

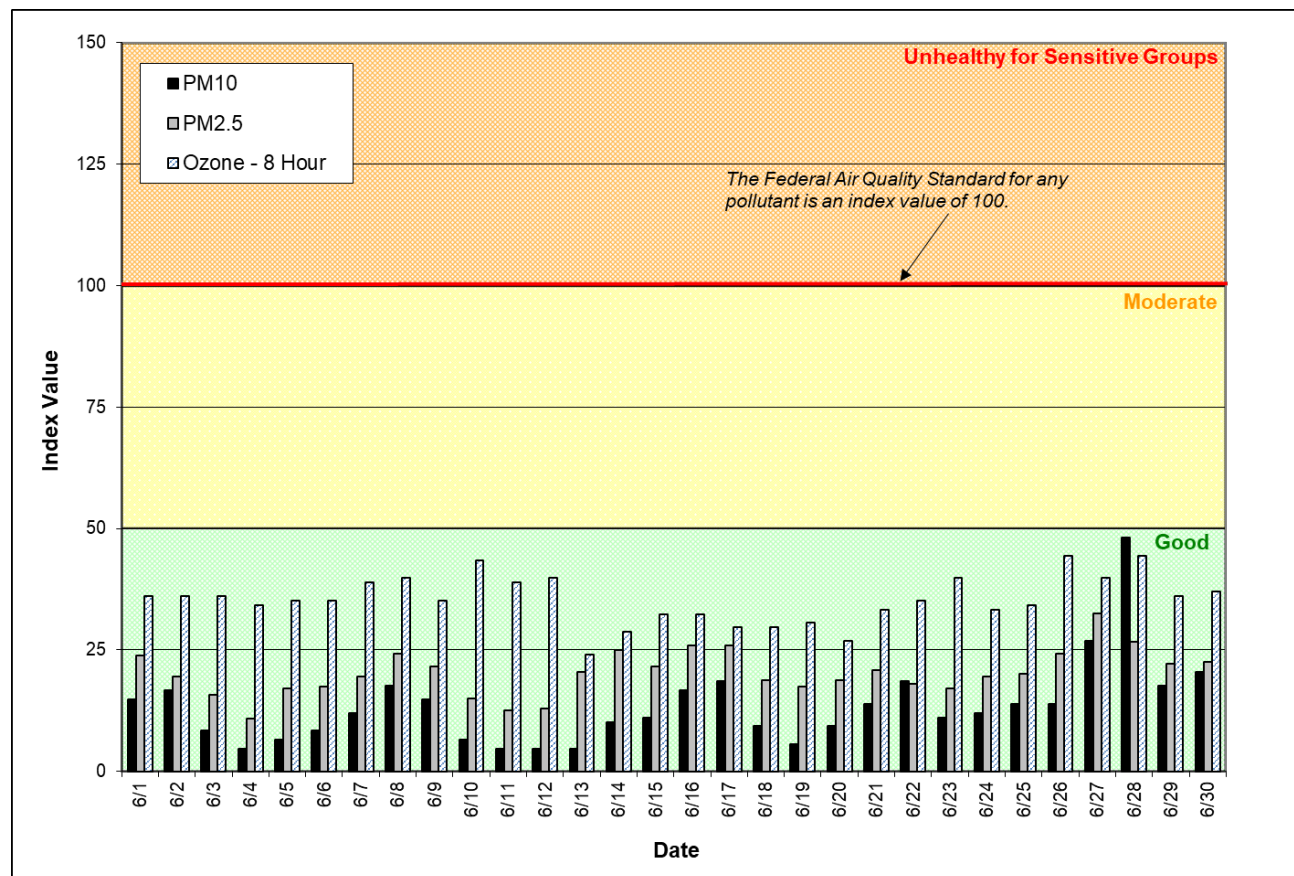
## Spokane Regional Clean Air Agency Air Quality Report – June 2022

The Air Quality Index (AQI) remained in the GOOD category in June. Ground-level ozone was the predominant pollutant on all but one day (Figure 1). On the 28<sup>th</sup>, a cold front passed through the region, followed by sustained wind speeds of 32 mph and gusts as high as 41 mph at Spokane International Airport. The AQI for PM<sub>10</sub> was 48 for the day – the highest daily AQI for the month, driven by blowing dust. The highest recorded 24-hour average PM<sub>10</sub> mass concentration in Spokane County was 52 mg/m<sup>3</sup> at Spokane - Augusta Ave monitoring station (Figure 2). Although air quality for the day was GOOD (as determined by the AQI), maximum 1-hour average PM<sub>10</sub> concentrations of 130, 112, and 111 µg/m<sup>3</sup> were observed at Cheney-Turnbull, Spokane-Augusta, and Spokane Valley-Broadway monitoring stations, respectively.

