

**Iowa Ambient Air Monitoring
Annual Report
2002**



**Air Quality Bureau
Iowa Department of Natural Resources**

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IOWA AMBIENT AIR MONITORING NETWORK REVIEW: 2002

by
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Introduction

The purpose of this review is to compare ambient air monitoring data gathered in Iowa during the year 2002 with federal ambient air standards. These federal standards, known as National Ambient Air Quality Standards (NAAQS), have been established by the Environmental Protection Agency (EPA) for seven “criteria” pollutants: particulate matter with a diameter less than 10 microns (PM₁₀), particulate matter with a diameter less than 2.5 microns (PM_{2.5}), sulfur dioxide, ozone, nitrogen dioxide, carbon monoxide, and lead. Continuous monitoring methods have been approved by EPA for all monitoring methods except PM_{2.5}. Filter samplers and laboratory filter weighing procedures have been approved by EPA for both PM_{2.5} and PM₁₀. All data summarized in this review was obtained using methods approved by EPA for comparison with the NAAQS.

This report is divided into two parts. The first part is an executive summary, indicating where exceedances of the NAAQS were measured in Iowa during 2002. A more comprehensive review comprises the second part of the report, which includes the location and summary data for each monitor in the network.

Gaseous pollutant monitors (ozone, nitrogen dioxide, and sulfur dioxide) and continuous PM₁₀ monitors provide hourly values and operate 24 hours a day, seven days a week. Ozone monitors are operated only when ozone levels are highest, from April through October. Particulate filter samplers collect one filter per day and usually are not operated on successive days. Most PM₁₀ filter based monitors are operated at a sampling frequency of one sample every sixth day, and most PM_{2.5} monitors are run at a frequency of one sample every third day. Some particulate monitoring sites are run at frequencies greater than these nominal frequencies if they are located in highly populated areas or near pollution sources. Lead was not monitored in Iowa during the year 2002.

Incomplete data may skew the summary statistics for a monitor. In order to alert the reader to data completeness problems, monitors that were added or removed part way through the year have been indicated by an asterisk, and data completeness statistics have been provided for each monitor. If a monitor collected all of the scheduled samples, then it has an associated data completeness of 100%. If the data capture from a monitor is insufficient to compute a valid annual average according to EPA completeness criteria, then the bar representing the comparison of the annual average to the NAAQS for the monitor is hatched on the corresponding bar chart.

In 2002, NAAQS exceedances were measured in Argo, Clinton, Davenport, Lake Sugema State Park and Pisgah for ozone and in Buffalo and Mason City for PM₁₀. The monitored values are likely to represent a large area of poor air quality, perhaps a county or more in area.

Data used to create this report were gathered by three organizations under contract with the Iowa Department of Natural Resources: the University of Iowa Hygienic Laboratory, the Polk County Health Department, and the Linn County Public Health Department. Air pollution data for Iowa and all other states are available online at:

<http://www.epa.gov/air/data/>. Additional information on the NAAQS is available at:

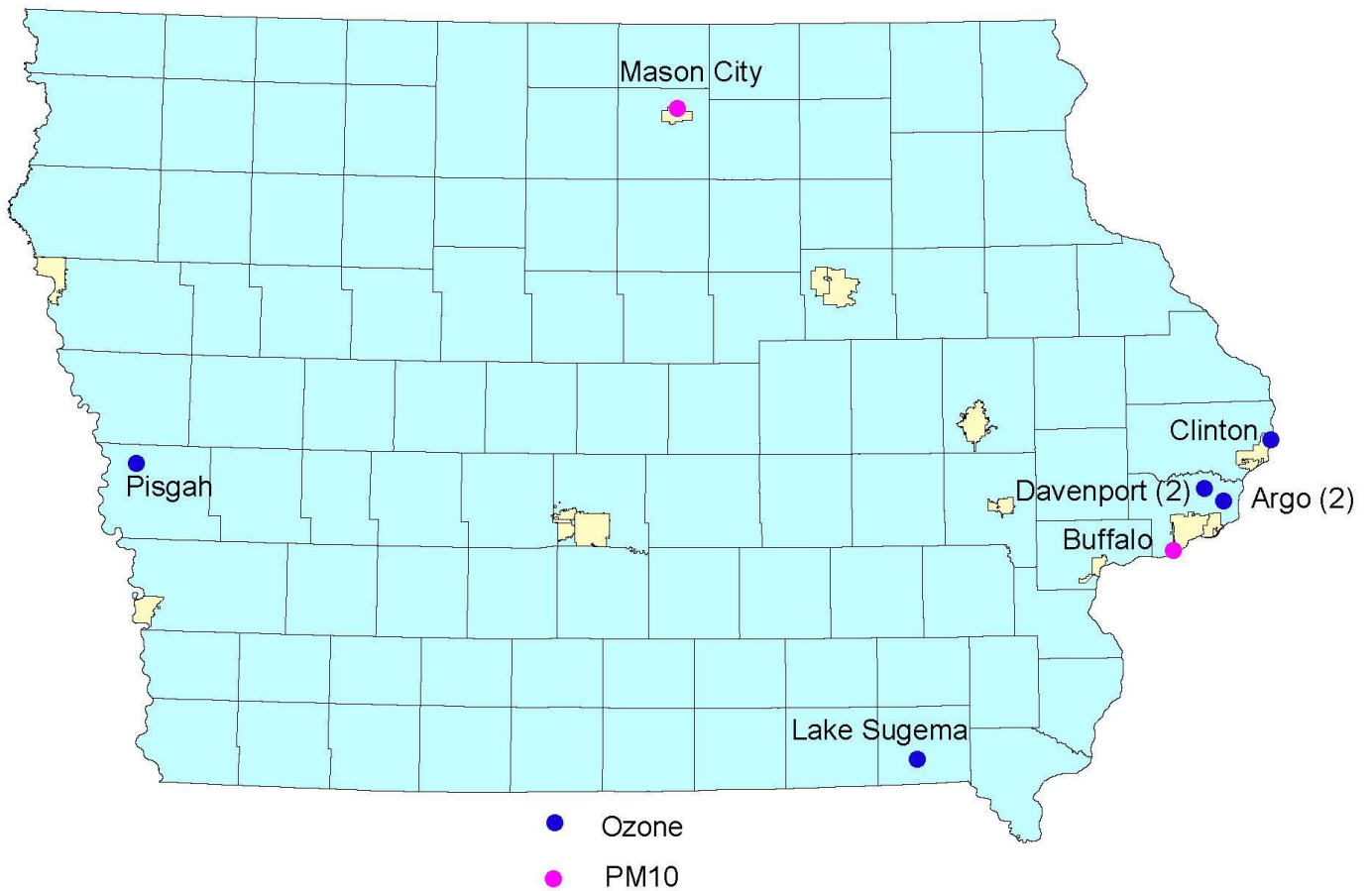
<http://www.epa.gov/airs/criteria.html>.

