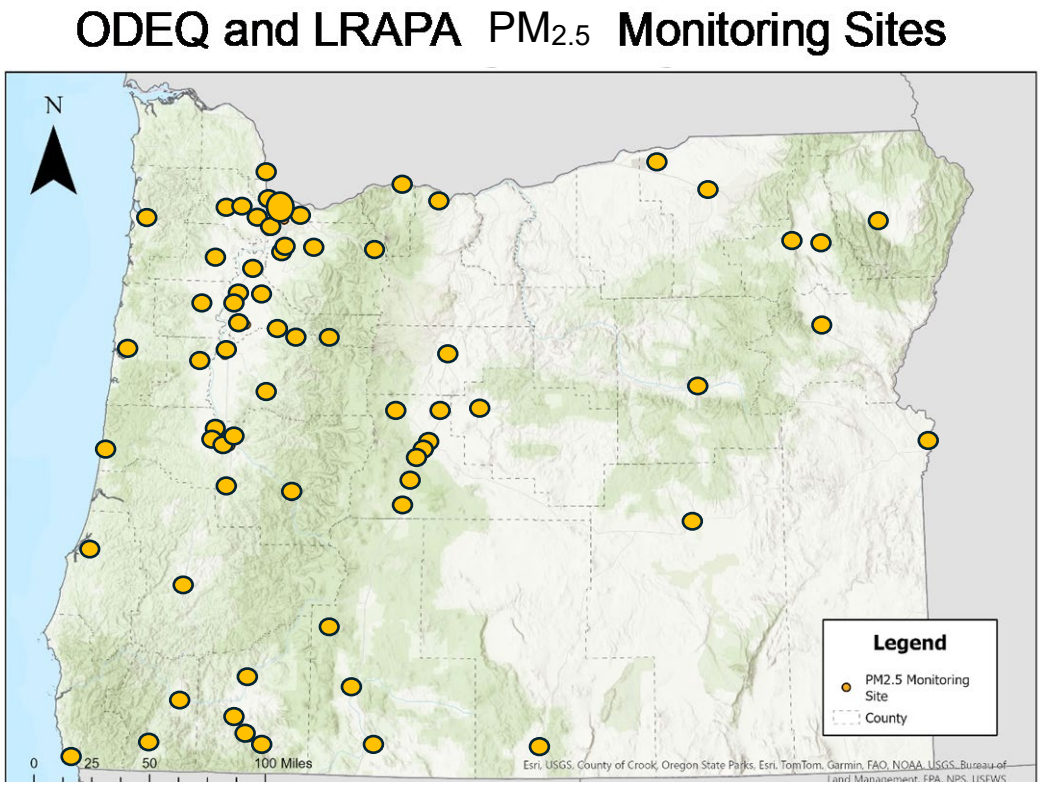

Figure A.1.1. Map of 2024 Oregon DEQ and LRAPA $PM_{2.5}$ monitoring sites.

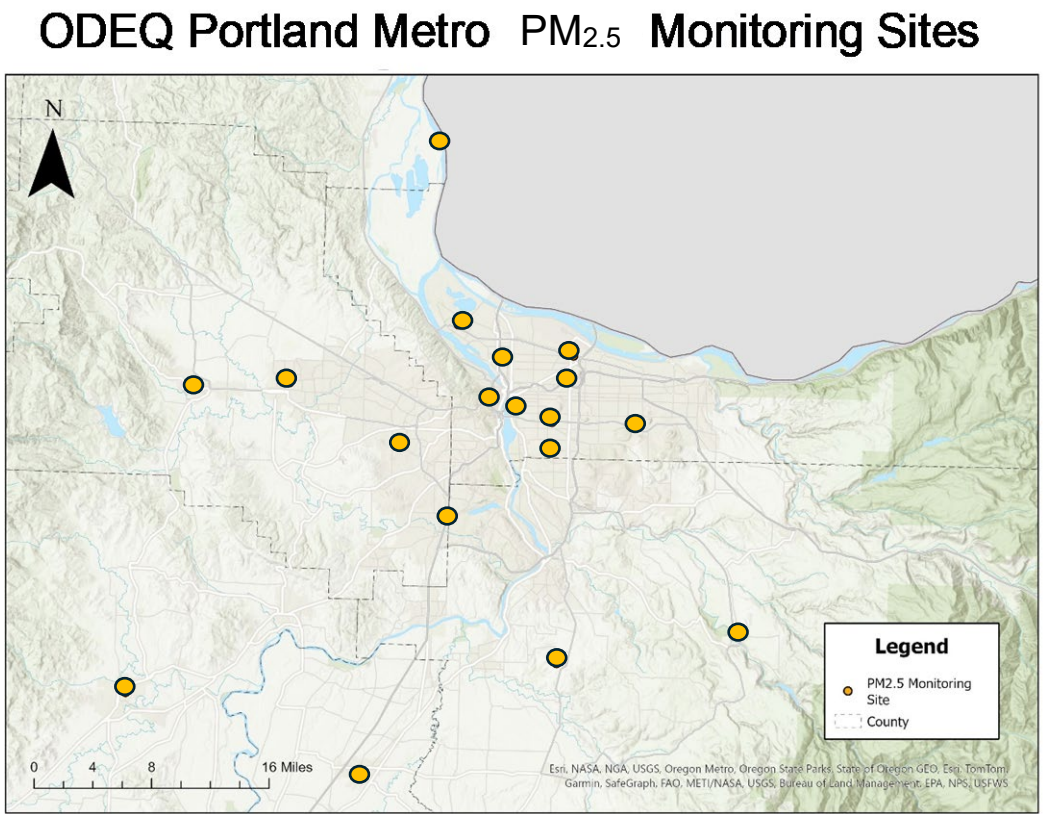

Figure A.1.2. Map of 2024 DEQ's Portland Metro PM2.5 monitoring sites.

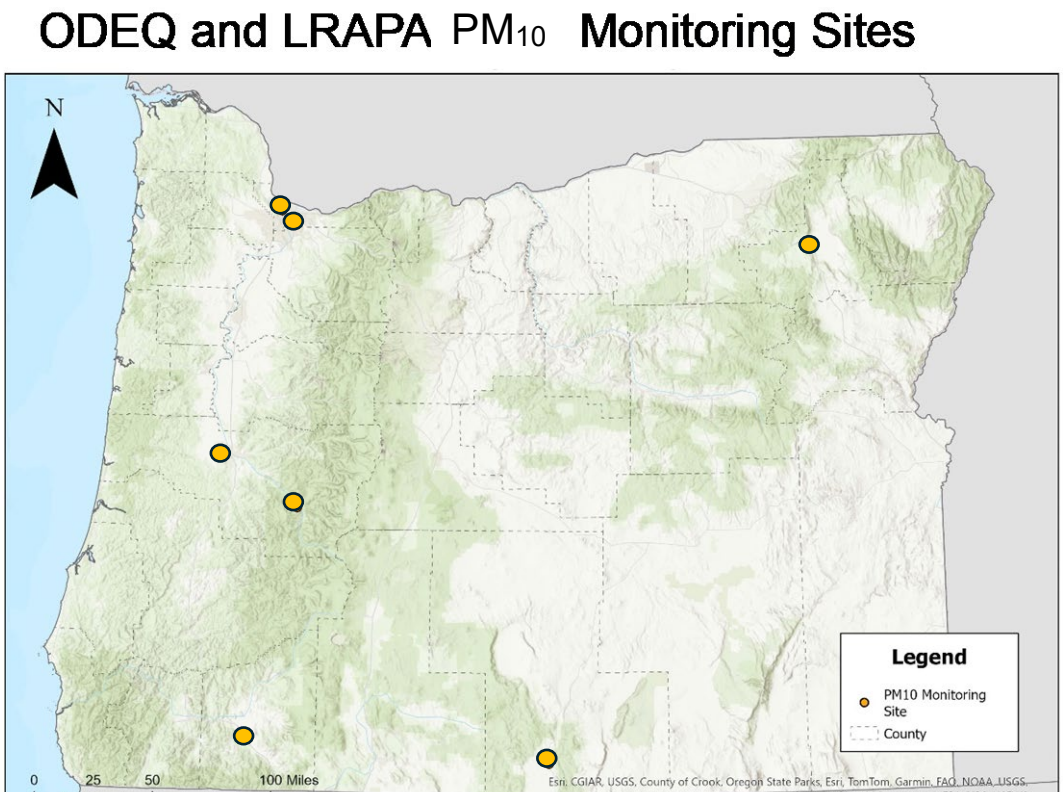

Figure A.1.3. Map of 2024 Oregon DEQ and LRAPA PM10 monitoring sites.