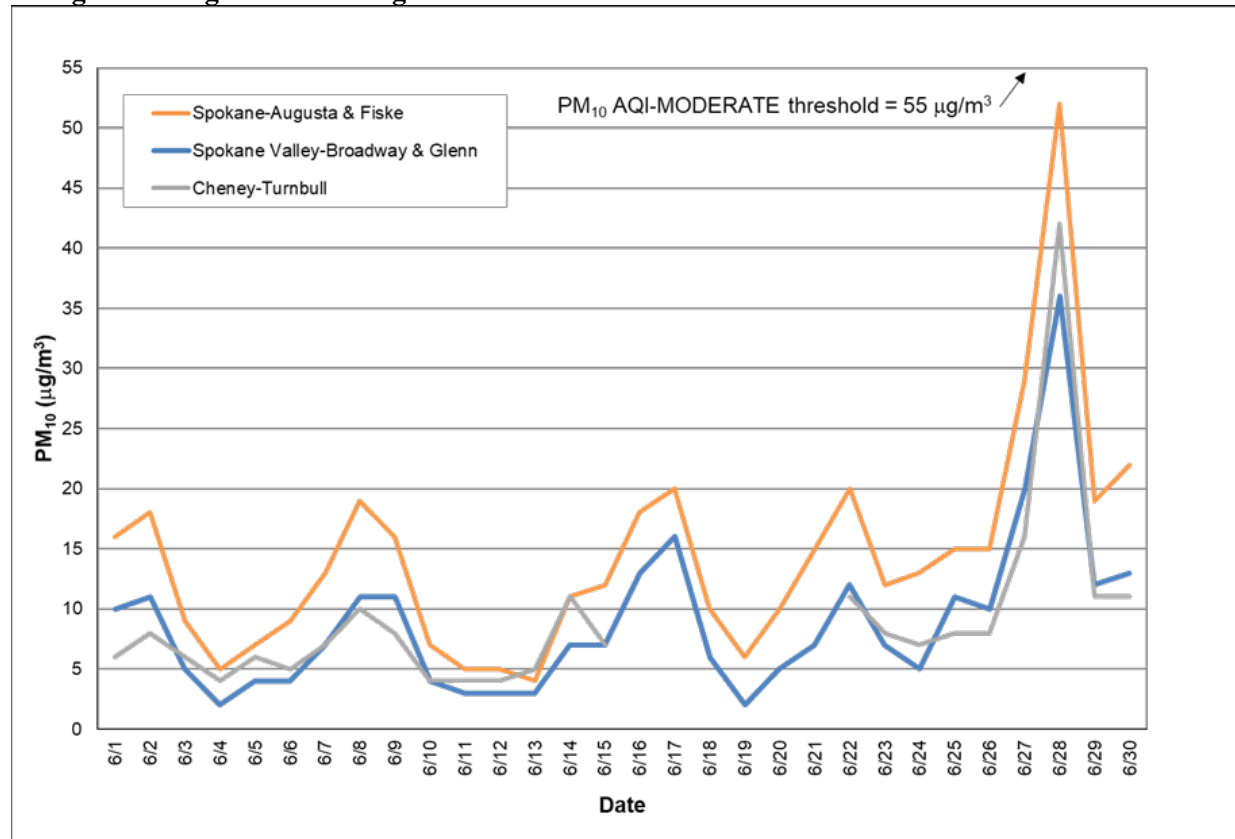
The maximum daily AQI for fine particles (PM<sub>2.5</sub>) was 33, based on the 24-hour mass concentration of 7.8 µg/m<sup>3</sup> recorded at Colbert monitoring station on the 27<sup>th</sup> (Figure 3). Colbert recorded the highest PM<sub>2.5</sub> readings on a consistent basis, but PM<sub>2.5</sub> levels remained low throughout the air monitoring network all month.