Exceedances of the National Ambient Air Quality Standards in Iowa

| Pollutant | Averaging Period | Exceedance Level | Units | Number of Exceedances |
|------------------|------------------|------------------|----------------------------|-----------------------|
| Ozone | 1hr | 0.125 | ppm | 0 |
| | 8hr | 0.085 | ppm | 7 |
| PM 2.5 | 24hr | 65.5 | micrograms per cubic meter | 0 |
| | annual | 15.05 | micrograms per cubic meter | 0 |
| PM10 | 24hr | 155 | micrograms per cubic meter | 2 |
| | annual | 50.5 | micrograms per cubic meter | 0 |
| Sulfur dioxide | 3hr | 0.55 | ppm | 0 |
| | 24hr | 0.145 | ppm | 0 |
| | annual | 0.0305 | ppm | 0 |
| Carbon monoxide | 1hr | 35.5 | ppm | 0 |
| | 8hr | 9.5 | ppm | 0 |
| Nitrogen dioxide | annual | 0.0535 | ppm | 0 |
| Lead | quarterly | 1.55 | micrograms per cubic meter | N/A* |

*Lead was not monitored in 2002

NAAQS Exceedances



Exceedance Level and Occurrence Date

| Site ID | Pollutant | Averaging Period | Exceedance Level | Number of Exceedances | Site | Date |
|-----------------------------|------------------|-------------------------|-------------------------|------------------------------|-------------|-------------|
| Argo, Highway Maintenance | Ozone | 8hr | 94 | 1 | Argo | 6/23/2002 |
| Argo, Highway Maintenance | Ozone | 8hr | 93 | 1 | Argo | 9/7/2002 |
| Clinton, Rainbow Park | Ozone | 8hr | 94 | 1 | Clinton | 6/23/2002 |
| Scott County Park | Ozone | 8hr | 94 | 1 | Davenport | 6/23/2002 |
| Scott County Park | Ozone | 8hr | 102 | 1 | Davenport | 9/7/2002 |
| Lake Sugema State Park | Ozone | 8hr | 94 | 1 | Lake Sugema | 9/7/2002 |
| Pisgah, Highway Maintenance | Ozone | 8hr | 86 | 1 | Pisgah | 6/24/2002 |
| Buffalo, LW Mining | PM10 | 24hr | 169 | 1 | Buffalo | 3/24/2002 |
| Mason City, Holnam Cement | PM10 | 24hr | 168 | 1 | Mason City | 2/26/2002 |