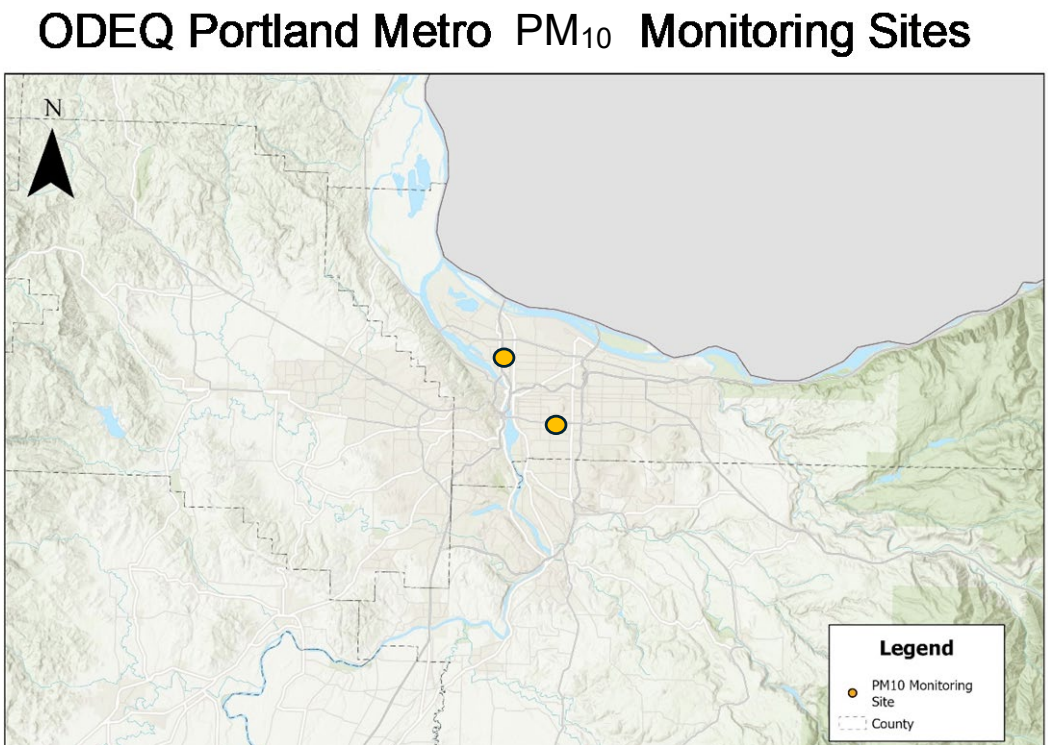

Figure A.1.4. Map of 2024 DEQ's Portland Metro PM10 monitoring sites.

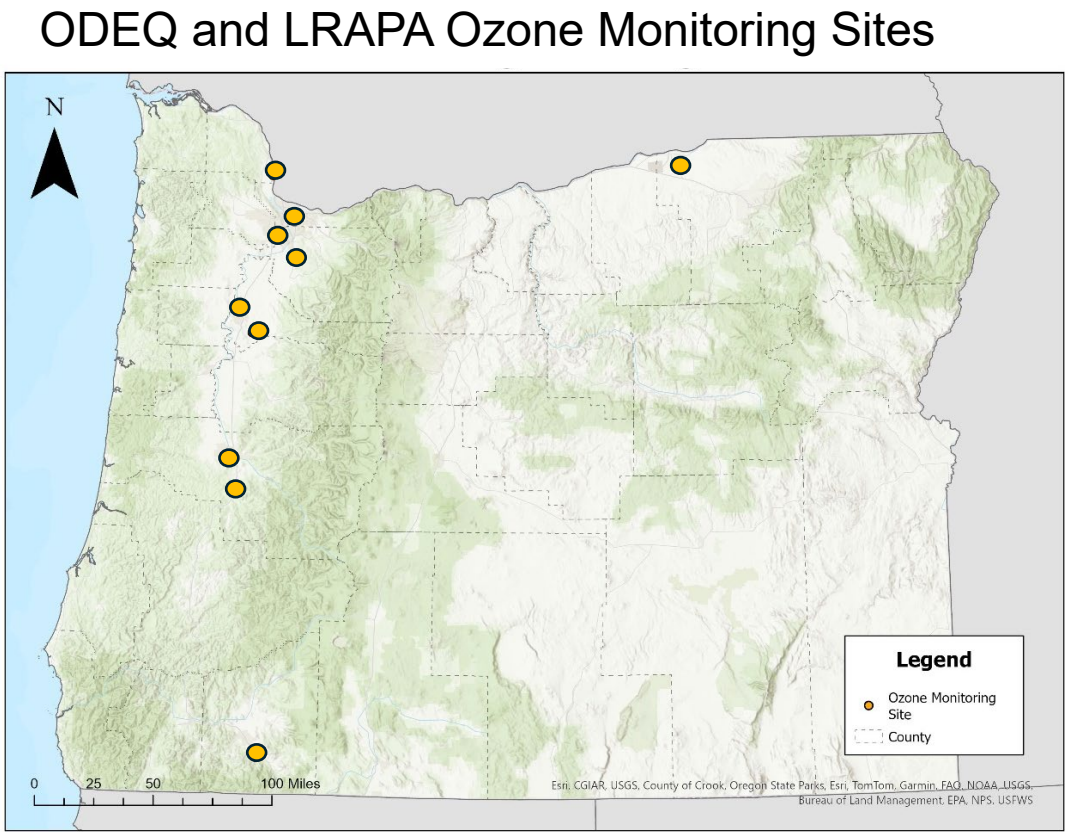

Figure A.1.5. Map of 2024 Oregon DEQ and LRAPA ozone monitoring sites.

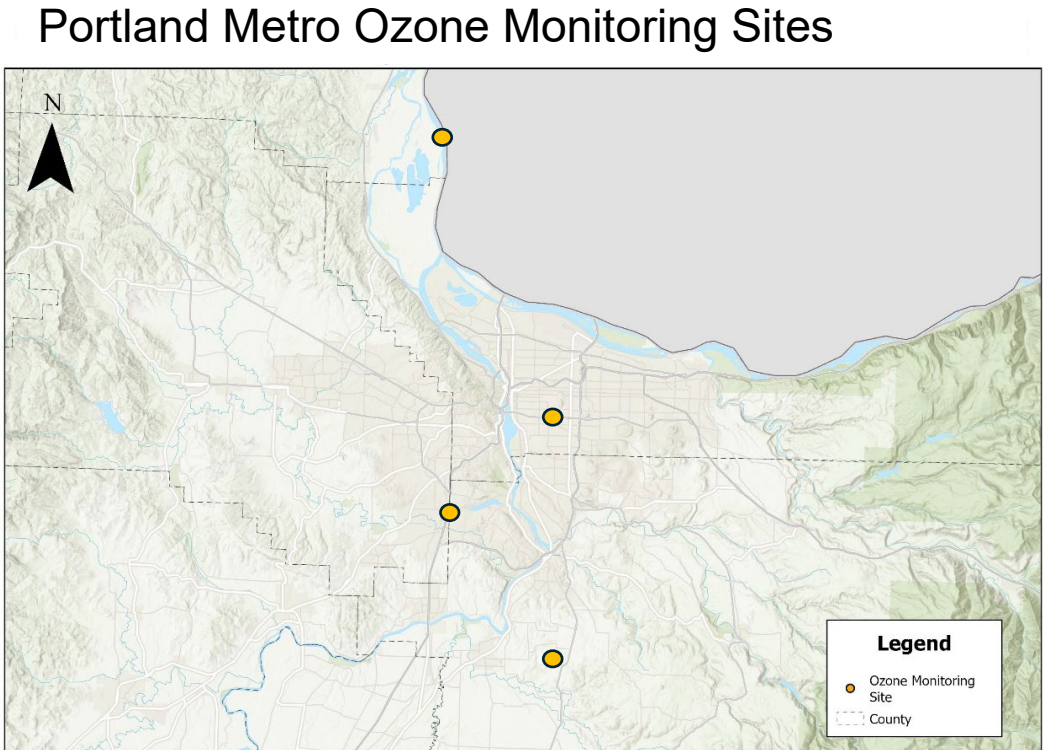

Figure A.1.6. Map of 2024 DEQ's Portland Metro ozone monitoring sites.

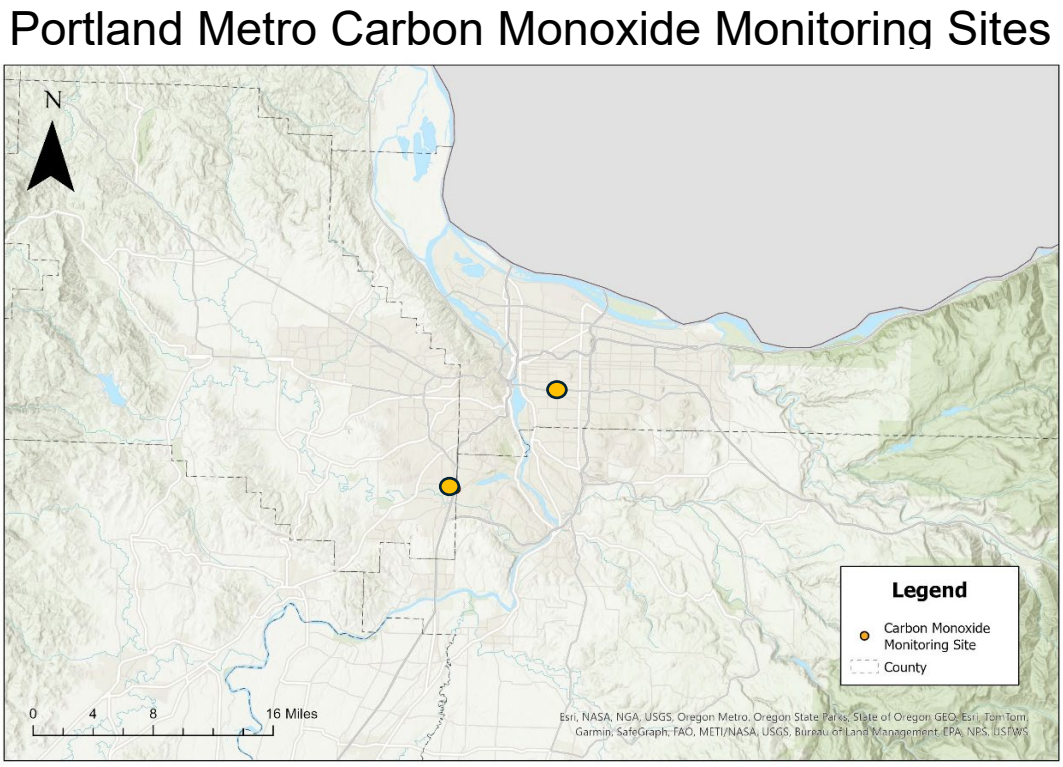

Figure A.1.7. Map of 2024 DEQ's Portland Metro carbon monoxide monitoring sites.

