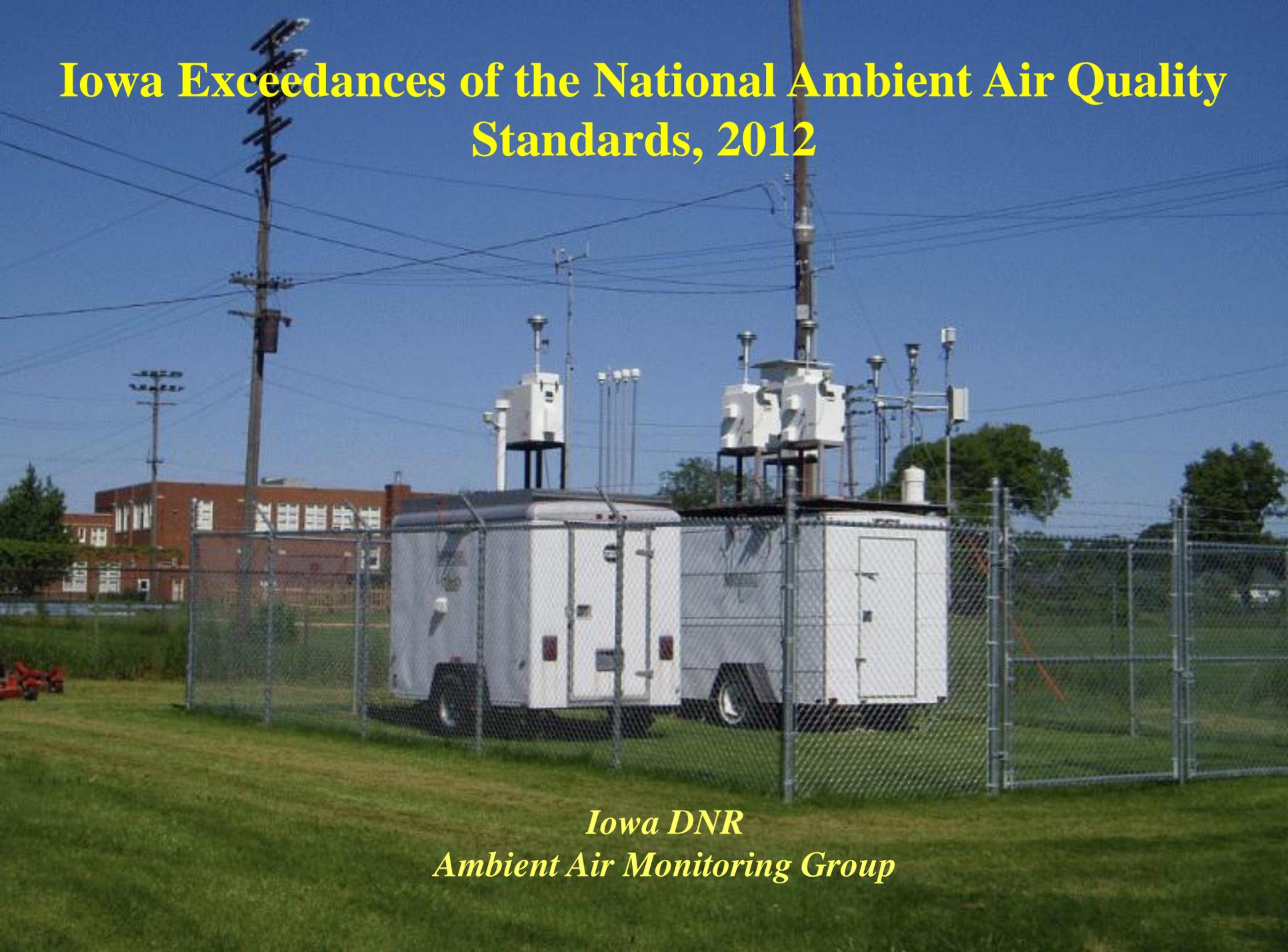


Iowa Exceedances of the National Ambient Air Quality Standards, 2012



*Iowa DNR
Ambient Air Monitoring Group*

What Are the NAAQS?

The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards.

Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.

Secondary standards set limits to protect public welfare, including protection against decreased visibility, or damage to animals, crops, vegetation, and buildings. The table and key on the following page lists the NAAQS for the six criteria pollutants.

