The Air Quality Index (AQI) was in the Moderate category on four days in January and in the Good category on the other twenty-seven days (Figure 1). The Moderate AQI values were based on 24-hour average Fine Particulate Matter (PM$_{2.5}$) mass concentrations. The highest AQI for the month was 61, based on a PM$_{2.5}$ mass concentration of 16.9 µg/m$^3$ measured on the 12th at the Spokane - E. Augusta Ave (Augusta & Fiske) monitoring station. The highest AQI value for Particulate matter PM$_{10}$ was 19 (Good; 21 µg/m$^3$), measured at the Spokane-Augusta air monitoring station on the 31st.

**Figure 1:** Air Quality Index (AQI) values for January 2018. The data represent the maximum AQI values across all monitoring stations within Spokane County.

See Appendix 1 of this report for information about federal air quality standards or Appendix 2 for a description of the AQI. Daily mass concentrations of PM$_{2.5}$ monitored in January throughout the network are shown in Figure 2.

The January daily air quality data for all monitoring stations in the Spokane region are provided in Appendix 3. Current and historical air quality data can be obtained electronically from Ecology’s air monitoring data website, [https://fortress.wa.gov/ecy/enviwa/Default.htm](https://fortress.wa.gov/ecy/enviwa/Default.htm).

Tables 1 and 2 contain the maximum AQI values for each pollutant for the month and for the year to date. Table 3 summarizes the year to date daily AQuIs by category.
Figure 2: Multi-station 24-hour average PM$_{2.5}$ for January 2018; Spokane County.

Table 1: Maximum AQI values and pollutant concentrations for this reporting period.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>AQI/Concentration</th>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>O$_3$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>19/21 µg/m$^3$</td>
<td>Spokane, E. Augusta Ave (Augusta &amp; Fiske)</td>
<td>1/31</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>61/16.9 µg/m$^3$</td>
<td>Spokane, E. Augusta Ave (Augusta &amp; Fiske)</td>
<td>1/12</td>
</tr>
</tbody>
</table>

Table 2: AQI summary as of January 31, 2018.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Days This Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good (0-50)</td>
<td>27</td>
</tr>
<tr>
<td>Moderate (51-100)</td>
<td>4</td>
</tr>
<tr>
<td>Unhealthy for Sensitive Groups (101-150)</td>
<td>0</td>
</tr>
<tr>
<td>Unhealthy (151-200)</td>
<td>0</td>
</tr>
<tr>
<td>Very Unhealthy (201-300)</td>
<td>0</td>
</tr>
<tr>
<td>Hazardous (&gt;300)</td>
<td>0</td>
</tr>
</tbody>
</table>
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 (NO₂), particulate matter (PM₁₀ and PM₂.₅), ground-level ozone (O₃) and sulfur dioxide (SO₂; 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>
<thead>
<tr>
<th>Pollutant</th>
<th>Primary/Secondary</th>
<th>Averaging Time</th>
<th>Level</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>primary</td>
<td>8 hours</td>
<td>9 ppm</td>
<td>Not to be exceeded more than once per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 hour</td>
<td>35 ppm</td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>primary and secondary</td>
<td>Rolling 3 month period</td>
<td>0.15 μg/m³ (1)</td>
<td>Not to be exceeded</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO₂)</td>
<td>primary</td>
<td>1 hour</td>
<td>100 ppb</td>
<td>98th percentile of 1-hour daily maximum concentrations, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>primary and secondary</td>
<td>1 year</td>
<td>53 ppb (2)</td>
<td>Annual Mean</td>
</tr>
<tr>
<td>Ozone (O₃)</td>
<td>primary and secondary</td>
<td>8 hours</td>
<td>0.070 ppm (3)</td>
<td>Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>primary</td>
<td>1 year</td>
<td>12.0 μg/m³</td>
<td>annual mean, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>secondary</td>
<td>1 year</td>
<td>15.0 μg/m³</td>
<td>annual mean, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>primary and secondary</td>
<td>24 hours</td>
<td>35 μg/m³</td>
<td>98th percentile, averaged over 3 years</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>primary and secondary</td>
<td>24 hours</td>
<td>150 μg/m³</td>
<td>Not to be exceeded more than once per year on average over 3 years</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO₂)</td>
<td>primary</td>
<td>1 hour</td>
<td>75 ppb (4)</td>
<td>99th percentile of 1-hour daily maximum concentrations, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>secondary</td>
<td>3 hours</td>
<td>0.5 ppm</td>
<td>Not to be exceeded more than once per year</td>
</tr>
</tbody>
</table>

(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/m³ as a calendar quarter average) also remain in effect.