The maximum daily AQI for ozone was 44, based on an 8-hour average concentration of 0.048 ppm recorded at Greenbluff on the 28<sup>th</sup> (Figure 4). Although ozone levels at Greenbluff were generally higher than at Turnbull, readings from tracked relatively closely.

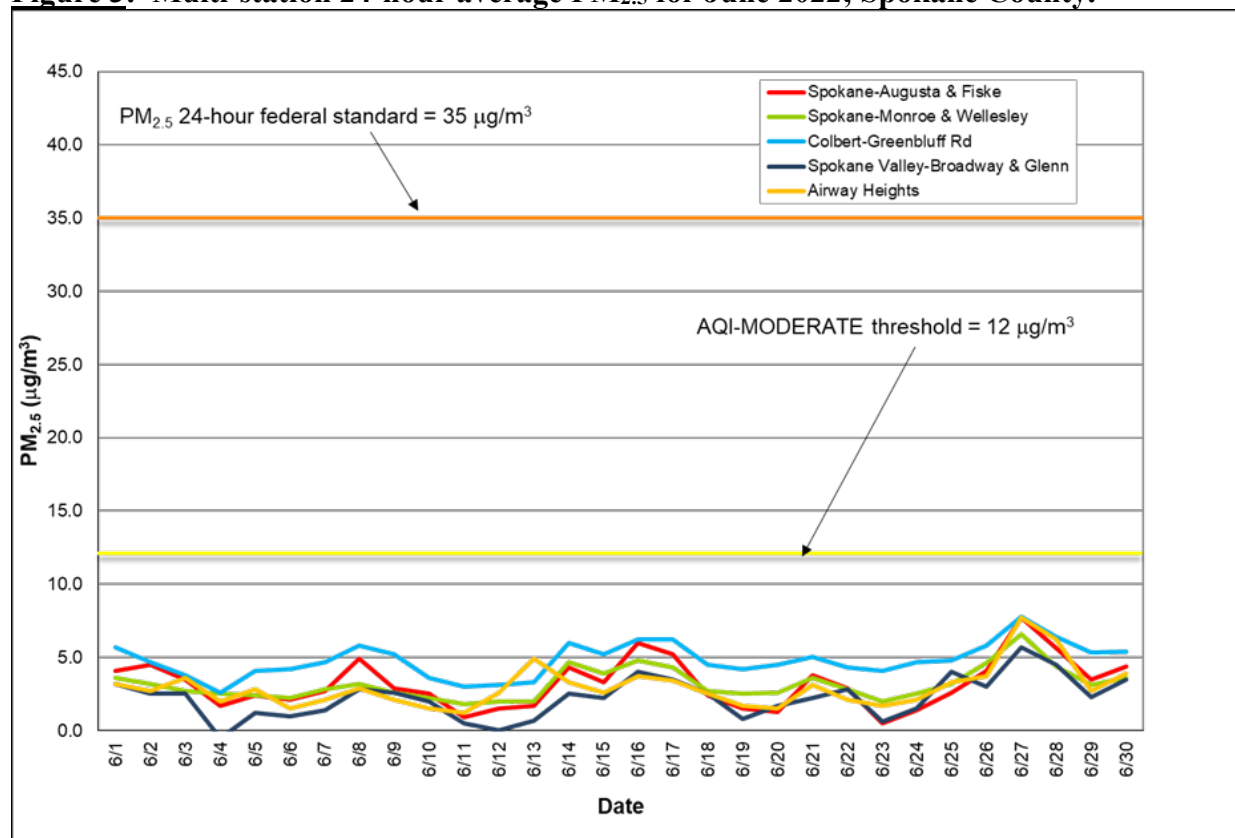
**Figure 1: Air Quality Index (AQI) values for June 2022. The data represent the maximum AQI values across all monitoring stations within Spokane County.**