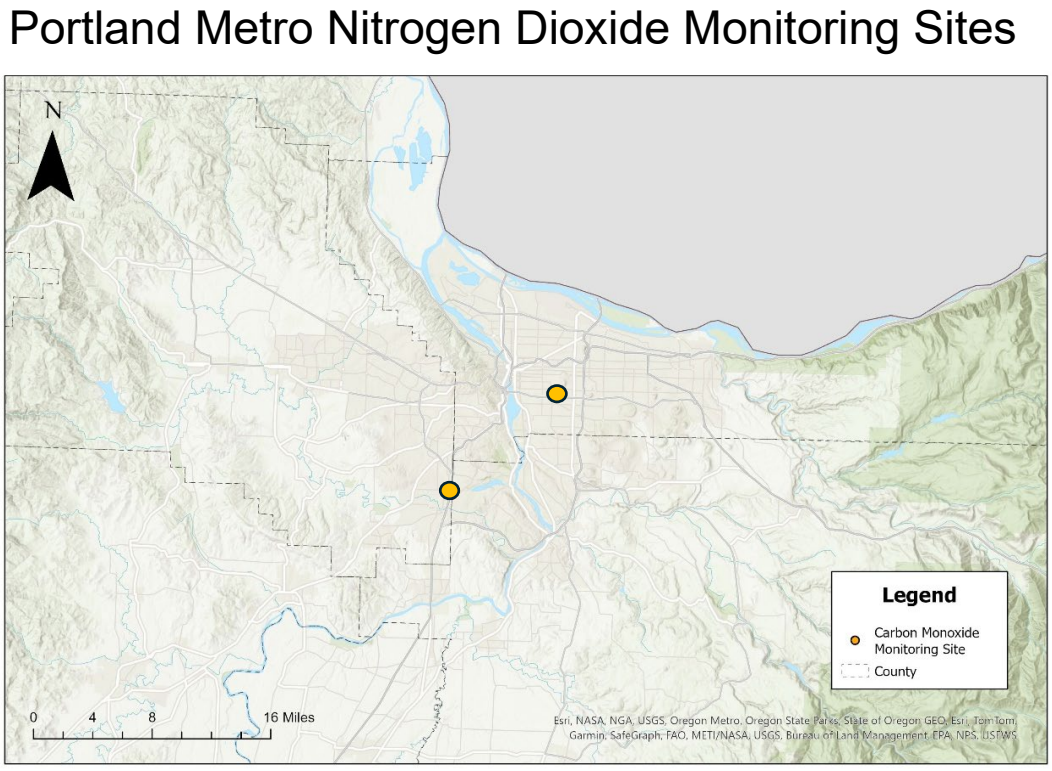

Figure A.1.8. Map of 2024 DEQ's Portland Metro nitrogen dioxide monitoring sites.

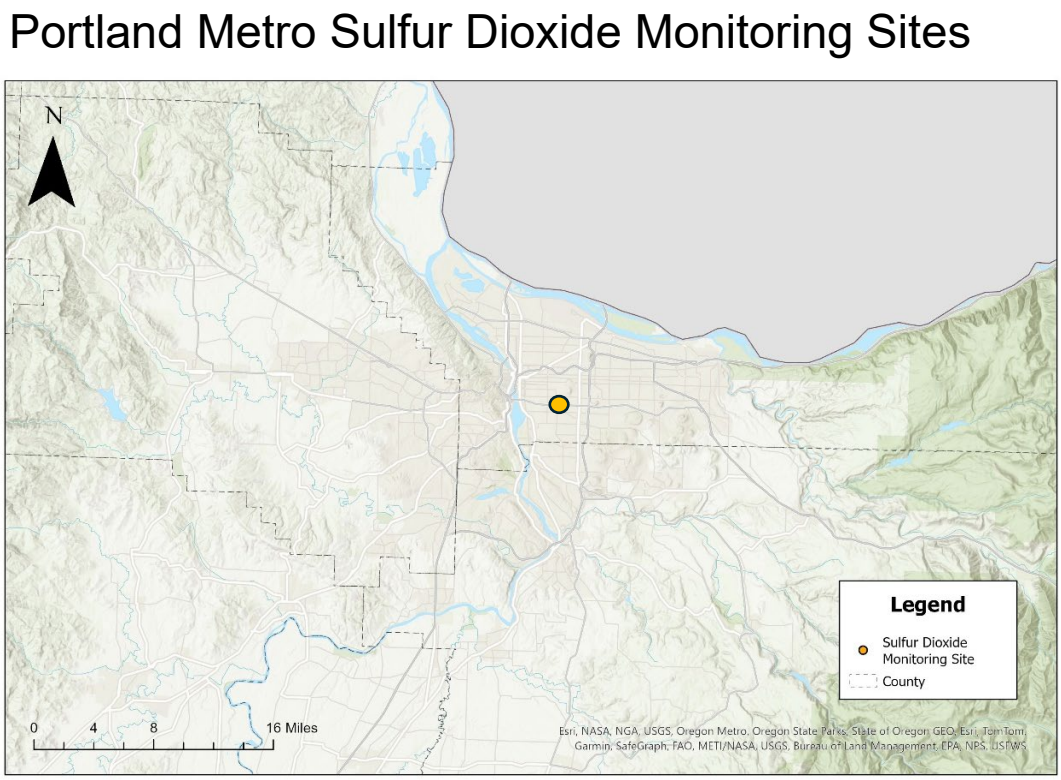

Figure A.1.9. Map of 2024 DEQ's Portland Metro sulfur dioxide monitoring sites.

Appendix 2: NAAQS Historical Data

Data listed below are from regulatory monitors. This data can be retrieved from EPA's Air Quality Systems website or be requested at Oregon DEQ Public Records Request.

Table A.2.1. PM2.5 - last ten years of design values

$PM_{2.5}$ Site Name Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	# of Days above 35.5 $\mu g/m^3$ (All Data)	Annual Mean, Including All Data $\mu g/m^3$	Annual Mean, Excluding Wildfire Smoke $\mu g/m^3$	98th Percentile Including All Data $\mu g/m^3$	98th Percentile Excluding Wildfire Smoke $\mu g/m^3$
Burns	2015	360/365	2	8.3	7.9	26	23
Washington Street	2016	118/122	0	8.2	NA	29	NA
BWS	2017	122/122	5	11.1	9.8	45	34
410250003	2018	116/122	3	10.1	9.2	36	28
	2019	350/365	5	10.2	NA	30	NA
	2020	352/366	11	11.8	9.2	62	29
	2021	344/365	9	11.3	9.7	47	24
	2022	365/365	3	9.3	9.0	29	27
	2023	360/365	1	9.5	9.1	27	25
	2024	360/366	26	15.4	8.4	109	25
Cottage Grove	2015	118/121	1	7.3	7.1	20	NA
City Shops	2016	121/122	0	5.8	NA	18	NA
CGS	2017	117/122	3	8.8	6.8	38	20
410399004	2018	123/122	1	7.8	7.5	24	23
	2019	120/121	0	7.3	NA	21	NA
	2020	121/122	2	13.4	5.3	17	16
	2021	357/365	1	6.2	5.8	20	16
	2022	362/365	7	7.9	6.8	35	22
	2023	355/365	7	7.3	6.3	34	19
	2024	346/366	0	6.1	NA	19	NA
Eugene	2015	121/121	2	7.0	NA	27	NA
Amazon Park	2016	122/122	2	5.4	NA	20	NA
AMZ	2017	119/122	9	9.0	6.9	36	37
410390060	2018	121/122	1	7.5	7.2	32	29
	2019	120/121	0	7.3	NA	25	NA