(2) The level of the annual NO₂ 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.


(4) The previous SO₂ 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 SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ 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” (orange, 101-150), “unhealthy” (red, 151-200), “very unhealthy” (purple, 201-300) and “hazardous” (maroon, 301-500; Table A-2).

<table>
<thead>
<tr>
<th>Air Quality Index Levels of Health Concern</th>
<th>Color Code</th>
<th>Index Numerical Value</th>
<th>Breakpoints</th>
<th>Health Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Green</td>
<td>0-50</td>
<td>0.000-0.054</td>
<td>0.0-12.0</td>
</tr>
<tr>
<td>Moderate</td>
<td>Yellow</td>
<td>51-100</td>
<td>0.035-0.070</td>
<td>12.1-35.4</td>
</tr>
<tr>
<td>Unhealthy for Sensitive Groups</td>
<td>Orange</td>
<td>101-150</td>
<td>0.071-0.085</td>
<td>35.5-55.4</td>
</tr>
<tr>
<td>Unhealthy</td>
<td>Red</td>
<td>151-200</td>
<td>0.086-0.105</td>
<td>55.5-150.4</td>
</tr>
<tr>
<td>Very Unhealthy</td>
<td>Purple</td>
<td>201-300</td>
<td>0.106-0.200</td>
<td>150.5-250.4</td>
</tr>
<tr>
<td>Hazardous</td>
<td>Maroon</td>
<td>&gt;300</td>
<td>0.201 to the Significant Harm Level* (0.600 ppm, 2 hour average)</td>
<td>230.5+</td>
</tr>
</tbody>
</table>

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

Table A-2: Air pollutant breakpoints for the Air Quality Index.
Table A-3: Summary air quality data for January for air monitoring stations in Spokane County. Particulate matter mass concentration is reported as 24-hour averages in micrograms per cubic meter of air ($\mu g/m^3$).