National Ambient Air Quality Standards

| Pollutant | Averaging Period | Exceedance Level | Units |
|-------------------|------------------------------------|------------------|----------------------------|
| Ozone | 8hr (1) | 76 | ppb |
| PM _{2.5} | 24hr (2) | 35.5 | micrograms per cubic meter |
| | annual (3) | 15.05 | micrograms per cubic meter |
| PM ₁₀ | 24hr (4) | 155 | micrograms per cubic meter |
| Sulfur dioxide | 1hr (5) | 75.5 | ppb |
| | 3hr (6) | 0.55 | ppm |
| Carbon monoxide | 1hr (6) | 35.5 | ppm |
| | 8hr (6) | 9.5 | ppm |
| Nitrogen dioxide | annual | 0.0535 | ppm |
| | 1 hr (7) | 100.5 | ppb |
| Lead | Rolling 3-month average (8) | 0.155 | micrograms per cubic meter |

(1) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 75 ppb.

(2) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35.5 µg/m³ (effective December 17, 2006).

(3) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.05 µg/m³.

(4) Not to be exceeded more than once per year on average over 3 years.

(5) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

(6) Not to be exceeded more than once per year.

(7) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

(8) Final rule signed October 15, 2008.

See 40CFR Part 50 for details on attainment calculations

Ozone Data in This Report

Nitrogen oxides (NO_x) and volatile organic compounds (VOC's) react in sunlight and hot weather and can cause ground-level ozone to form in harmful concentrations in the air. Ozone is considered a summertime pollutant and data is collected seasonally from April 1 through October 31.

Both urban and rural areas may experience high ozone levels because wind can carry ozone and the pollutants that form it hundreds of miles away from their original sources.

Ozone monitors are continuous instruments that report hourly averages for each hour of each day of the ozone season.

Particulate Data Used for this Report

Particulate data in this report is from filter based samplers where the data is collected over a 24-hour period and then analyzed in a laboratory. Filter samplers are normally operated on a schedule of one sample every third day (1 in 3). In areas of high population or high concentration, the samplers may be operated on an accelerated schedule (1 in 2 or daily).

EPA has encouraged States to use automated continuous samplers to inform the public of current air quality levels. Recently, EPA has approved the use of data from certain types of continuous samplers for regulatory purposes. Data from continuous monitors that pass EPA equivalency tests may be included in this report in the future.

Iowa NAAQS Exceedances, 2012

| Date | PM _{2.5} | PM ₁₀ | Ozone | SO ₂ | Lead** |
|---------|-------------------|------------------|-------|-----------------|--------|
| 1/3/12 | | | | 1 | |
| 1/15/12 | | | | 1 | |
| 1/16/12 | | | | 1 | |
| 1/18/12 | | | | 1 | |
| 2/15/12 | 1 | | | | |
| 2/26/12 | | | | 2 | |
| 3/6/12 | | | | 2 | |
| 3/7/12 | | | | 1 | |
| 3/12/12 | | | | 1 | |
| 3/16/12 | | | | 2 | |
| 3/17/12 | | | | 1 | |
| 3/18/12 | | | | 1 | |
| 3/19/12 | | | | 2 | |
| 3/20/12 | | | | 2 | |
| 3/22/12 | | | | 1 | |
| 3/26/12 | 1 | | | | |
| 3/27/12 | | | | 1 | |
| 4/2/12 | 1 | | | | |
| 4/28/12 | 1 | | | | |
| 4/29/12 | 1 | | | | |
| 5/11/12 | | | | 1 | |
| 5/18/12 | | | 1 | 1 | |

Iowa NAAQS Exceedances, 2012, continued

| Date | PM _{2.5} | PM ₁₀ | Ozone | SO ₂ | Lead** |
|----------------|-------------------|------------------|-------|-----------------|--------|
| 5/22/12 | | | | 1 | |
| 6/9/12 | | | 2 | | |
| 6/14/12 | | | 1 | | |
| 6/15/12 | | | 1 | | |
| 6/27/12 | | | 1 | | |
| 7/12/12 | | | 2 | | |
| 7/17/12 | | | 1 | | |
| 7/30/12 | | | 2 | | |
| 8/1/12 | | | 1 | | |
| 8/3/12 | | | 3 | | |
| 8/30/12 | | | 3 | | |
| 9/11/12 | | | | 1 | |
| 10/12/12 | | | | 1 | |
| June-August | | | | | 1 |
| 10/24/12 | | | | 1 | |
| 10/25/12 | | | | 1 | |
| 11/10/12 | | | | 1 | |
| 11/11/12 | | | | 2 | |
| 11/16/12 | | | | 1 | |
| 11/22/12 | | | | 1 | |
| July-September | | | | | 1 |