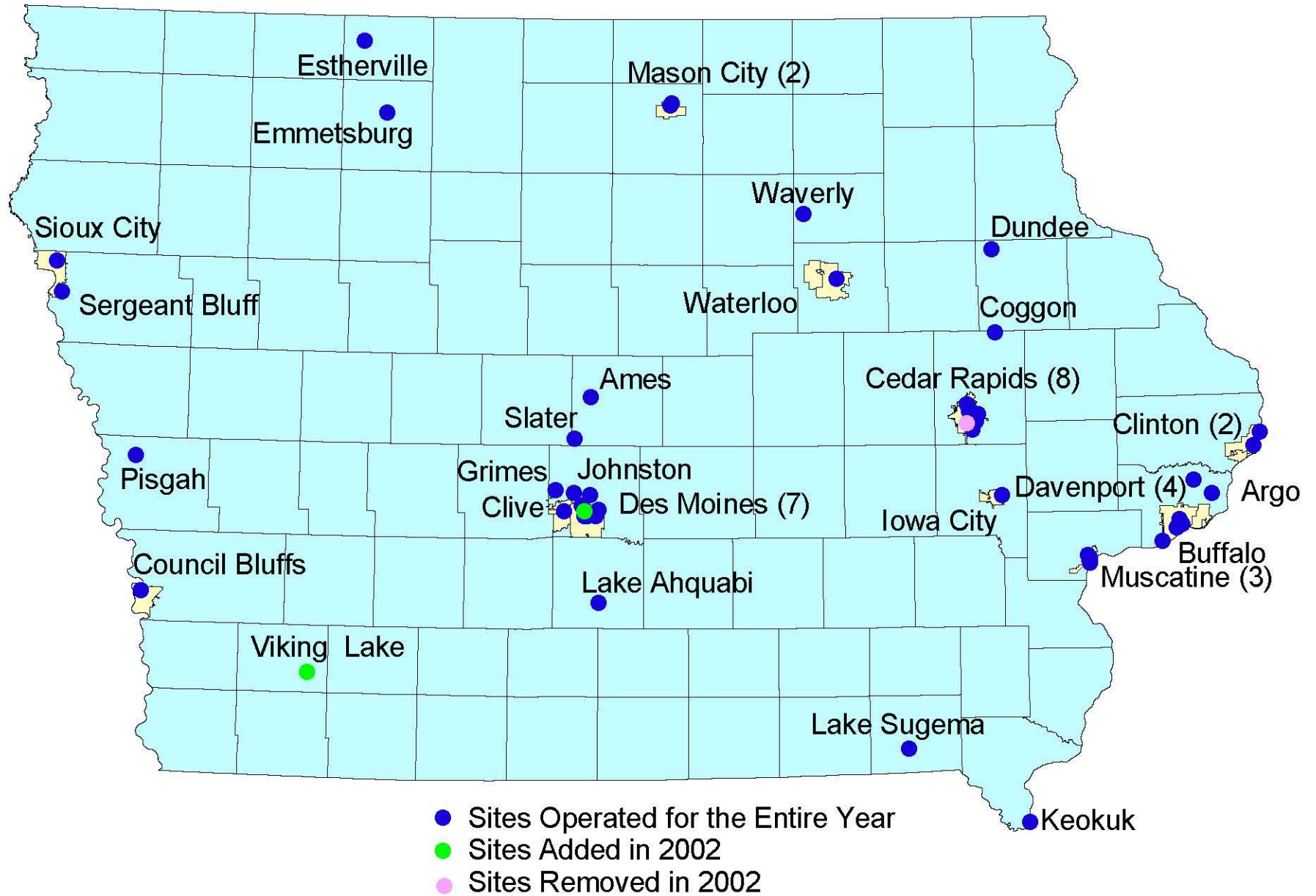
Ambient Air Monitoring Network in 2002

Site Locations

| Site ID | Name | City | Address | County | Site Label | Pollutants |
|-----------|--------------------------|--------------|-----------------------------------|-------------|------------------------------------|-------------|
| 190130008 | Grout Museum | Waterloo | West Park St. & South St. | Black Hawk | Waterloo, Grout Museum | PM2.5, PM10 |
| 190170011 | Waverly Airport | Waverly | Waverly Airport | Bremer | Waverly, Airport | O3 |
| 190330018 | Holnam Cement | Mason City | 17th St. & Washington St. | Cerro Gordo | Mason City, Holnam Cement | SO2, PM10 |
| 190330019 | 12th and Monroe | Mason City | 10th & Monroe | Cerro Gordo | Mason City, 12th & Monroe | PM2.5, PM10 |
| 190450019 | Chancy Park | Clinton | 23rd & Camanche | Clinton | Clinton, Chancy Park | SO2, PM10 |
| 190450021 | Rainbow Park | Clinton | Roosevelt St. | Clinton | Clinton, Rainbow Park | O3, PM2.5 |
| 190550001 | Backbone State Park | | Fish Hatchery Backbone State Park | Delaware | Backbone State Park | PM10 |
| 190630003 | Iowa Lakes College | Estherville | 19 S 7th St. | Emmet | Estherville, Iowa Lakes Coll. | PM2.5, PM10 |
| 190851101 | Highway Maintenance Shed | Pisgah | 1575 Hwy 183 | Harrison | Pisgah, Highway Maintenance | O3 |
| 191032001 | Hoover Elementary | Iowa City | 2200 East Court | Johnson | Iowa City, Hoover Sch. | PM2.5 |
| 191110008 | Fire Station | Keokuk | 111S. 13th St. | Lee | Keokuk, Fire Station | PM10 |
| 191130028 | Kirkwood College | Cedar Rapids | 6301 Kirkwood Blvd SW (Iowa Hall) | Linn | Cedar Rapids, Kirkwood Coll. | O3 |
| 191130029 | Science Station | Cedar Rapids | 1st St.& 5th Ave. SW | Linn | Cedar Rapids, Science Station | SO2, PM10 |
| 191130030 | SCI Financial Group | Cedar Rapids | 200 2nd Ave. SE | Linn | Cedar Rapids, SCI Financial | CO |
| 191130031 | Scottish Rite Temple | Cedar Rapids | 616 A Ave. | Linn | Cedar Rapids, Scottish Rite Temple | CO, SO2 |
| 191130033 | Coggon | Cedar Rapids | 408 E Linn St. | Linn | Cedar Rapids, Coggon | NO2, O3 |
| 191130036 | Monroe Elementary | Cedar Rapids | 3200 Pioneer Ave. SE | Linn | Cedar Rapids, Monroe Sch. | PM2.5 |
| 191130037 | Army Reserve Center | Cedar Rapids | 1599 Wenig Rd. NE | Linn | Cedar Rapids, Army Reserve | PM2.5, PM10 |
| 191130038 | Ely Rd. SW | Cedar Rapids | Ely Rd. SW | Linn | Cedar Rapids, Ely Rd. SW | SO2 |
| 191130039 | Hawkeye Downs | Cedar Rapids | 4400 6th St. SW | Linn | Cedar Rapids, Hawkeye Downs | SO2 |
| 191370002 | Viking Lake State Park | | 2780 Viking Lake Road | Montgomery | Viking Lake State Park* | O3, PM2.5 |
| 191390015 | Garfield School | Muscatine | 1409 Wisconsin | Muscatine | Muscatine, Garfield Sch. | PM2.5, PM10 |
| 191390016 | Greenwood Cemetary | Muscatine | Fletcher St. & Kimble St. | Muscatine | Muscatine, Greenwood Cemetary | SO2 |
| 191390017 | Muscatine Power & Water | Muscatine | 2200 Steward Rd. | Muscatine | Muscatine, Power and Water | SO2 |
| 191390020 | Musser Park | Muscatine | Oregon St. & Earl Ave. | Muscatine | Muscatine, Musser Park | SO2, PM10 |