$PM_{2.5}$ Site Name Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	# of Days above 35.5 $\mu g/m^3$ (All Data)	Annual Mean, Including All Data $\mu g/m^3$	Annual Mean, Excluding Wildfire Smoke $\mu g/m^3$	98th Percentile Including All Data $\mu g/m^3$	98th Percentile Excluding Wildfire Smoke $\mu g/m^3$
	2020	121/122	4	14.9	6.2	240	21
	2021	120/122	0	5.5	NA	14	NA
	2022	362/365	7	8.3	7.2	35	23
	2023	350/365	4	6.5	5.7	23	20
	2024	359/366	0	4.1	NA	16	NA
Eugene	2015	122/121	2	7.6	NA	26	NA
Highway 99	2016	119/122	0	5.7	NA	16	NA
E99	2017	120/122	4	10.9	7.2	43	32
410390059	2018	122/122	3	8.7	8.4	39	32
	2019	121/121	0	8.0	NA	29	NA
	2020	121/122	3	14.9	7.0	218	23
	2021	360/365	1	6.6	6.4	19	18
	2022	361/365	6	8.8	8.2	32	29
	2023	360/365	3	8.2	7.3	33	27
	2024	354/366	0	6.0	NA	18	NA
Grants Pass	2015	57/60	0	8.2	7.6	18	17
Parkside School	2016	61/61	0	5.8	NA	15	NA
GPP	2017	58/61	4	15.8	7.3	115	19
410330114	2018	61/61	1	11.9	9.0	75	24
	2019	59/60	1	9.7	9.0	30	25
	2020	60/61	1	14.5	8.1	29	27
	2021	54/61	2	9.7	7.6	58	22
	2022	109/122	2	9.4	8.1	24	24
	2023	357/365	15	11.3	7.6	55	24
	2024	364/366	0	5.9	5.0	24	20
Klamath Falls	2015	112/121	4	10.2	8.2	38	25
Peterson School	2016	118/122	0	6.8	NA	23	NA
KFP	2017	122/122	3	11.7	8.3	55	32
410350004	2018	117/122	12	20.6	10.7	146	28
	2019	63/63	0	8.1	NA	32	NA
	2020	61/61	3	14.6	8.5	46	27
	2021	59/61	4	14.0	9.0	62	23
	2022	358/365	3	8.5	8.4	31	27
	2023	346/365	4	9.0	8.0	33	26
	2024	364/366	9	7.9	6.2	36	24

$PM_{2.5}$ Site Name Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	# of Days above 35.5 $\mu g/m^3$ (All Data)	Annual Mean, Including All Data $\mu g/m^3$	Annual Mean, Excluding Wildfire Smoke $\mu g/m^3$	98th Percentile Including All Data $\mu g/m^3$	98th Percentile Excluding Wildfire Smoke $\mu g/m^3$
Lakeview	2015	115/121	2	8.4	NA	33	NA
Center and M	2016	106/122	2	6.3	NA	19	NA
LCM	2017	108/122	8	9.0	7.9	58	56
410370001	2018	101/122	9	12.8	9.4	66	29
	2019	102/122	0	9.5	NA	26	NA
	2020	110/122	3	8.6	7.7	36	22
	2021	95/122	8	12.4	9.2	68	28
	2022	108/122	2	8.3	9.8	35	34
	2023	356/365	1	6.6	9.1	24	23
	2024	364/366	7	7.5	7.5	35	28
Medford	2015	119/121	7	12.2	9.6	46	35
Grant/Belmont	2016	120/122	0	7.2	NA	21	NA
410290133	2017	117/122	9	15.5	9.5	111	29
	2018	120/122	3	17.4	9.2	144	24
Welch/Jackson	2019	117/119	3	8.7	7.5	37	27
MWJ	2020	120/122	4	15.5	8.9	63	23
410292129	2021	93/122	8	16.4	9.3	121	23
	2022	97/122	2	10.2	10.0	33	23
Jackson Park	2023	353/365	14	12.0	7.8	73	21
410290029	2024	359/366	2	7.9	6.7	29	24
Oakridge	2015	121/121	1	8.9	NA	29	NA
Willamette Activity	2016	120/122	0	6.7	NA	22	NA
WAC	2017	125/122	9	13.0	8.8	86	36
410392013	2018	114/122	2	12.2	9.0	33	29
	2019	354/365	3	9.2	NA	37	NA
	2020	340/366	3	10.8	6.7	190	26
	2021	361/365	19	9.9	6.4	70	19
	2022	358/265	37	23.3	8.6	247	26
	2023	353/365	12	10.0	7.4	46	24
	2024	351/366	11	8.2	5.8	41	21
Portland Metro	2015	120/121	1	8.3	7.6	34	32
Hillsboro Hare	2016	120/122	0	5.9	NA	18	NA
HHF	2017	119/122	2	8.2	7.3	33	24
410670004	2018	116/122	2	8.0	7.1	32	22
	2019	114/121	1	6.7	NA	24	NA

$PM_{2.5}$ Site Name Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	# of Days above 35.5 $\mu g/m^3$ (All Data)	Annual Mean, Including All Data $\mu g/m^3$	Annual Mean, Excluding Wildfire Smoke $\mu g/m^3$	98th Percentile Including All Data $\mu g/m^3$	98th Percentile Excluding Wildfire Smoke $\mu g/m^3$
	2020	117/122	3	10.9	6.1	30	18
	2021	120/122	0	5.8	NA	15	NA
	2022	118/122	2	7.5	7.3	29	23
	2023	365/365	1	5.9	5.7	19	19
	2024	360/366	0	3.9	NA	14	NA
Portland Metro	2015	121/121	1	7.2	6.8	30	24
SE Lafayette St &	2016	122/122	0	5.6	NA	14	NA
SEL	2017	119/122	2	7.9	6.8	34	22
410510080	2018	120/122	2	7.4	6.8	20	17
	2019	121/121	0	6.5	NA	20	NA
	2020	120/122	2	10.7	7.1	31	23
	2021	117/122	0	6.4	NA	16	NA
	2022	119/122	2	7.7	7.1	27	22
	2023	353/365	1	6.3	6.1	17	NA
	2024	360/366	0	4.9	NA	16	NA
Portland Metro	2016	108/122	0	6.3	NA	18	NA
Tualatin Bradbury	2017	118/122	3	7.9	6.9	37	20
TBC	2018	121/122	2	7.7	7.1	20	17
410670005	2019	120/121	0	6.9	NA	21	NA
	2020	119/122	2	11.2	6.8	18	15
	2021	98/122	0	6.7	NA	18	NA
	2022	113/122	1	7.9	7.5	28	24
	2023	365/365	1	5.5	5.2	17	17
	2024	358/366	0	4.7	NA	13	NA
Prineville	2015	108/121	3	8.9	7.5	42	25
Davidson Park	2016	116/122	1	6.9	NA	24	NA
PDP	2017	112/122	8	11.7	8.5	58	35
410130100	2018	113/122	2	8.9	8.0	33	25
	2019	116/121	0	7.6	NA	28	NA
	2020	115/122	3	16.4	7.5	132	27
	2021	106/122	2	7.3	6.8	24	17
	2022	115/122	0	6.7	6.5	20	19
	2023	360/365	12	8.5	6.6	49	20
	2024	359/366	6	6.7	4.9	32	22

Table A.2.2. PM10 - last ten years of design values

PM_{10} Monitoring Area DEQ Site Name DEQ Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	Daily Maximum, µg/m³ (date)	Days Above NAAQS Level	Second-Highest Daily Max, µg/m³ (date)
Eugene Metro	2015[O]	60/60	97 (08/22)	0	53 (07/29)
Highway 99	2016	60/61	57 (08/22)	0	42 (09/13)
E99	2017[O]	355/365	239 (09/04)	3	226 (09/03)
410390059	2018[O]	339/365	134 (08/21)	0	83 (08/20)
	2019	354/365	77 (08/26)	0	31 (08/27)
	2020[O]	356/366	588 (09/13)	10	579 (09/12)
	2020*	344/366	59 (08/14)	0	58 (09/02)
	2021	359/365	66 (09/03)	0	64 (08/04)
	2022[O]	361/365	85 (10/10)	0	85 (10/20)
	2023	189/213	59 (08/16)	0	43 (01/31)
	2024	58/63	31 (08/28)	0	26 (07/16)
La Grande					
Ash Street (LAS)	2015[O]	60/60	69 (08/22)	0	41 (08/28)
410610119	2016	45/61	45 (11/02)	0	27 (12/20)
La Grande	2017[O]	56/61	64 (08/11)	0	55 (08/05)
N Hall Street and E N Ave	2018[O]	61/61	54 (07/14)	0	51 (08/06)
LHN	2019	61/61	48 (03/16)	0	36 (11/05)
410610123	2020	58/61	49 (08/25)	0	39 (02/21)
	2021	58/61	82 (08/14)	0	43 (08/20)
	2022	56/61	67 (10/20)	0	44 (09/02)
	2023	61/61	33 (09/15)	0	30 (10/21)
	2024	58/63	58 (09/06)	0	45 (07/26)
Medford Grant & Belmont 410290133	2015	57/60	61 (08/22)	0	52 (08/28)
Medford	2016	53/61	33 (12/20)	0	28 (01/07)
Welch & Jackson	2017[O]	58/61	175 (09/04)	1	136 (08/29)
MWJ	2017*	53/61	47 (01/31)	0	39 12/09)
410292129	2018[O]	55/61	99 (07/25)	0	66 07/19)
	2019[O]	58/61	118 (07/26)	0	54 (01/03)
	2020[O]	60/61	62 (10/06)	0	46 (09/18)
	2021[O]	58/61	154 (08/14)	1	108 (09/07)
Moved to Jackson Pk.	2022[O]	51/61	86 (09/02)	0	51 (10/20)
in July 2023	2023	53/61	29 (12/14)	0	27 (01/30)
	2024	56/63	40 (07/23)	0	38 (12/06)