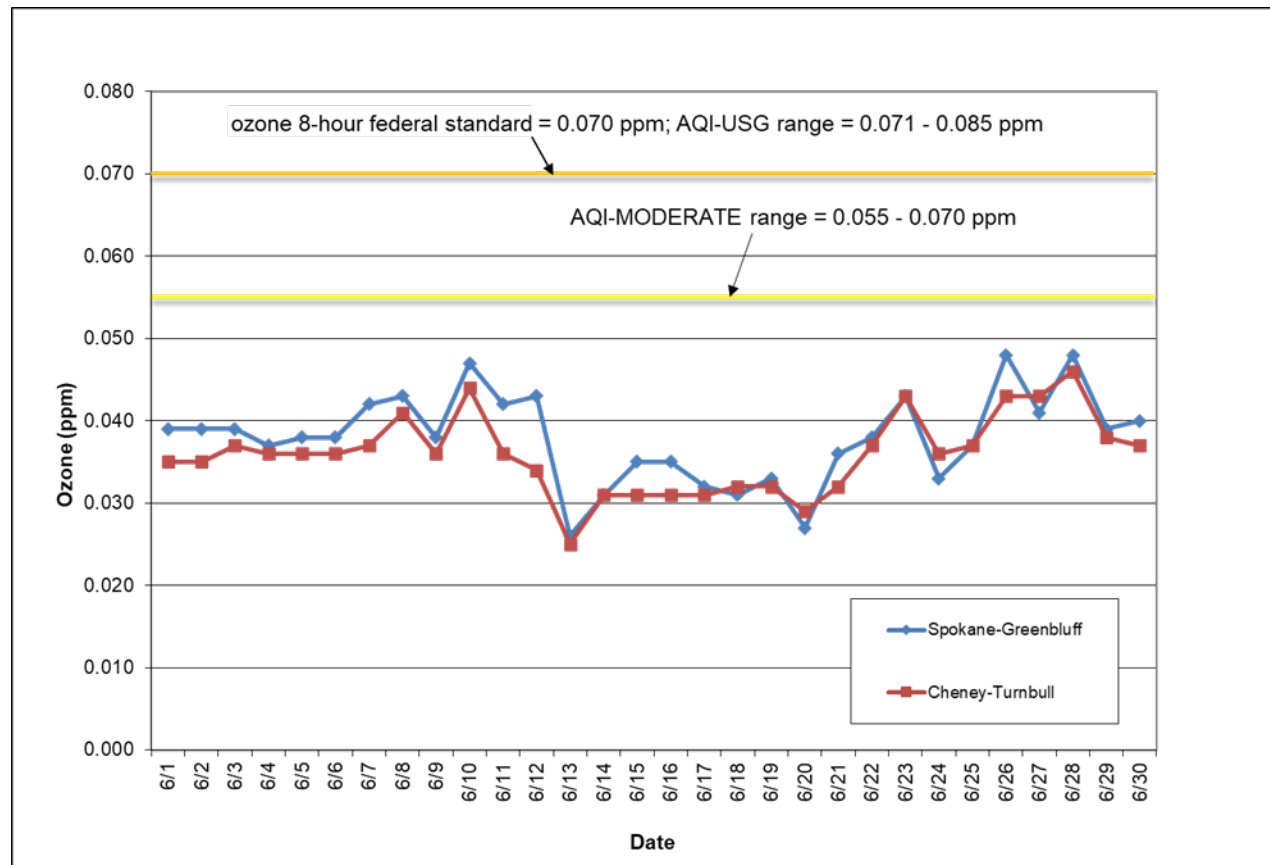
**Figure 2: Multi-station 24-hour average PM<sub>10</sub> for June 2022; Spokane County. Strong winds brought blowing dust to the region on the 28<sup>th</sup>.**



**Figure 3: Multi-station 24-hour average PM<sub>2.5</sub> for June 2022; Spokane County.**



**Figure 4: Eight-hour maximum ozone concentrations for the Spokane region in June. The threshold for the moderate category of the AQI for ozone is 0.055 ppm averaged over eight hours. An ozone measurement above 0.070 ppm, averaged over eight hours, is the level of the federal ozone standard.**



From January through June 2022, there have been 158 GOOD air quality days and only 23 MODERATE days (Table 1). The highest AQI value to date was 66, based on PM<sub>2.5</sub> (24-hour avg mass concentration = 19.1 µg/m<sup>3</sup>) recorded at the Spokane Valley – Broadway Ave monitoring station on January 29<sup>th</sup> (Table 3).

See Appendix 1 of this report for information about federal air quality standards and Appendix 2 for a description of the AQI. The daily air quality data for September for all monitoring stations in the Spokane region are provided in Appendix 3. Current and historical air quality data can be obtained electronically from the Washington State Department of Ecology's air monitoring data website, <https://enviwa.ecology.wa.gov/home/map>.