| Site ID | Name | City | Address | County | Site Label | Pollutants |
|-----------|-------------------------------|----------------|---------------------------------------|---------------|---------------------------------|----------------------|
| 191471002 | Iowa Lakes College | Emmetsburg | Iowa Lakes Community College - S Camp | Palo Alto | Emmetsburg, Iowa Lakes Coll. | O3, PM10 |
| 191530026 | Dallas Center - Grimes School | Grimes | Main & S 5th St. | Polk | Grimes, D.C.-Grimes Sch. | PM10 |
| 191530030 | Public Health Bldg. | Des Moines | 1907 Carpenter | Polk | Des Moines, Public Health Bldg. | PM2.5 |
| 191530052 | Tech High School | Des Moines | 19th & Grand Ave. | Polk | Des Moines, Tech High | CO |
| 191530058 | Phillips School | Des Moines | 1701 Lay St. | Polk | Des Moines, Phillips Sch. | NO2, O3 |
| 191530059 | National By-Products | Des Moines | SE 18th & Scott St. | Polk | Des Moines, Nat. By-Products | PM10 |
| 191530061 | Easter Seals | Des Moines | 2916 30th St. NW | Polk | Des Moines, Easter Seals | CO |
| 191530062 | Fire Station | Johnston | 6011 NW 62nd Ave. | Polk | Johnston, Fire Station | CO |
| 191532001 | Fire Station | Des Moines | 9th & Mulberry St. | Polk | Des Moines, Fire Station | PM10 |
| 191532510 | Indian Hills Junior High | Clive | 9401 Indian Hills | Polk | Clive, Indian Hills Sch. | PM2.5 |
| 191532520 | Cornell Elementary | Des Moines | 5817 NE 3rd St. | Polk | Des Moines, Cornell Sch. | PM2.5 |
| 191550009 | Franklin Elementary | Council Bluffs | 3130 C Ave. | Pottawattamie | Council Bluffs, Franklin Sch. | PM2.5, PM10 |
| 191630014 | Scott County Park | Davenport | Scott County Park | Scott | Scott County Park | NO2, O3 |
| 191630015 | Jefferson Elementary | Davenport | 10th St. & Vine St. | Scott | Davenport, Jefferson Sch. | SO2, PM2.5, PM10 |
| 191630017 | Linwood Mining | Buffalo | 11100 110th Ave. | Scott | Buffalo, LW Mining | PM10 |
| 191630018 | Adams Elementary | Davenport | 3029 N Division St. | Scott | Davenport, Adams Sch. | PM2.5, PM10 |
| 191630019 | Black Hawk Foundry | Davenport | 300 Wellman St. | Scott | Davenport, BH Foundry | PM10 |
| 191632011 | Highway Maintenance Shed | Argo | Hwy Z-30 1.5 miles N of Argo | Scott | Argo, Highway Maintenance | O3 |
| 191690011 | Slater Elementary | Slater | 505 Linn St. | Story | Slater, Slater Sch. | O3 |
| 191692530 | Meeker Elementary | Ames | 300 20th St. | Story | Ames, Meeker Sch. | PM2.5 |
| 191770005 | Lake Sugema State Park | | PO Box 538 | Van Buren | Lake Sugema State Park | O3, SO2, PM2.5, PM10 |
| 191810022 | Lake Ahquabi State Park | | 1650 118th Ave. | Warren | Lake Ahquabi State Park | O3 |
| 191930017 | Lowell Elementary | Sioux City | 27th at Morgan | Woodbury | Sioux City, Lowell Sch. | PM2.5, PM10 |
| 191930018 | Sergeant Bluff | Sergeant Bluff | 708 Warrior Rd. | Woodbury | Sergeant Bluff | SO2 |

Monitoring Sites



Site Changes**Sites Added**

| Site ID | Name | City | County | Site Label | Date |
|-----------|------------------------|------------|------------|---------------------------------|----------|
| 191530030 | Public Health Bldg. | Des Moines | Polk | Des Moines, Public Health Bldg. | 1/1/2002 |
| 191370002 | Viking Lake State Park | | Montgomery | Viking Lake State Park* | 7/1/2002 |

Sites Removed

| Site ID | Name | City | County | Site Label | Date |
|-----------|---------------|--------------|--------|-----------------------------|----------|
| 191130039 | Hawkeye Downs | Cedar Rapids | Linn | Cedar Rapids, Hawkeye Downs | 1/1/2002 |