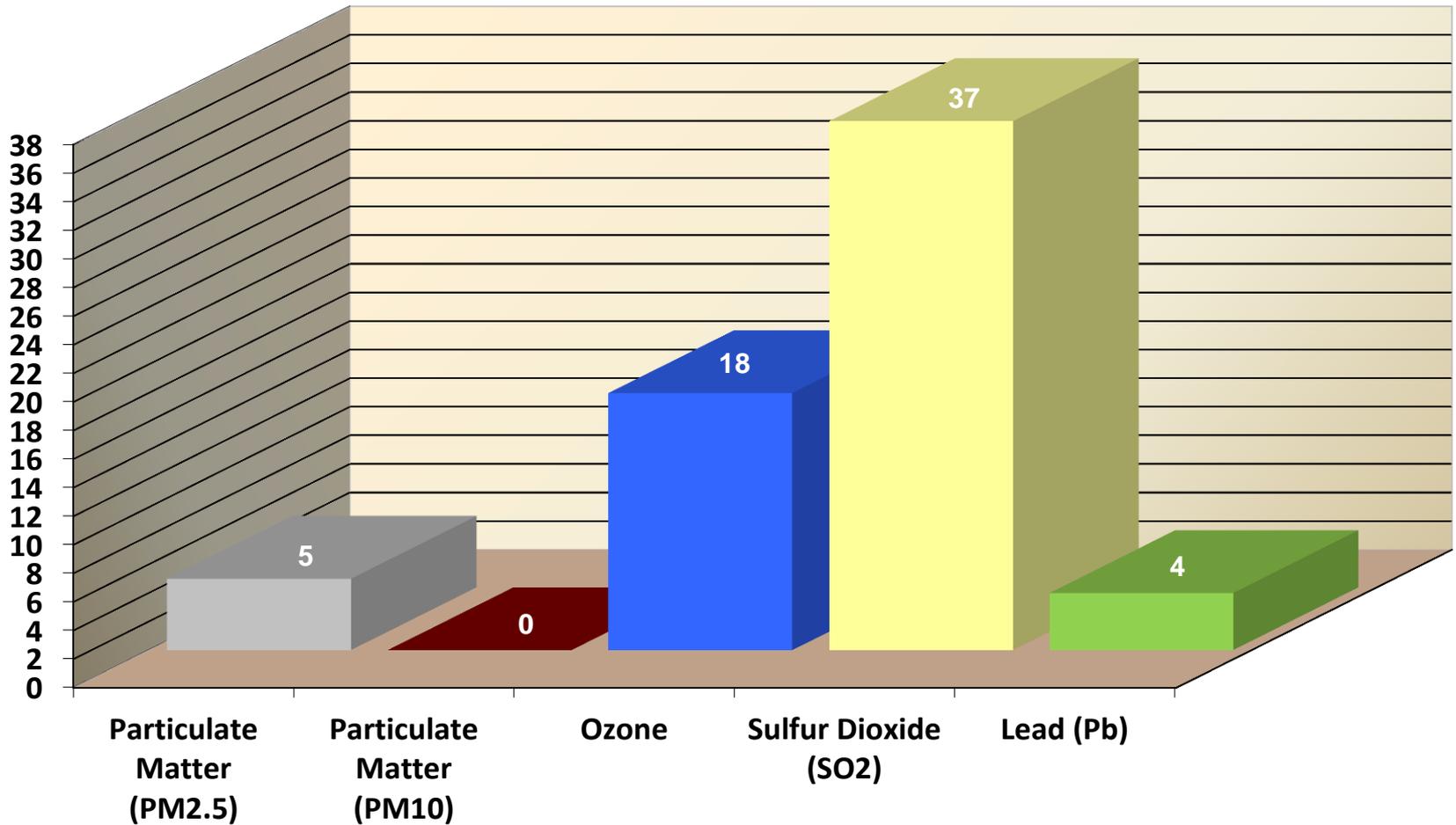
** EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m³ represent violations of the NAAQS.