<table>
<thead>
<tr>
<th>Date</th>
<th>PM$_{2.5}$ Spokane - Augusta &amp; Fiske BAM ($\mu g/m^3$)</th>
<th>PM$_{2.5}$ Spokane Valley - Broadway &amp; Glenn BAM ($\mu g/m^3$)</th>
<th>PM$_{2.5}$ Airway Heights TEOM ($\mu g/m^3$)</th>
<th>PM$_{2.5}$ Spokane - Monroe &amp; Wellesley nephelometer ($\mu g/m^3$)</th>
<th>PM$_{2.5}$ Colbert TEOM ($\mu g/m^3$)</th>
<th>PM$_{10}$ Augusta &amp; Fiske NWR BAM ($\mu g/m^3$)</th>
<th>PM$_{10}$ Turnbull NWR BAM ($\mu g/m^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1</td>
<td>14.1</td>
<td>12.1</td>
<td>8.7</td>
<td>9.4</td>
<td>13.9</td>
<td>13.9</td>
<td>8</td>
</tr>
<tr>
<td>1/2</td>
<td>7.4</td>
<td>2.8</td>
<td>5.2</td>
<td>5.8</td>
<td>6.3</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>1/3</td>
<td>8.0</td>
<td>2.5</td>
<td>5.6</td>
<td>7.2</td>
<td>7.2</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>1/4</td>
<td>12.0</td>
<td>3.9</td>
<td>6.1</td>
<td>7.5</td>
<td>9.3</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>1/5</td>
<td>8.3</td>
<td>5.2</td>
<td>6.6</td>
<td>7.8</td>
<td>8.9</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>1/6</td>
<td>10.1</td>
<td>9.0</td>
<td>5.2</td>
<td>11.2</td>
<td>6.4</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>1/7</td>
<td>12.3</td>
<td>6.8</td>
<td>4.9</td>
<td>10.4</td>
<td>5.7</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>1/8</td>
<td>8.7</td>
<td>5.0</td>
<td>4.0</td>
<td>7.7</td>
<td>3.6</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>1/9</td>
<td>5.7</td>
<td>2.3</td>
<td>3.7</td>
<td>5.3</td>
<td>5.2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>1/10</td>
<td>4.6</td>
<td>4.7</td>
<td>4.5</td>
<td>4.0</td>
<td>4.1</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>1/11</td>
<td>11.8</td>
<td>5.8</td>
<td>4.8</td>
<td>7.4</td>
<td>5.8</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>1/12</td>
<td>16.9</td>
<td>10.8</td>
<td>7.4</td>
<td>14.5</td>
<td>8.1</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>1/13</td>
<td>14.1</td>
<td>9.2</td>
<td>5.9</td>
<td>11.0</td>
<td>8.9</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>1/14</td>
<td>9.8</td>
<td>6.1</td>
<td>3.8</td>
<td>6.4</td>
<td>4.6</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>1/15</td>
<td>7.2</td>
<td>5.7</td>
<td>4.1</td>
<td>5.9</td>
<td>6.0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>1/16</td>
<td>11.2</td>
<td>8.6</td>
<td>6.0</td>
<td>5.9</td>
<td>7.3</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>1/17</td>
<td>9.8</td>
<td>5.0</td>
<td>5.2</td>
<td>6.4</td>
<td>4.9</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>1/18</td>
<td>3.8</td>
<td>2.4</td>
<td>3.2</td>
<td>3.3</td>
<td>3.1</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>1/19</td>
<td>3.9</td>
<td>2.7</td>
<td>3.9</td>
<td>2.9</td>
<td>4.2</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>1/20</td>
<td>5.2</td>
<td>3.9</td>
<td>4.3</td>
<td>4.8</td>
<td>4.9</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>1/21</td>
<td>5.7</td>
<td>3.5</td>
<td>3.8</td>
<td>5.4</td>
<td>6.4</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>1/22</td>
<td>4.2</td>
<td>3.0</td>
<td>4.2</td>
<td>2.8</td>
<td>4.0</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>1/23</td>
<td>5.8</td>
<td>4.7</td>
<td>4.9</td>
<td>5.5</td>
<td>6.3</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>1/24</td>
<td>2.8</td>
<td>1.8</td>
<td>3.5</td>
<td>2.6</td>
<td>2.9</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>1/25</td>
<td>1.2</td>
<td>1.6</td>
<td>3.1</td>
<td>1.6</td>
<td>3.3</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>1/26</td>
<td>0.3</td>
<td>1.2</td>
<td>3.9</td>
<td>1.7</td>
<td>4.1</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>1/27</td>
<td>0.6</td>
<td>1.6</td>
<td>3.9</td>
<td>1.7</td>
<td>3.6</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>1/28</td>
<td>6.5</td>
<td>6.3</td>
<td>6.2</td>
<td>5.7</td>
<td>7.1</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>1/29</td>
<td>4.5</td>
<td>7.4</td>
<td>3.4</td>
<td>3.5</td>
<td>4.2</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>1/30</td>
<td>0.7</td>
<td>1.7</td>
<td>3.1</td>
<td>1.5</td>
<td>3.2</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>1/31</td>
<td>3.2</td>
<td>3.5</td>
<td>5.4</td>
<td>3.7</td>
<td>5.4</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>AVG</td>
<td>7.1</td>
<td>4.9</td>
<td>4.8</td>
<td>5.8</td>
<td>5.8</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>MAX</td>
<td>16.9</td>
<td>12.1</td>
<td>8.7</td>
<td>14.5</td>
<td>13.9</td>
<td>21</td>
<td>8</td>
</tr>
</tbody>
</table>