Monitor Changes**Monitors Added**

None

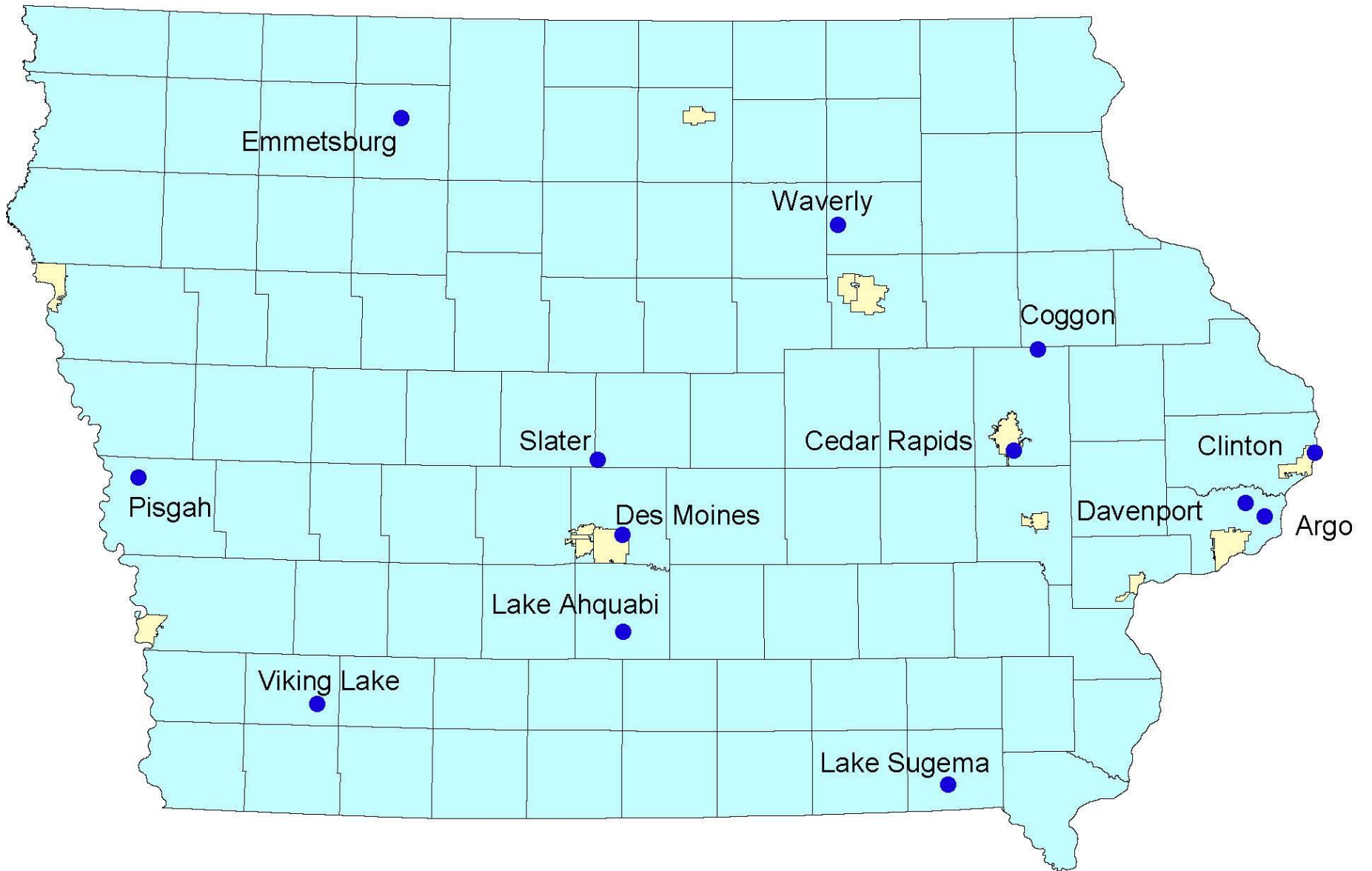
Monitors Removed in 2002

| Site ID | Name | City | County | Site Label | Pollutant | Date |
|-----------|----------------------|--------------|--------|----------------------|-----------|----------|
| 191130028 | Kirkwood College | Cedar Rapids | Linn | Kirkwood College | SO2 | 1/1/2002 |
| 191530059 | National By-Products | Des Moines | Polk | National By-Products | PM2.5 | 1/1/2002 |