Iowa NAAQS Exceedances, 2012, continued

| Date | PM _{2.5} | PM ₁₀ | Ozone | SO ₂ | Lead** |
|--------------------|-------------------|------------------|-----------|-----------------|----------|
| 12/3/12 | | | | 1 | |
| 12/5/12 | | | | 1 | |
| 12/9/12 | | | | 1 | |
| 12/12/12 | | | | 1 | |
| 12/15/12 | | | | 1 | |
| August-October | | | | | 1 |
| September-November | | | | | 1 |
| TOTAL | 5 | 0 | 18 | 37 | 4 |

** EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m³ represent violations of the NAAQS.

Iowa NAAQS Exceedances, 2012



2012 NAAQS Exceedances

| Monitor Type | Site Location | Site Name | Exceedance | | | |
|-------------------|---------------|--------------------|------------|---------------|-------------------|-----|
| | | | Date | Concentration | Units | AQI |
| SO ₂ | Muscatine | Musser Park | 1/3/12 | 80.6 | ppb | 103 |
| SO ₂ | Muscatine | Musser Park | 1/15/12 | 142.8 | ppb | 131 |
| SO ₂ | Muscatine | Musser Park | 1/16/12 | 155.7 | ppb | 137 |
| SO ₂ | Muscatine | Musser Park | 1/18/12 | 127.7 | ppb | 124 |
| PM _{2.5} | Emmetsburg | Iowa Lakes College | 2/15/12 | 35.5 | µg/m ³ | 101 |
| SO ₂ | Muscatine | Greenwood Cemetery | 2/26/12 | 138.8 | ppb | 129 |
| SO ₂ | Muscatine | Musser Park | 2/26/12 | 249.9 | ppb | 178 |
| SO ₂ | Muscatine | Greenwood Cemetery | 3/6/12 | 94.5 | ppb | 110 |
| SO ₂ | Muscatine | Musser Park | 3/6/12 | 196.7 | ppb | 156 |
| SO ₂ | Muscatine | Musser Park | 3/7/12 | 212.8 | ppb | 162 |
| SO ₂ | Muscatine | Musser Park | 3/12/12 | 127.5 | ppb | 124 |
| SO ₂ | Muscatine | Musser Park | 3/16/12 | 139.4 | ppb | 129 |
| SO ₂ | Muscatine | Greenwood Cemetery | 3/16/12 | 166.5 | ppb | 142 |
| SO ₂ | Muscatine | Musser Park | 3/17/12 | 103.9 | ppb | 114 |
| SO ₂ | Muscatine | Musser Park | 3/18/12 | 86.1 | ppb | 105 |
| SO ₂ | Muscatine | Greenwood Cemetery | 3/19/12 | 104.2 | ppb | 114 |
| SO ₂ | Muscatine | Musser Park | 3/19/12 | 102.2 | ppb | 113 |
| SO ₂ | Muscatine | Musser Park | 3/20/12 | 108.3 | ppb | 115 |

2012 NAAQS Exceedances, continued

| Monitor Type | Site Location | Site Name | Exceedance | | | AQI |
|-------------------|---------------|--------------------|------------|---------------|-------------------|-----|
| | | | Date | Concentration | Units | |
| SO ₂ | Muscatine | Greenwood Cemetery | 3/20/12 | 170.5 | ppb | 144 |
| SO ₂ | Muscatine | Greenwood Cemetery | 3/22/12 | 75.5 | ppb | 101 |
| PM _{2.5} | Muscatine | Garfield School | 3/26/12 | 39.7 | µg/m ³ | 108 |
| SO ₂ | Muscatine | Musser Park | 3/27/12 | 146.7 | ppb | 133 |
| PM _{2.5} | Muscatine | Garfield School | 4/2/12 | 60.2 | µg/m ³ | 141 |
| PM _{2.5} | Muscatine | Garfield School | 4/28/12 | 36.1 | µg/m ³ | 102 |
| PM _{2.5} | Muscatine | Garfield School | 4/29/12 | 47.3 | µg/m ³ | 120 |
| SO ₂ | Muscatine | Musser Park | 5/11/12 | 76.5 | ppb | 101 |
| Ozone | Clinton | Rainbow Park | 5/18/12 | 76 | ppb | 101 |
| SO ₂ | Muscatine | Musser Park | 5/18/12 | 85.1 | ppb | 105 |
| SO ₂ | Clinton | Chancy Park | 5/22/12 | 76.4 | ppb | 101 |
| Ozone | Pisgah | Forestry Office | 6/9/12 | 76 | ppb | 101 |
| Ozone | Pisgah | Highway Shed | 6/9/12 | 76 | ppb | 101 |
| Ozone | Keosauqua | Lake Sugema | 6/14/12 | 79 | ppb | 109 |
| Ozone | Clinton | Rainbow Park | 6/15/12 | 77 | ppb | 104 |
| Ozone | Keosauqua | Lake Sugema | 6/27/12 | 76 | ppb | 101 |
| Ozone | Pisgah | Forestry Office | 7/12/12 | 80 | ppb | 111 |
| Ozone | Pisgah | Highway Shed | 7/12/12 | 79 | ppb | 109 |