PM_{10} Monitoring Area DEQ Site Name DEQ Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	Daily Maximum, $\mu g/m^3$ (date)	Days Above NAAQS Level	Second-Highest Daily Max, $\mu g/m^3$ (date)
Oakridge	2015	60/60	37 (02/17)	0	32 (02/23)
Willamette Activity Center	2016	60/61	30 (12/08)	0	25 (02/24)
WAC	2017*	336/365	55 (12/07)	0	44 (12/13)
410392013	2017O	352/365	210 (09/04)	4	173 (09/05)
	2018O	354/365	76 (08/21)	0	60 (08/22)
	2019	354/365	53 (05/04)	0	49 (06/14)
	2020O	351/366	592 (09/12)	8	424 (09/13)
	2020*	341/366	40 (12/03)	0	38 (02/20)
	2021O	352/365	157 (09/07)	1	129 (08/14)
	2022O	348/365	363 (10/19)	19	350 (09/10)
	2023O	356/365	142 (08/15)	0	118 (08/16)
	2024O	349/366	148 (08/04)	0	92 (08/01)
Portland Metro North Roselawn PNR, 410510246	2015O	58/60	73 (08/22)	0	45 (11/24)
Portland Metro	2017O	46/61	52 (09/16)	0	29 (08/29)
Humboldt School	2018	61/61	29 (02/07)	0	27 (10/17)
PHS	2019	61/61	29 (11/23)	0	28 (12/05)
410512010	2020	58/61	21 (12/29)	0	20 (02/03)
	2021	59/61	27 (03/17)	0	25 (10/19)
	2022O	60/61	89 (10/20)	0	39 (10/14)
	2023	59/61	21 (05/12)	0	19 (03/19)
	2024	54/61	21 (03/07)	0	21 (03/19)
Portland Metro	2015O	119/121	68 (08/22)	0	33 (11/24)
SE Lafayette St & 57th Ave	2016	119/122	34 (08/19)	0	32 (12/26)
SEL	2017O	120/122	70 (09/16)	0	59 (08/02)
410510080	2018O	117/122	54 (08/15)	0	27 (02/07)
	2019	119/122	33 (11/23)	0	29 (12/05)
	2020	119/122	35 (09/09)	0	35 (11/02)
	2021	116/122	32 (03/17)	0	29 (03/02)
	2022O	118/122	83 (10/20)	0	39 (09/11)
	2023	115/122	32 (07/05)	0	27 (08/25)
	2024		41 (09/06)	0	22 (02/03)

OWildfire data included, * Wildfire data removed

Table A.2.3. Ozone - last ten years of design values

Ozone Monitoring Area DEQ Site Name, Code, EPA #	Year	Sample Days: Actual/ Expected	Daily Maximum, (ppb)	Days Above NAAQS Level	Annual 4th-Highest Maximum (ppb)	Three-year Average 4th-Highest Maximum (ppb)
Bend Road Department 410170122	2024	148/153	73	1	63	-
Eugene Metro Amazon Park AMZ 410390060	2015	152/153	78	1	68	59
	2016	152/153	64	0	57	61
	2017	152/153	91	3	70	65
	2018	147/153	65	0	60	62
	2019	153/153	62	0	54	61
	2020	142/153	66	0	55	56
	2021	152/153	71	1	62	57
	2022	152/153	67	0	59	58
	2023	153/153	65	0	59	60
	2024	152/153	73	1	62	60
Eugene Metro Saginaw SAG 410391007	2015	152/153	80	1	71	61
	2016	151/153	63	0	56	61
	2017	152/153	91	4	73	65
	2018	152/153	68	0	60	63
	2019	153/153	65	0	55	62
	2020	139/153	62	0	52	55
	2021	151/153	68	0	59	55
	2022	149/153	62	0	56	55
	2023	153/153	61	0	60	58
	2024	151/153	74	1	64	60
Hermiston Municipal Airport HMA 410591003	2015	150/153	73	0	70	65
	2016	136/153	74	1	63	65
	2017	152/153	80	7	73	68
	2018	96/153	66	0	60	65
	2019	149/153	65	0	59	64
	2020	141/153	60	0	56	58
	2021	152/153	74	1	65	60
	2022	148/153	67	0	64	61
	2023	152/153	66	0	62	63
	2024	153/153	76	2	67	64

Ozone Monitoring Area DEQ Site Name, Code, EPA #	Year	Sample Days: Actual/ Expected	Daily Maximum, (ppb)	Days Above NAAQS Level	Annual 4th-Highest Maximum (ppb)	Three-year Average 4th-Highest Maximum (ppb)
Medford	2015	139/153	86	1	69	65
Talent Rapp Lane	2016	130/153	50	0	49	59
TAL	2017	149/153	83	5	78	65
410290201	2018	152/153	76	6	74	67
	2019	152/153	80	1	62	71
	2020	146/153	67	0	60	65
	2021	152/153	78	2	69	63
	2022	151/153	71	1	66	65
	2023	152/153	69	0	62	65
	2024	135/153	73	1	63	63
Portland Metro	2015	147/153	73	0	69	63
Carus Spangler	2016	152/153	63	0	64	65
SPR	2017	145/153	116 (08/03)	8	83	72
410050004	2018	147/153	76	3	70	72
	2019	152/153	71	1	65	72
	2020	139/153	77	3	70	68
	2021	149/153	90	1	62	65
	2022	151/153	75	2	67	66
	2023	149/153	76	2	68	65
	2024	151/153	78	4	73	69
Portland Metro	2015	149/153	63	0	58	52
Sauvie Island	2016	151/153	58	0	51	54
SIS	2017	147/153	86	2	64	57
410090004	2018	151/153	55	0	53	56
	2019	149/153	65	0	51	56
	2020	144/153	57	0	51	51
	2021	150/153	58	0	54	52
	2022	150/153	63	0	54	53
	2023	151/153	76	1	56	54
	2024	149/153	58	0	50	53
Portland Metro	2015	151/153	62	0	57	55
SE Lafayette St &	2016	147/153	60	0	55	55
SEL	2017	317/365	87	1	68	60
410510080	2018	354/365	76	2	67	63
	2019	336/365	66	0	58	64
	2020	352/366	75	1	59	61
	2021	361/365	72	1	60	59
	2022	360/365	80	1	56	58
	2023	338/365	67	0	56	57
	2024	355/366	68	0	66	59

Ozone Monitoring Area DEQ Site Name, Code, EPA #	Year	Sample Days: Actual/ Expected	Daily Maximum, (ppb)	Days Above NAAQS Level	Annual 4th-Highest Maximum (ppb)	Three-year Average 4th-Highest Maximum (ppb)
Portland Metro	2015	153/153	67	0	52	-
Tualatin Bradbury	2016	145/153	57	0	48	51
TBC	2017	143/153	85	4	71	57
410670005	2018	140/365	56	0	54	57
	2019	152/153	65	0	50	58
	2020	141/153	76	1	59	54
	2021	151/153	70	0	56	55
	2022	153/153	67	0	61	58
	2023	152/153	69	0	56	58
	2024	153/153	72	1	58	58
Salem Metro	2018	107/153	58	0	55	-
State Hospital	2019	151/153	64	0	52	-
SSH	2020	138/153	68	0	53	53
410470041	2021	143/153	63	0	58	54
	2022	147/153	74	1	64	58
	2023	152/153	72	1	59	60
	2024	152/153	70	0	61	61
Salem Metro	2015	152/153	78	1	65	62
Turner Cascade Jr	2016	150/153	69	0	65	65
CJH	2017	152/153	85	6	78	69
410470004	2018	149/153	70	0	66	69
	2019	149/153	66	0	55	66
	2020	141/153	63	0	57	59
	2021	150/153	69	0	63	58
	2022	147/153	71	2	69	63
	2023	146/153	70	0	64	65
	2024	150/153	77	2	66	66
Silverton N. James St. 410470007	2024	140/153	79	2	67	-

Table A.2.4. Carbon monoxide - last ten years of design values

Carbon Monoxide Monitoring Area DEQ Site Name DEQ Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	8-hour Average Daily Maximum, (ppm)	8-hour Average Days Above NAAQS Level	1-hour Average Maximum (ppm)	1-hour Average Days Above NAAQS Level
Portland Metro	2015	365/365	2.0	0	2.4	0
SE Lafayette St & 57th	2016	311/366	1.5	0	1.8	0
SEL	2017	215/365	1.2	0	1.7	0
410510080	2018	361/365	1.6	0	2.1	0
	2019	244/365	1.6	0	1.9	0
	2020O	360/366	14.2	3	15.3	0
	2020*	351/366	1.5	0	1.7	0
	2021	358/365	1.7	0	2.7	0
	2022	362/365	1.7	0	2.2	0
	2023	326/365	1.2	0	4.1	0
	2024	334/366	1.4	0	1.5	0
Portland Metro	2015	336/365	1.3	0	1.8	0
Tualatin Bradbury Court	2016	317/366	1.3	0	1.7	0
TBC	2017	296/365	1.4	0	1.4	0
410670005	2018	325/365	1.0	0	1.4	0
	2019	355/365	1.0	0	1.3	0
	2020O	337/366	14.3	3	14.7	0
	2020*	328/366	1.0	0	1.8	0
	2021	349/365	1.0	0	1.5	0
	2022	364/365	1.1	0	1.8	0
	2023	345/365	1.1	0	1.5	0
	2024	363/366	0.8	0	1.0	0