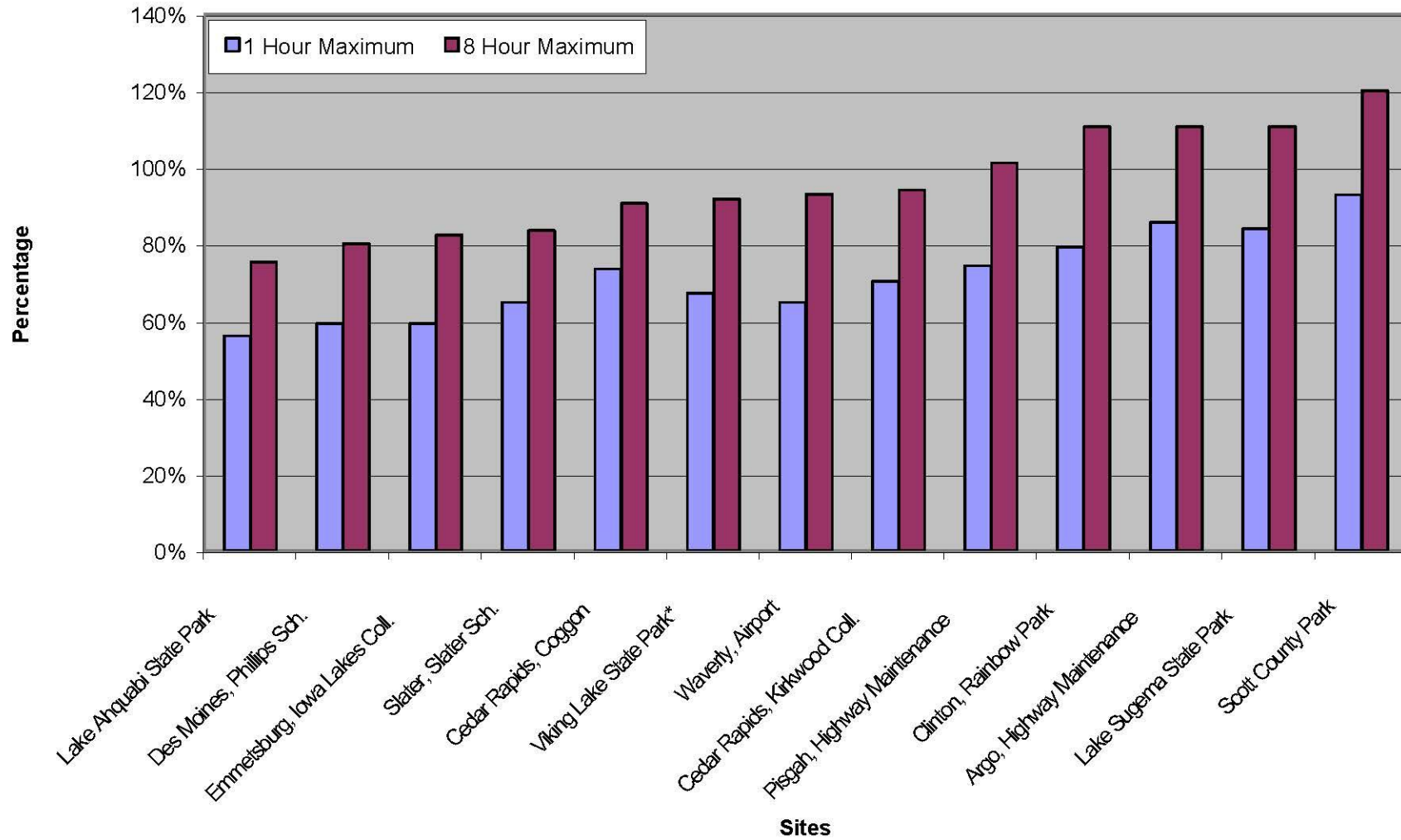
**Ozone Monitors
Site Locations**

| Site | Name | City | County | Site Label |
|-------------|--------------------------|--------------|---------------|------------------------------|
| 190170011 | Waverly Airport | Waverly | Bremer | Waverly, Airport |
| 190450021 | Rainbow Park | Clinton | Clinton | Clinton, Rainbow Park |
| 190851101 | Highway Maintenance Shed | Pisgah | Harrison | Pisgah, Highway Maintenance |
| 191130028 | Kirkwood College | Cedar Rapids | Linn | Cedar Rapids, Kirkwood Coll. |
| 191130033 | Coggon | Cedar Rapids | Linn | Cedar Rapids, Coggon |
| 191370002 | Viking Lake State Park | | Montgomery | Viking Lake State Park* |
| 191471002 | Iowa Lakes College | Emmetsburg | Palo Alto | Emmetsburg, Iowa Lakes Coll. |
| 191530058 | Phillips School | Des Moines | Polk | Des Moines, Phillips Sch. |
| 191630014 | Scott County Park | Davenport | Scott | Scott County Park |
| 191632011 | Highway Maintenance Shed | Argo | Scott | Argo, Highway Maintenance |
| 191690011 | Slater Elementary | Slater | Story | Slater, Slater Sch. |
| 191770005 | Lake Sugema State Park | | Van Buren | Lake Sugema State Park |
| 191810022 | Lake Ahquabi State Park | | Warren | Lake Ahquabi State Park |