2012 NAAQS Exceedances, continued

| Monitor Type | Site Location | Site Name | Exceedance | | Units | AQI ⁽¹⁾ |
|-----------------|--------------------|------------------------|-------------|---------------|-------------------|---------------------|
| | | | Date | Concentration | | |
| Ozone | Pisgah | Highway Shed | 7/17/12 | 76 | ppb | 101 |
| Ozone | Clinton | Rainbow Park | 7/30/12 | 76 | ppb | 101 |
| Ozone | Central Davenport | Jefferson Elementary | 7/30/12 | 76 | ppb | 101 |
| Ozone | Clinton | Rainbow Park | 8/1/12 | 78 | ppb | 106 |
| Ozone | Cedar Rapids | Linn Co. Public Health | 8/3/12 | 76 | ppb | 101 |
| Ozone | Cedar Rapids | Kirkwood College | 8/3/12 | 76 | ppb | 101 |
| Ozone | North Cedar Rapids | Coggon | 8/3/12 | 77 | ppb | 104 |
| Ozone | Pisgah | Forestry Office | 8/30/12 | 77 | ppb | 104 |
| Ozone | Pisgah | Highway Shed | 8/30/12 | 78 | ppb | 106 |
| Ozone | Emmetsburg | Iowa Lakes College | 8/30/12 | 76 | ppb | 101 |
| SO ₂ | Muscatine | Musser Park | 9/11/12 | 107.8 | ppb | 115 |
| SO ₂ | Muscatine | Garfield School | 10/12/12 | 170.6 | ppb | 143 |
| Pb | Council Bluffs | Griffin Pipe | June-August | 0.18 | µg/m ³ | n/a |
| SO ₂ | Muscatine | Musser Park | 10/24/12 | 130.5 | ppb | 125 |
| SO ₂ | Muscatine | Musser Park | 10/25/12 | 177.8 | ppb | 146 |
| SO ₂ | Muscatine | Musser Park | 11/10/12 | 308.8 | ppb | >200 ⁽²⁾ |
| SO ₂ | Muscatine | Musser Park | 11/11/12 | 229.7 | ppb | 169 |
| SO ₂ | Muscatine | Greenwood Cemetery | 11/11/12 | 78.7 | ppb | 102 |

⁽¹⁾ EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m³ represent violations of the NAAQS.

⁽²⁾ The AQI is not defined for 1-hour SO₂ values greater than 304 ppb (AQI of 200).

2012 NAAQS Exceedances, continued

| Monitor Type | Site Location | Site Name | Exceedance Date | Concentration | Units | AQI⁽¹⁾ |
|---------------------|----------------------|------------------|------------------------|----------------------|-------------------|--------------------------|
| SO ₂ | Muscatine | Garfield School | 11/16/12 | 79.2 | ppb | 102 |
| SO ₂ | Muscatine | Musser Park | 11/22/12 | 121.3 | ppb | 121 |
| Pb | Council Bluffs | Griffin Pipe | July-September | 0.19 | µg/m ³ | n/a |
| SO ₂ | Muscatine | Musser Park | 12/3/12 | 224.0 | ppb | 167 |
| SO ₂ | Muscatine | Garfield School | 12/5/12 | 151.7 | ppb | 135 |
| SO ₂ | Muscatine | Garfield School | 12/9/12 | 125.5 | ppb | 123 |
| SO ₂ | Muscatine | Musser Park | 12/12/12 | 119.0 | ppb | 120 |
| SO ₂ | Muscatine | Musser Park | 12/15/12 | 96.2 | ppb | 110 |
| Pb | Council Bluffs | Griffin Pipe | August-October | 0.20 | µg/m ³ | n/a |
| Pb | Council Bluffs | Griffin Pipe | September-November | 0.16 | µg/m ³ | n/a |

⁽¹⁾ EPA has not developed an AQI or exceedance level for lead. 3-month rolling averages greater than 0.15 µg/m³ represent violations of the NAAQS.

Web Resources

Real-time Air Monitoring Data:

In Polk County:

<http://www.polkcountyiowa.gov/airquality/Pages/Monitoring.aspx>

In Linn County:

<http://www.linncleanair.org/>

Outside Polk and Linn Counties:

<http://www.shl.uiowa.edu/env/ambient/data.xml>

Attainment Calculations:

<http://epa.gov/airtrends/values.html>

National Ozone and Particulate Maps:

<http://airnow.gov/>

Historical Air Monitoring Data for Iowa and Other States:

<http://www.epa.gov/airdata/>