OWildfire data included

* Wildfire data removed

Table A.2.5. Nitrogen dioxide - last ten years of design values

Nitrogen Dioxide Monitoring Area DEQ Site Name DEQ Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	Daily Maximum, ppb	Days Above NAAQS Level	Annual Mean, ppb	98th Percentile, ppb
Portland Metro	2015	365/365	47	0	9	36
SE Lafayette St & 57th	2016	366/366	41	0	9	34
SEL	2017	346/365	53	0	9	40
410510080	2018	337/365	47	0	9	35
	2019	352/365	43	0	8	32
	2020	354/366	35	0	6	30
	2021	350/365	36	0	7	31
	2022	350/365	36	0	7	30
Only 3 quarters of data	2023	282/365	71	0	6	38
	2024	334/366	33	0	6	29
Portland Metro	2015	332/365	41	0	14	36
Tualatin Bradbury Court	2016	363/366	38	0	13	35
TBC	2017	361/365	49	0	12	38
410670005	2018	341/365	44	0	12	38
	2019	326/365	41	0	11	33
	2020	342/366	42	0	10	30
	2021	348/365	38	0	9	30
	2022	357/365	34	0	10	31
	2023	359/365	34	0	9	29
	2024	363/366	33	0	9	29

Table A.2.6. Sulfur dioxide - last ten years of design values

Sulfur Dioxide Monitoring Area DEQ Site Name DEQ Site Code EPA Site Number	Year	Sample Days: Actual/ Expected	Annual 99th Percentile (ppb)	3-year Average of the 99th Percentile (ppb)	Annual Average (ppb)	3-year Average of the Annual Average (ppb)*
Portland Metro	2015	359/365	4	4	0.9	0.8
SE Lafayette St & 57th	2016	353/366	3	3	0.5	0.5
SEL	2017	332/365	3	3	0.2	0.3
410510080	2018	331/365	3	3	0.4	0.3
	2019	345/365	3	3	0.4	0.3
	2020	351/366	2	3	0.3	0.3
	2021	355/365	3	3	0.3	0.4
	2022	350/365	3	3	0.6	0.5
Only 3 quarters of data	2023	320/365	3	3	0.4	0.5
	2024	356/366	2	3	0.4	0.5

*New secondary NAAQS design value in 2024 is 10 ppb.

Appendix 3: AQI Historical Data

AQI data listed below are from regulatory and informational monitors for the past 10 years. AQI values are calculated from $PM_{2.5}$ pollutant concentrations in all the monitoring areas listed below. Select monitoring areas monitor for additional pollutants, which factor into AQI calculations. Those areas are annotated accordingly:

*Ozone monitoring only

**$PM_{2.5}$ and ozone monitoring

***$PM_{2.5}$, ozone, carbon monoxide, nitrogen oxide and sulfur dioxide monitoring

AQI data is available from regulatory and some informational monitors through EPA's Air Quality Systems website. Current hourly AQI data is available from all monitors through DEQ's AQI web page; some historical pollutant concentration data from all monitors is also available. DEQ can also provide data upon request using DEQ's Public Records Request web page.

Table A.3.1. AQI ten year trends

Key: USG = Unhealthy for Sensitive Groups, **Haz** = Hazardous, **Exp** = Expected days.

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Albany	2015	279	69	2	3	0	0	12	365
	2016	321	45	0	0	0	0	0	366
	2017	300	59	3	3	0	0	0	365
	2018	305	57	3	0	0	0	0	365
	2019	300	65	0	0	0	0	0	365
	2020	301	54	0	0	7	4	0	366
	2021	323	42	0	0	0	0	0	365
	2022	292	71	2	0	0	0	0	365
	2023	302	62	1	0	0	0	0	365
	2024	341	25	0	0	0	0	0	366
Ashland	2016	152	19	0	0	0	0	195	366
	2017	285	58	7	10	2	2	1	365
	2018	274	52	11	19	5	0	4	365
	2019	326	34	1	4	0	0	0	365
	2020	297	57	1	3	3	5	0	366
	2021	284	51	11	18	1	0	0	365
	2022	311	48	3	3	0	0	0	365
	2023	306	46	2	6	5	0	0	365
	2024	323	41	2	0	0	0	0	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Baker City	2015	285	70	8	2	0	0	0	365
	2016	307	59	0	0	0	0	0	366
	2017	273	86	3	3	0	0	0	365
	2018	273	75	1	1	0	0	15	365
	2019	293	67	0	0	0	0	5	365
	2020	282	77	1	4	2	0	0	366
	2021	271	88	1	4	0	0	1	365
	2022	283	79	3	0	0	0	0	365
	2023	301	62	0	0	0	0	2	365
	2024	280	83	1	2	0	0	0	366
Beaverton	2015	310	52	1	1	0	0	1	365
	2016	345	21	0	0	0	0	0	366
	2017	311	46	7	0	0	0	1	365
	2018	304	52	6	0	0	0	3	365
	2019	325	37	0	0	0	0	3	365
	2020	327	30	1	1	3	4	0	366
	2021	334	28	0	0	0	0	3	365
	2022	303	60	0	2	0	0	0	365
	2023	335	28	1	0	0	0	1	365
	2024	350	16	0	0	0	0	0	366
Bend	2015	299	62	3	1	0	0	0	365
	2016	329	11	1	0	0	0	25	366
	2017	279	60	4	7	4	0	11	365
	2018	284	70	5	4	0	0	2	365
	2019	317	41	0	0	0	0	7	365
	2020	303	50	4	1	1	7	0	366
	2021	294	47	9	7	2	1	5	365
	2022	290	70	3	1	1	0	0	365
	2023	336	28	1	0	0	0	0	365
	2024	264	84	13	5	0	0	0	366
Brookings	2020	103	17	1	3	0	0	31	155
	2021	227	6	1	0	0	0	131	365
	2022	157	11	0	0	0	0	197	365
	2023	290	16	1	0	0	0	58	365
	2024	351	1	0	0	0	0	14	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Burns	2015	241	121	3	0	0	0	0	365
	2016	247	109	1	0	0	0	9	366
	2017	206	151	6	2	0	0	0	365
	2018	222	136	4	2	0	0	1	365
	2019	210	150	5	0	0	0	0	365
	2020	211	144	2	7	1	1	0	366
	2021	200	156	5	4	0	0	0	365
	2022	227	136	2	0	0	0	0	365
	2023	215	149	1	0	0	0	0	365
	2024	200	139	6	16	4	0	1	366
Carus-Canby	2020	214	22	0	0	1	2	127	366
	2021	330	22	0	0	0	0	13	365
	2022	300	60	1	2	0	0	2	365
	2023	313	50	1	0	0	0	1	365
	2024	340	18	1	0	0	0	7	366
Cave Junction	2015	251	95	3	1	0	0	15	365
	2016	312	54	0	0	0	0	0	366
	2017	239	109	4	8	3	0	2	365
	2018	231	101	18	15	0	0	0	365
	2019	269	93	3	0	0	0	0	365
	2020	248	93	6	12	0	7	0	366
	2021	259	90	10	6	0	0	0	365
	2022	230	120	10	4	0	0	1	365
	2023	226	109	10	10	7	3	0	365
	2024	313	46	6	0	0	0	1	366
Chiloquin	2019	93	22	2	2	0	0	4	123
	2020	232	22	2	4	4	0	102	366
	2021	123	38	6	17	9	0	172	365
	2022	307	32	0	1	0	0	24	365
	2023	282	43	6	4	0	0	30	365
	2024	322	27	8	2	0	0	7	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Corvallis	2015	314	49	1	1	0	0	0	365
	2016	175	19	0	0	0	0	172	366
	2017	294	61	2	0	0	0	8	365
	2018	315	48	2	0	0	0	0	365
	2019	302	63	0	0	0	0	0	365
	2020	313	42	0	1	7	3	0	366
	2021	345	20	0	0	0	0	0	365
	2022	302	53	2	0	0	0	8	365
	2023	334	15	0	0	0	0	16	365
	2024	338	12	0	0	0	0	16	366
Coos Bay	2020	303	33	1	6	0	0	23	366
	2021	290	10	0	0	0	0	65	365
	2022	318	37	1	0	0	0	9	365
	2023	327	26	0	0	0	0	12	365
	2024	348	13	0	0	0	0	5	366
Cottage Grove	2015	289	74	1	1	0	0	0	365
	2016	309	57	0	0	0	0	0	366
	2017	274	81	3	6	1	0	0	365
	2018	282	81	1	0	0	0	1	365
	2019	271	93	0	0	0	0	1	365
	2020	266	90	0	1	1	8	0	366
	2021	308	55	1	0	0	0	1	365
	2022	274	84	4	3	0	0	0	365
	2023	279	78	6	1	0	0	1	365
	2024	297	63	0	0	0	0	6	366
Crater Lake	2015	46	25	9	0	0	0	0	80
	2019	101	2	0	0	0	0	3	106
	2020	48	20	4	7	1	0	4	84
	2021	54	35	15	19	2	0	0	125
	2022	127	23	0	1	0	0	2	153
	2023	87	23	6	3	0	0	5	124
	2024	86	18	9	4	1	0	2	120
Dallas	2021	317	15	0	0	0	0	33	365
	2022	305	51	1	0	0	0	8	365
	2023	319	31	0	0	0	0	15	365
	2024	331	13	0	0	0	0	22	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Detroit	2019	83	0	0	0	0	0	0	83
*Sept/Oct 2020	2020*	78	7	*	*	*	*	*	*
wildfire In	2021	129	35	7	8	2	1	7	189
Stopped the	2022	298	33	3	0	0	0	31	365
≥USG were not	2023	324	20	1	1	0	0	19	365
Recorded.	2024	282	9	0	0	0	0	19	310
Enterprise	2015	291	65	3	5	0	0	1	365
	2016	304	49	0	0	0	0	13	366
	2017	268	73	6	3	0	0	15	365
	2018	242	76	2	0	0	0	45	365
	2019	289	73	1	0	0	0	2	365
	2020	289	70	0	6	1	0	0	366
	2021	279	75	6	4	0	0	1	365
	2022	263	66	3	4	0	0	29	365
	2023	316	49	0	0	0	0	0	365
	2024	283	69	1	0	0	0	13	366
Estacada	2021	278	65	1	0	0	0	21	365
	2022	284	76	0	0	0	0	5	365
	2023	286	66	0	1	0	0	12	365
	2024	333	28	0	0	0	0	5	366
Eugene	2015	266	94	3	2	0	0	0	365
	2016	312	53	1	0	0	0	0	366
	2017	272	76	10	3	3	1	0	365
	2018	267	92	6	0	0	0	0	365
	2019	263	100	2	0	0	0	0	365
	2020	262	93	1	0	2	8	0	366
	2021	280	84	1	0	0	0	0	365
	2022	250	106	6	3	0	0	0	365
	2023	263	97	2	3	0	0	0	365
	2024	298	68	0	0	0	0	0	366
Florence	2019	256	10	0	0	0	0	0	266
	2020	345	12	1	5	0	2	1	366
	2021	361	2	0	0	0	0	2	365
	2022	332	23	0	0	0	0	10	365
	2023	343	11	0	0	0	0	11	365
	2024	355	11	0	0	0	0	0	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Forest Grove	2019	119	61	0	0	0	0	5	185
	2020	283	57	0	2	4	2	18	366
	2021	302	52	0	0	0	0	11	365
	2022	282	74	2	0	0	0	7	365
	2023	317	32	1	0	0	0	15	365
	2024	308	8	0	0	0	0	50	366
Government Camp	2017	72	3	0	0	0	0	0	75
	2018	14	17	4	1	0	0	0	36
	2019	46	24	2	1	0	0	0	73
	2020	92	1	0	0	0	0	2	95
	2021	69	3	1	2	0	3	5	83
	2022	99	14	3	3	0	0	4	123
	2023	49	6	1	0	0	0	6	62
	2024	97	7	2	2	1	0	4	113
Grants Pass	2015	271	91	2	1	0	0	0	365
	2016	295	66	0	0	0	0	5	366
	2017	231	115	2	8	3	3	3	365
	2018	213	124	9	13	1	0	5	365
	2019	232	87	3	2	0	0	41	365
	2020	243	91	2	6	1	5	18	366
	2021	268	82	6	8	0	0	1	365
	2022	229	131	1	4	0	0	0	365
	2023	249	100	9	3	4	0	0	365
	2024	310	56	0	0	0	0	0	366
Gresham	2020	122	27	1	1	2	5	18	176
	2021	295	39	0	0	0	0	31	365
	2022	296	59	1	2	0	0	7	365
	2023	282	34	1	0	0	0	48	365
	2024	291	20	1	0	0	0	54	366
Hermiston (2015- 2018 ozone only)	2015	120	28	3	0	0	0	214	365
	2016	118	16	1	0	0	0	231	366
	2017	103	43	7	0	0	0	212	365
	2018	89	8	0	0	0	0	268	365
Hermiston (2019 - 2024 ozone & $PM_{2.5}$)	2019	142	12	0	0	0	0	211	365
	2020	193	45	0	0	0	2	126	366
	2021	282	73	5	2	0	0	3	365
	2022	261	99	3	0	0	0	2	365