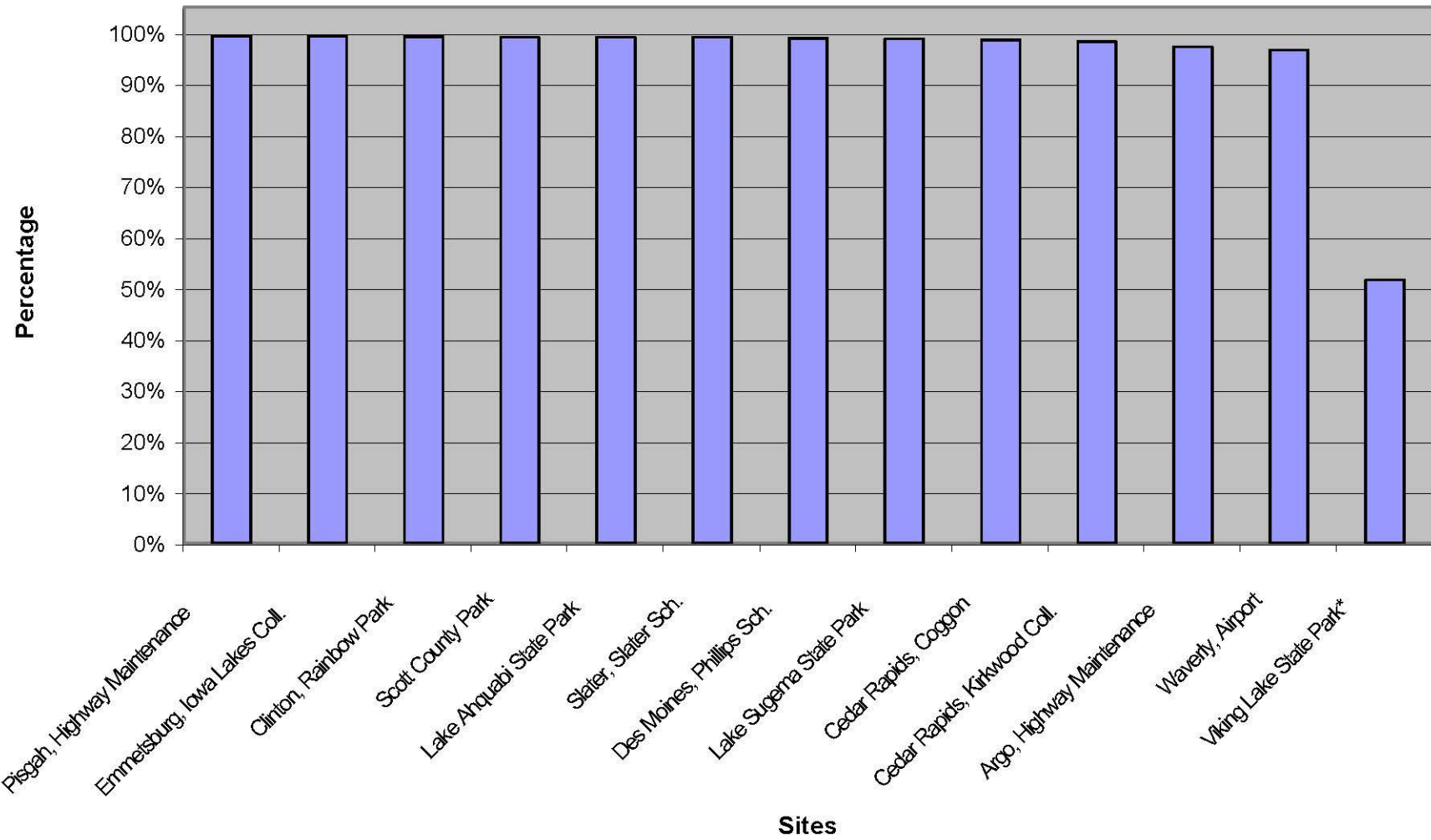
Ozone Monitors



Comparison of 2002 Ozone Data with National Ambient Air Quality Standards



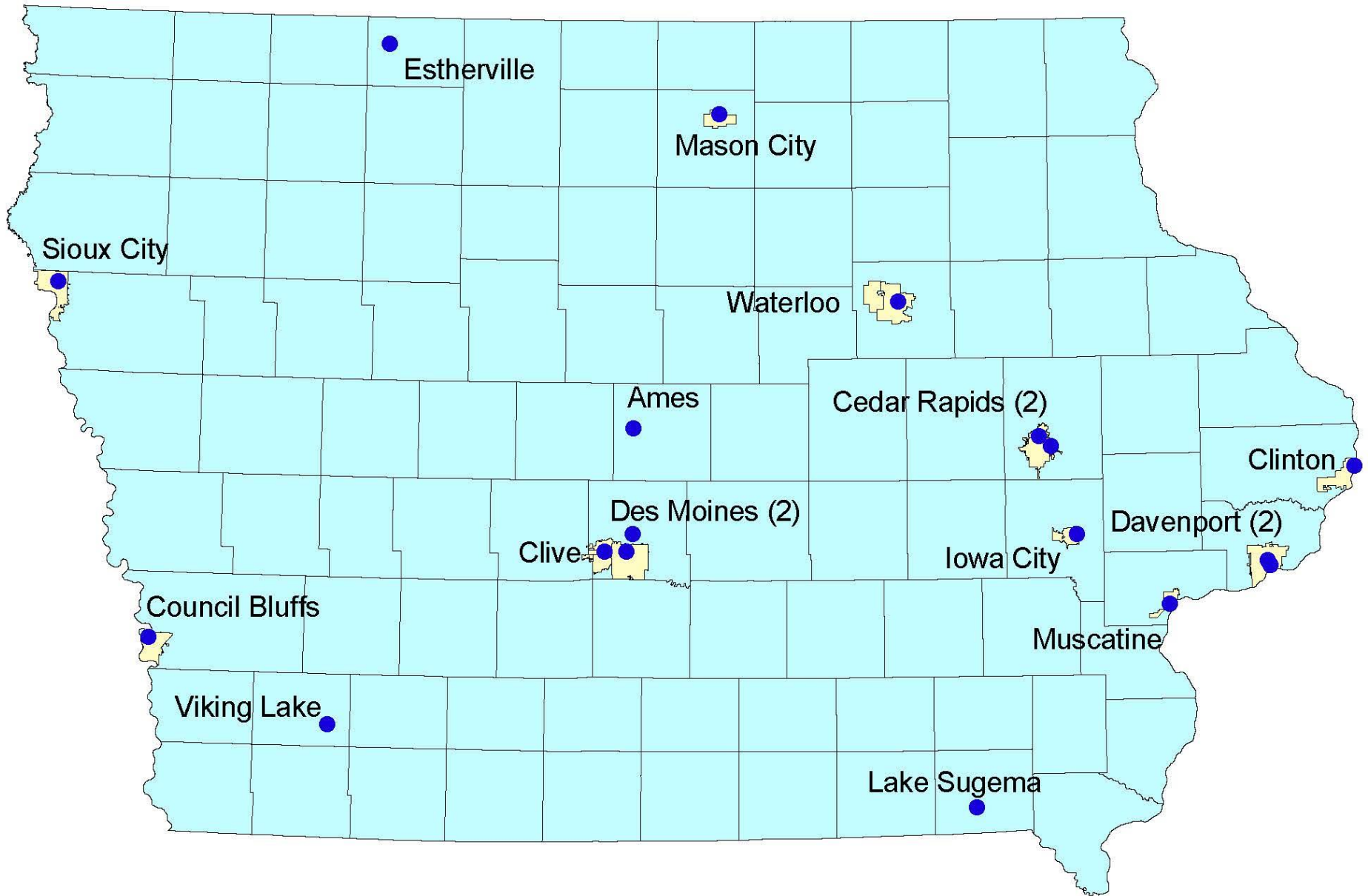
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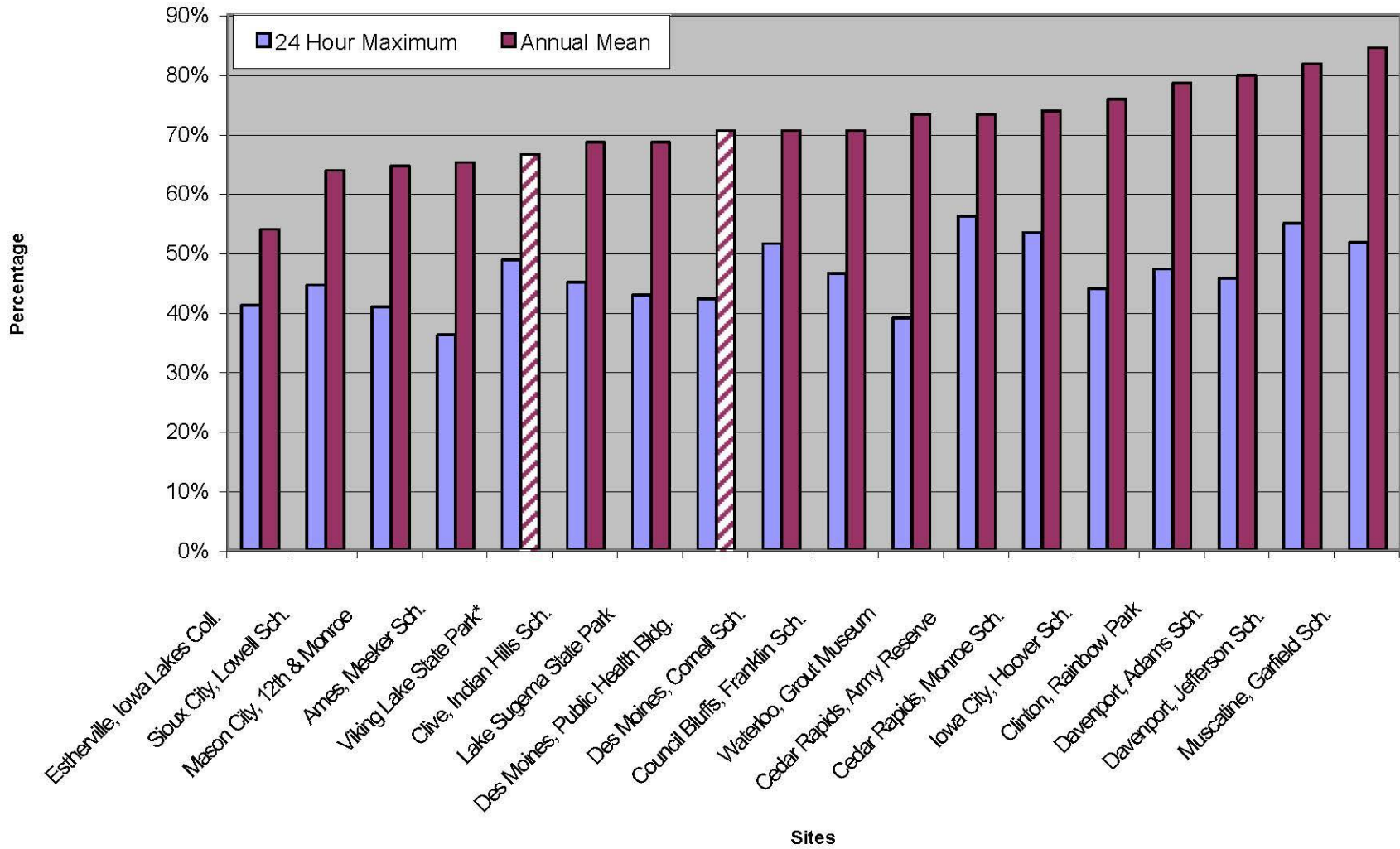
**PM2.5 Monitors
Site Locations**