Table 1 summarizes the daily AQIs by category for the month and year-to-date and Tables 2 and 3 contain the maximum AQI values for each pollutant for the month and for the year-to-date, respectively.

**Table 1: AQI summary as of June 30, 2022**

Category	Number of days in June	Number of days this year to date
Good (0-50)	30	158
Moderate (51-100)	0	23
Unhealthy for Sensitive Groups (101-150)	0	0
Unhealthy (151-200)	0	0
Very Unhealthy (201-300)	0	0
Hazardous (>300)	0	0

**Table 2: Maximum AQI values and pollutant concentrations for this reporting period.**

Pollutant	AQI		Location	Date
O <sub>3</sub>	44 (conc. = 0.048 ppm)	Good	Greenbluff	6/28
PM <sub>10</sub>	48 (conc. = 52 µg/m <sup>3</sup> )	Good	Spokane-Augusta Ave (Augusta & Fiske)	6/28
PM <sub>2.5</sub>	33 (conc. = 7.8 µg/m <sup>3</sup> )	Good	Colbert	6/27

**Table 3: Maximum AQI values and pollutant concentrations for this year to date.**

Pollutant	AQI		Location	Date
O <sub>3</sub>	45 (conc. = 0.049 ppm)	Good	Greenbluff	5/17
PM <sub>10</sub>	48 (conc. = 52 µg/m <sup>3</sup> )	Good	Spokane-Augusta Ave (Augusta & Fiske)	6/28
PM <sub>2.5</sub>	66 (conc. = 19.1 µg/m <sup>3</sup> )	Mod	Spokane Valley-Broadway Ave (Broadway & Glenn)	1/29

## Appendix 1 – National Ambient Air Quality Standards

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants, carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), ground-level ozone (O<sub>3</sub>) and sulfur dioxide (SO<sub>2</sub>; Table A-1). These are known as “criteria” pollutants because the US EPA established regulatory limits to concentrations in ambient air using human health or environmentally based criteria. Carbon monoxide, particulate matter and ozone are monitored in Spokane County by the Spokane Regional Clean Air Agency (SRCAA) and the Washington State Department of Ecology (Ecology).

**Table A-1: National Ambient Air Quality Standards**

Pollutant [links to historical tables of NAAQS reviews]		Primary/ Secondary	Averaging Time	Level	Form
<a href="#">Carbon Monoxide (CO)</a>		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
<a href="#">Lead (Pb)</a>		primary and secondary	Rolling 3 month period	0.15 µg/m <sup>3</sup> <sup>(1)</sup>	Not to be exceeded
<a href="#">Nitrogen Dioxide (NO<sub>2</sub>)</a>		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb <sup>(2)</sup>	Annual Mean
<a href="#">Ozone (O<sub>3</sub>)</a>		primary and secondary	8 hours	0.070 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
<a href="#">Particle Pollution (PM)</a>	PM <sub>2.5</sub>	primary	1 year	12.0 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m <sup>3</sup>	98th percentile, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24 hours	150 µg/m <sup>3</sup>	Not to be exceeded more than once per year on average over 3 years
<a href="#">Sulfur Dioxide (SO<sub>2</sub>)</a>		primary	1 hour	75 ppb <sup>(4)</sup>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m<sup>3</sup> as a calendar quarter average) also remain in effect.

(2) The level of the annual NO<sub>2</sub> standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O<sub>3</sub> standards additionally remain in effect in some areas. Revocation of the previous (2008) O<sub>3</sub> standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO<sub>2</sub> standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO<sub>2</sub> standards or is not meeting the requirements of a SIP call under the previous SO<sub>2</sub> standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the require NAAQS.

## Appendix 2 – Air Quality Index

The Air Quality Index (AQI) is EPA’s color-coded tool for communicating daily air quality to the public and can be calculated for any of the criteria pollutants except lead, provided monitoring data are available. An index value above 100 indicates that the concentration of a criteria pollutant exceeded the limit established in the NAAQS. Categories of the AQI are “Good” (green, 0-50), “Moderate” (yellow, 51-100), “Unhealthy for Sensitive Groups” (USG; orange, 101-150), “Unhealthy” (red, 151-200), “Very Unhealthy” (purple, 201-300) and “Hazardous” (maroon, 301-500; Table A-2).