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
	2023	264	92	0	1	2	0	6	365
	2024	266	69	4	0	0	0	27	366
Hillsboro	2015	276	87	1	1	0	0	0	365
	2016	305	59	0	0	0	0	2	366
	2017	267	90	6	0	0	0	2	365
	2018	263	94	6	0	0	0	2	365
	2019	285	77	1	0	0	0	2	365
	2020	301	57	0	1	3	4	0	366
	2021	306	59	0	0	0	0	0	365
	2022	271	92	2	0	0	0	0	365
	2023	306	58	1	0	0	0	0	365
	2024	344	22	0	0	0	0	0	366
Hood River	2020	82	38	0	3	4	0	12	139
	2021	311	42	1	1	0	0	10	365
	2022	294	59	0	0	0	0	12	365
	2023	282	66	1	2	1	0	13	365
	2024	307	48	0	0	0	0	11	366
John Day	2015	215	139	4	5	0	0	2	365
	2016	246	95	0	0	0	0	25	366
	2017	205	141	10	2	0	0	7	365
	2018	198	157	1	2	0	0	7	365
	2019	205	143	1	0	0	0	16	365
	2020	196	161	2	5	1	1	0	366
	2021	178	177	5	5	0	0	0	365
	2022	198	166	1	0	0	0	0	365
	2023	207	156	2	0	0	0	0	365
	2024	190	157	5	13	1	0	0	366
Klamath Falls	2015	222	133	8	1	1	0	0	365
	2016	272	91	0	0	0	0	3	366
	2017	221	118	13	8	1	0	4	365
	2018	190	134	11	21	7	0	2	365
	2019	262	103	0	0	0	0	0	365
	2020	230	114	12	2	2	1	5	366
	2021	210	117	13	22	3	0	0	365
	2022	231	132	1	1	0	0	0	365
	2023	227	132	4	2	0	0	0	365
	2024	276	81	7	2	0	0	0	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
La Grande	2015	244	100	8	3	0	0	10	365
	2016	297	67	0	0	0	0	2	366
	2017	279	78	5	2	1	0	0	365
	2018	288	69	5	1	0	0	2	365
	2019	315	49	0	0	0	0	1	365
	2020	302	55	1	4	3	1	0	366
	2021	307	47	2	2	0	0	7	365
	2022	279	73	4	0	0	0	9	365
	2023	304	55	0	0	0	0	6	365
	2024	303	62	1	0	0	0	0	366
La Pine	2020	85	64	2	0	7	1	29	188
	2021	209	121	7	8	6	2	12	365
	2022	197	132	6	7	0	1	22	365
	2023	181	143	19	9	0	0	13	365
	2024	225	120	10	5	1	0	5	366
Lakeview	2015	271	91	3	0	0	0	0	365
	2016	300	58	1	1	0	0	6	366
	2017	259	86	13	5	0	0	2	365
	2018	241	95	13	9	0	0	7	365
	2019	288	74	1	0	0	0	2	365
	2020	273	76	13	4	0	0	0	366
	2021	240	102	17	6	0	0	0	365
	2022	275	86	4	0	0	0	0	365
	2023	277	86	1	0	0	0	1	365
	2024	293	66	6	1	0	0	0	366
Lyons	2019	120	68	2	0	0	0	175	365
	2020	255	87	0	1	0	23	0	366
	2021	294	66	1	0	0	0	4	365
	2022	274	87	3	0	0	0	1	365
	2023	152	49	2	1	0	0	161	365
	2024	194	51	0	1	0	0	120	366
Madras	2015	60	28	3	1	0	0	0	92
	2016	110	10	0	0	0	0	2	122
	2017	54	29	5	3	1	0	0	92
	2018	96	82	5	1	0	0	0	184
	2019	260	103	2	0	0	0	0	365
	2020	256	93	3	0	3	5	6	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
	2021	280	79	4	2	0	0	0	365
	2022	272	92	1	0	0	0	0	365
	2023	266	93	3	1	2	0	0	365
	2024	290	75	1	0	0	0	0	366
McMinnville	2022	46	43	1	1	0	0	2	93
	2023	303	39	0	0	0	0	23	365
	2024	345	13	0	0	0	0	8	366
Medford	2015	192	155	11	7	0	0	0	365
(ozone & $PM_{2.5}$)	2016	275	91	0	0	0	0	0	366
	2017	210	126	14	9	4	2	0	365
	2018	194	125	8	19	6	0	13	365
	2019	250	108	3	4	0	0	0	365
	2020	226	127	2	4	2	5	0	366
	2021	208	130	9	14	4	0	0	365
	2022	216	142	5	2	0	0	0	365
	2023	221	130	2	8	4	0	0	365
	2024	271	92	2	1	0	0	0	366
Mill City	2019	74	2	0	0	0	0	0	76
	2020	120	47	3	0	0	5	27	202
	2021	268	61	1	0	0	0	35	365
	2022	220	96	4	0	0	0	45	365
	2023	266	88	1	0	0	0	10	365
	2024	295	47	4	0	0	0	20	366
Oakridge	2015	260	97	6	1	0	0	1	365
	2016	300	66	0	0	0	0	0	366
	2017	232	109	13	6	4	0	1	365
	2018	246	114	2	1	0	0	2	365
	2019	250	106	4	0	0	0	5	365
	2020	260	94	2	0	5	5	0	366
	2021	274	70	10	8	1	0	2	365
	2022	212	116	3	15	9	10	0	365
	2023	253	100	6	6	0	0	0	365
	2024	286	69	7	3	1	0	0	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Ontario	2020	43	78	1	6	0	0	12	140
	2021	237	88	4	0	0	0	36	365
	2022	244	80	2	1	0	0	38	365
	2023	309	48	0	0	0	0	8	365
	2024	277	83	1	0	0	0	5	366
Pendleton	2015	271	88	2	2	0	0	2	365
	2016	317	49	0	0	0	0	0	366
	2017	244	109	7	1	2	0	2	365
	2018	253	63	5	3	1	0	40	365
	2019	269	89	1	0	0	0	6	365
	2020	285	73	0	1	2	5	0	366
	2021	296	62	3	2	0	0	2	365
	2022	278	84	3	0	0	0	0	365
	2023	314	48	0	2	1	0	0	365
	2024	306	59	0	0	0	0	1	366
Portland (ozone & $PM_{2.5}$)	2015	262	99	2	2	0	0	0	365
	2016	320	46	0	0	0	0	0	366
	2017	283	67	9	5	1	0	0	365
	2018	268	84	9	1	0	0	3	365
	2019	290	74	1	0	0	0	0	365
	2020	279	76	3	1	2	5	0	366
	2021	286	78	0	1	0	0	0	365
	2022	272	86	5	2	0	0	0	365
	2023	279	82	4	0	0	0	0	365
	2024	324	41	1	0	0	0	0	366
Prineville	2015	253	100	6	2	0	0	4	365
	2016	262	85	1	0	0	0	18	366
	2017	233	108	8	6	2	0	8	365
	2018	253	107	3	2	0	0	0	365
	2019	267	98	0	0	0	0	0	365
	2020	262	96	0	1	3	4	0	366
	2021	281	75	7	2	0	0	0	365
	2022	291	66	2	0	0	0	6	365
	2023	270	83	6	6	0	0	0	365
	2024	293	67	4	2	0	0	0	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Redmond	2020	312	31	0	0	2	6	15	366
	2021	308	36	5	5	1	0	10	365
	2022	313	47	1	0	0	0	4	365
	2023	243	78	4	8	4	0	28	365
	2024	272	64	6	0	0	0	24	366
Roseburg	2015	289	72	1	0	0	0	3	365
	2016	306	33	0	0	0	0	27	366
	2017	266	86	4	3	0	0	6	365
	2018	258	78	2	0	0	0	27	365
	2019	256	91	0	0	0	0	18	365
	2020	278	78	1	1	2	6	0	366
	2021	304	56	3	2	0	0	0	365
	2022	197	119	6	2	0	0	41	365
	2023	236	108	4	3	2	0	12	365
	2024	303	41	0	0	0	0	22	366
Salem (ozone & $PM_{2.5}$)	2015	269	93	1	2	0	0	0	365
	2016	305	56	0	0	0	0	5	366
	2017	284	70	6	2	0	0	3	365
	2018	273	84	6	0	0	0	2	365
	2019	266	90	0	0	0	0	9	365
	2020	289	67	0	2	0	6	2	366
	2021	298	64	0	0	0	0	3	365
	2022	261	97	5	2	0	0	0	365
	2023	276	85	4	0	0	0	0	365
	2024	318	46	2	0	0	0	0	366
Sauvie Island	2015	283	41	1	0	0	0	40	365
	2016	338	9	0	0	0	0	19	366
	2017	309	33	3	1	0	0	19	365
	2018	330	29	4	0	0	0	0	363
	2019	345	18	0	0	0	0	2	365
	2020	331	21	1	2	6	0	5	366
	2021	320	25	0	0	0	0	20	365
	2022	295	63	1	2	0	0	4	365
	2023	330	34	1	0	0	0	0	365
	2024	347	9	0	0	0	0	10	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Shady Cove	2015	319	29	9	4	2	2	0	365
	2016	340	11	0	0	0	0	15	366
	2017	281	45	9	10	2	0	18	365
	2018	276	52	9	26	2	0	0	365
	2019	340	25	0	0	0	0	0	365
	2020	310	43	1	3	2	7	0	366
	2021	284	46	6	20	9	0	0	365
	2022	312	51	2	0	0	0	0	365
	2023	338	19	6	2	0	0	0	365
	2024	339	26	1	0	0	0	0	366
Silverton	2015	84	4	0	2	0	0	275	365
	2017	109	0	0	0	0	0	257	366
	2018	73	15	4	0	0	0	273	365
	2019	74	13	3	0	0	0	275	365
	2020	103	8	0	0	0	0	254	365
	2021	167	40	1	0	1	9	148	366
	2022	313	50	0	0	0	0	2	365
	2023	283	79	2	1	0	0	0	365
	2024	296	68	1	0	0	0	0	365
Sisters	2015	334	27	3	1	0	0	0	365
	2016	338	9	0	0	0	0	19	366
	2017	279	36	2	15	8	3	22	365
	2018	304	46	7	2	1	0	5	365
	2019	340	20	4	1	0	0	0	365
	2020	294	40	3	1	1	7	20	366
	2021	323	32	4	5	1	0	0	365
	2022	315	46	1	3	0	0	0	365
	2023	303	40	5	9	6	1	1	365
	2024	281	47	5	0	0	0	33	366
Sunriver	2021	58	0	0	0	0	0	0	58
	2022	309	37	3	2	1	0	13	365
	2023	291	44	7	8	1	0	14	365
	2024	278	64	4	5	0	0	15	366