**Table A-2: Air pollutant breakpoints for the Air Quality Index.**

Air Quality Index Levels of Health Concern	Color Code	Index Numerical Value	Breakpoints				Health Effects
			O <sub>3</sub> (ppm) 8-hour	PM <sub>2.5</sub> (µg/m <sup>3</sup> ) 24-hour	PM <sub>10</sub> (µg/m <sup>3</sup> ) 24-hour	CO (ppm) 8-hour	
<b>Good</b>	Green	0-50	0.000-0.054	0.0-12.0	0-54	0.0-4.4	Air quality is considered satisfactory and air pollution poses little or no risk.
<b>Moderate</b>	Yellow	51-100	0.055-0.070	12.1-35.4	55-154	4.5-9.4	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
<b>Unhealthy for Sensitive Groups</b>	Orange	101-150	0.071-0.085	35.5-55.4	155-254	9.5-12.4	People especially sensitive to air pollution may experience health effects. The general public is not likely to be affected. An AQI in this category or above indicates that air pollution exceeds levels acceptable under federal air quality standards.
<b>Unhealthy</b>	Red	151-200	0.086-0.105	55.5-150.4	255-354	12.5-15.4	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
<b>Very Unhealthy</b>	Purple	201-300	0.106-0.200	150.5-250.4	355-424	15.5-30.4	Health alert: everyone may experience more serious health effects.
<b>Hazardous</b>	Maroon	>300	0.201 to the Significant Harm Level* (0.600 ppm, 2 hour average)	250.5+	425+	30.5+	Health warnings of emergency conditions. The entire population is more likely to be affected.

\*The significant harm level (SHL) is set at a level that represents imminent and substantial endangerment to public health.



## Appendix 3

**Table A-3: Summary air quality data for June for air monitoring stations in Spokane County.** Particulate matter mass concentration is reported as 24-hour averages in micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ) and daily 8-hour maximum ozone concentrations are reported in parts per million (ppm). The PM<sub>10</sub> monitor at Cheney-Turnbull was down from the 16<sup>th</sup> through the 21<sup>st</sup> for its annual maintenance and calibration. See Appendix 2 for an explanation of AQI color codes.