Appendix 3: AQI Historical Data

Monitoring Area	Year	Good	Moderate	USG	Unhealthy	Very Unhealthy	Haz	Missing	Exp
Sweet Home	2015	307	56	0	2	0	0	0	365
	2016	312	53	0	0	0	0	1	366
	2017	255	99	4	5	0	0	2	365
	2018	259	105	1	0	0	0	0	365
	2019	251	114	0	0	0	0	0	365
	2020	294	62	1	1	1	7	0	366
	2021	324	41	0	0	0	0	0	365
	2022	280	83	0	0	0	0	2	365
	2023	316	46	3	0	0	0	0	365
	2024	335	28	0	0	0	0	3	366
Talent	2019	141	6	2	3	0	0	213	365
(2019 - 2024	2020	196	44	1	4	2	2	117	366
ozone & $PM_{2.5}$)	2021	275	62	13	14	1	0	0	365
	2022	317	42	5	1	0	0	0	365
	2023	244	44	4	5	5	0	63	365
	2024	325	36	0	1	0	0	4	366
The Dalles	2015	300	56	0	2	0	0	7	365
	2016	294	60	0	0	0	0	12	366
	2017	257	86	9	8	1	0	4	365
	2018	263	64	3	2	0	0	33	365
	2019	262	88	0	0	0	0	15	365
	2020	308	46	0	0	0	3	9	366
	2021	287	30	1	1	0	0	46	365
	2022	270	62	2	1	0	0	30	365
	2023	318	42	1	3	1	0	0	365
	2024	317	47	0	0	0	0	2	366
Tillamook	2020	141	8	3	3	0	0	13	168
	2021	332	3	0	0	0	0	30	365
	2022	279	14	0	0	0	0	72	365
	2023	344	10	0	0	0	0	11	365
	2024	358	5	0	0	0	0	3	366
Toledo	2022	228	21	0	0	0	0	4	253
	2023	339	15	0	0	0	0	11	365
	2024	349	10	0	0	0	0	7	366
Woodburn	2022	206	55	1	1	0	0	15	278
	2023	282	62	2	0	0	0	19	365
	2024	327	32	2	0	0	0	5	366

Appendix 4: Ambient Air Data Quality

It is DEQ policy that all data will be of sufficient quality to support the regulatory decisions. The minimum quality assurance requirements set by EPA are consistently met or exceeded by DEQ. The continued assurance of data quality requires carrying out the two complimentary tasks.

Quality Control

DEQ operates its ambient air monitoring program according the “Quality Assurance Project Plan: Air Quality Monitoring for the Measurement of Criteria Air Pollutants” (Oct. 2023, DEQ09-LAB-0004-QAPP Version 3.0). The QAPP is designed to help DEQ produce high quality data in a consistent manner, and it incorporates Federal Reference Methods or Federal Equivalent Methods when applicable. To produce high quality data in a consistent manner from air monitoring equipment, DEQ performs scheduled maintenance, audits and calibrations. When calibrating equipment, DEQ uses standards from the National Institute of Standards Technology. By adhering to quality control procedures, DEQ creates high quality data that is used by staff, partners, EPA and the public.

Quality Assessment

DEQ evaluates data quality in several ways. At a minimum, DEQ conducts a quarterly network-wide audit in which DEQ visits each monitoring site to assess the site location, verify adherence to procedures, and ensure proper documentation. Data quality is assessed in terms of precision, accuracy, and completeness. Data precision—the ability to obtain the same reading multiple times—is verified by routinely auditing monitor performance. Data accuracy—the ability to measure the "true" value—is verified by measurement of a known control sample or by replicate measurements with other monitors. Data completeness is a measurement of the amount of data captured relative to the amount that was intended to be collected. DEQ must also participate in EPA quality assurance programs. EPA will also hire independent contractors to evaluate quality assessment procedures and data.