Pollutant Concentration											Air Quality Index (AQI)											
Date	Ozone - Turnbull NWR	Ozone - Greenbluff	PM <sub>2.5</sub> - Airway Heights (24 hour avg, µg/m³)	PM <sub>2.5</sub> - Colbert (24 hour avg, µg/m³)	PM <sub>2.5</sub> - Spokane, Augusta & Fiske (24 hour avg, µg/m³)	PM <sub>2.5</sub> - Spokane Valley, Broadway & Glenn (24 hour avg, µg/m³)	PM <sub>2.5</sub> - Spokane, Monroe & Wellesley (24 hour avg, µg/m³)	PM <sub>10</sub> - Turnbull NWR BAM (24 hour avg, µg/m³)	PM <sub>10</sub> - Spokane, Augusta & Fiske (24 hour avg, µg/m³)	PM <sub>10</sub> - Spokane, Broadway & Glenn (24 hour avg, µg/m³)	Date	Ozone - Turnbull NWR	Ozone - Greenbluff	PM <sub>2.5</sub> - Airway Heights	PM <sub>2.5</sub> - Colbert	PM <sub>2.5</sub> - Spokane - Augusta & Fiske	PM <sub>2.5</sub> - Broadway & Glenn	PM <sub>2.5</sub> - Monroe & Wellesley	PM <sub>10</sub> - Turnbull NWR	PM <sub>10</sub> - Augusta & Fiske	PM <sub>10</sub> - Broadway & Glenn	MAXIMUM
6/1	0.035	0.039	3.2	5.7	4.1	3.2	3.6	6	16	10	6/1	32	36	13	24	17	13	15	6	15	9	36
6/2	0.035	0.039	2.7	4.7	4.5	2.5	3.2	8	18	11	6/2	32	36	11	20	19	10	13	7	17	10	36
6/3	0.037	0.039	3.6	3.8	3.5	2.5	2.7	6	9	5	6/3	34	36	15	16	15	10	11	6	8	5	36
6/4	0.036	0.037	2.0	2.6	1.7	-0.5	2.5	4	5	2	6/4	33	34	8	11	7	0	10	4	5	2	34
6/5	0.036	0.038	2.8	4.1	2.4	1.2	2.4	6	7	4	6/5	33	35	12	17	10	5	10	6	6	4	35
6/6	0.036	0.038	1.5	4.2	2.1	1.0	2.2	5	9	4	6/6	33	35	6	18	9	4	9	5	8	4	35
6/7	0.037	0.042	2.1	4.7	2.7	1.4	2.8	7	13	7	6/7	34	39	9	20	11	6	12	6	12	6	39
6/8	0.041	0.043	2.9	5.8	4.9	2.8	3.2	10	19	11	6/8	38	40	12	24	20	12	13	9	18	10	40
6/9	0.036	0.038	2.1	5.2	2.9	2.6	2.6	8	16	11	6/9	33	35	9	22	12	11	11	7	15	10	35
6/10	0.044	0.047	1.5	3.6	2.5	2.0	2.2	4	7	4	6/10	41	44	6	15	10	8	9	4	6	4	44
6/11	0.036	0.042	1.2	3.0	0.9	0.5	1.8	4	5	3	6/11	33	39	5	13	4	2	8	4	5	3	39
6/12	0.034	0.043	2.6	3.1	1.5	0.0	2.0	4	5	3	6/12	31	40	11	13	6	0	8	4	5	3	40
6/13	0.025	0.026	4.9	3.3	1.7	0.7	2.0	5	4	3	6/13	23	24	20	14	7	3	8	5	4	3	24
6/14	0.031	0.031	3.3	6.0	4.3	2.5	4.7	11	11	7	6/14	29	29	14	25	18	10	20	10	10	6	29
6/15	0.031	0.035	2.6	5.2	3.3	2.2	3.9	7	12	7	6/15	29	32	11	22	14	9	16	6	11	6	32
6/16	0.031	0.035	3.7	6.2	6.0	4.0	4.8		18	13	6/16	29	32	15	26	25	17	20		17	12	32
6/17	0.031	0.032	3.4	6.2	5.2	3.5	4.3		20	16	6/17	29	30	14	26	22	15	18		19	15	30
6/18	0.032	0.031	2.5	4.5	2.4	2.5	2.7		10	6	6/18	30	29	10	19	10	10	11		9	6	30
6/19	0.032	0.033	1.7	4.2	1.5	0.8	2.5		6	2	6/19	30	31	7	18	6	3	10		6	2	31
6/20	0.029	0.027	1.5	4.5	1.3	1.7	2.6		10	5	6/20	27	25	6	19	5	7	11		9	5	27
6/21	0.032	0.036	3.1	5.0	3.8	2.2	3.6		15	7	6/21	30	33	13	21	16	9	15		14	6	33
6/22	0.037	0.038	2.1	4.3	2.9	2.8	2.8	11	20	12	6/22	34	35	9	18	12	12	12	10	19	11	35
6/23	0.043	0.043	1.7	4.1	0.5	0.6	2.0	8	12	7	6/23	40	40	7	17	2	3	8	7	11	6	40
6/24	0.036	0.033	2.1	4.7	1.4	1.5	2.5	7	13	5	6/24	33	31	9	20	6	6	10	6	12	5	33
6/25	0.037	0.037	3.3	4.8	2.6	4.0	3.2	8	15	11	6/25	34	34	14	20	11	17	13	7	14	10	34
6/26	0.043	0.048	3.7	5.8	4.1	3.0	4.6	8	15	10	6/26	40	44	15	24	17	13	19	7	14	9	44
6/27	0.043	0.041	7.7	7.8	7.7	5.7	6.6	16	29	20	6/27	40	38	32	33	32	24	28	15	27	19	40
6/28	0.046	0.048	6.2	6.4	5.6	4.5	4.4	42	52	36	6/28	43	44	26	27	23	19	18	39	48	33	48
6/29	0.038	0.039	2.7	5.3	3.5	2.3	3.1	11	19	12	6/29	35	36	11	22	15	10	13	10	18	11	36
6/30	0.037	0.04	3.9	5.4	4.4	3.5	3.6	11	22	13	6/30	34	37	16	23	18	15	15	10	20	12	37
AVG	0.036	0.038	2.9	4.8	3.2	2.24	3.2	9	14	9	AVG	33	35	12	20	13	9	13	8	13	8	35
MAX	0.046	0.048	7.7	7.8	7.7	5.7	6.6	42	52	36	MAX	43	44	32	33	32	24	28	39	48	33	48