| Site | Name | City | County | Site Label |
|-------------|--------------------------|----------------|---------------|---------------------------------|
| 190130008 | Grout Museum | Waterloo | Black Hawk | Waterloo, Grout Museum |
| 190330019 | 12th and Monroe | Mason City | Cerro Gordo | Mason City, 12th & Monroe |
| 190450021 | Rainbow Park | Clinton | Clinton | Clinton, Rainbow Park |
| 190630003 | Iowa Lakes College | Estherville | Emmet | Estherville, Iowa Lakes Coll. |
| 191032001 | Hoover Elementary | Iowa City | Johnson | Iowa City, Hoover Sch. |
| 191130036 | Monroe Elementary | Cedar Rapids | Linn | Cedar Rapids, Monroe Sch. |
| 191130037 | Army Reserve Center | Cedar Rapids | Linn | Cedar Rapids, Army Reserve |
| 191370002 | Viking Lake State Park | | Montgomery | Viking Lake State Park* |
| 191390015 | Garfield School | Muscatine | Muscatine | Muscatine, Garfield Sch. |
| 191530030 | Public Health Bldg. | Des Moines | Polk | Des Moines, Public Health Bldg. |
| 191532510 | Indian Hills Junior High | Clive | Polk | Clive, Indian Hills Sch. |
| 191532520 | Cornell Elementary | Des Moines | Polk | Des Moines, Cornell Sch. |
| 191550009 | Franklin Elementary | Council Bluffs | Pottawattamie | Council Bluffs, Franklin Sch. |
| 191630015 | Jefferson Elementary | Davenport | Scott | Davenport, Jefferson Sch. |
| 191630018 | Adams Elementary | Davenport | Scott | Davenport, Adams Sch. |
| 191692530 | Meeker Elementary | Ames | Story | Ames, Meeker Sch. |
| 191770005 | Lake Sugema State Park | | Van Buren | Lake Sugema State Park |
| 191930017 | Lowell Elementary | Sioux City | Woodbury | Sioux City, Lowell Sch. |

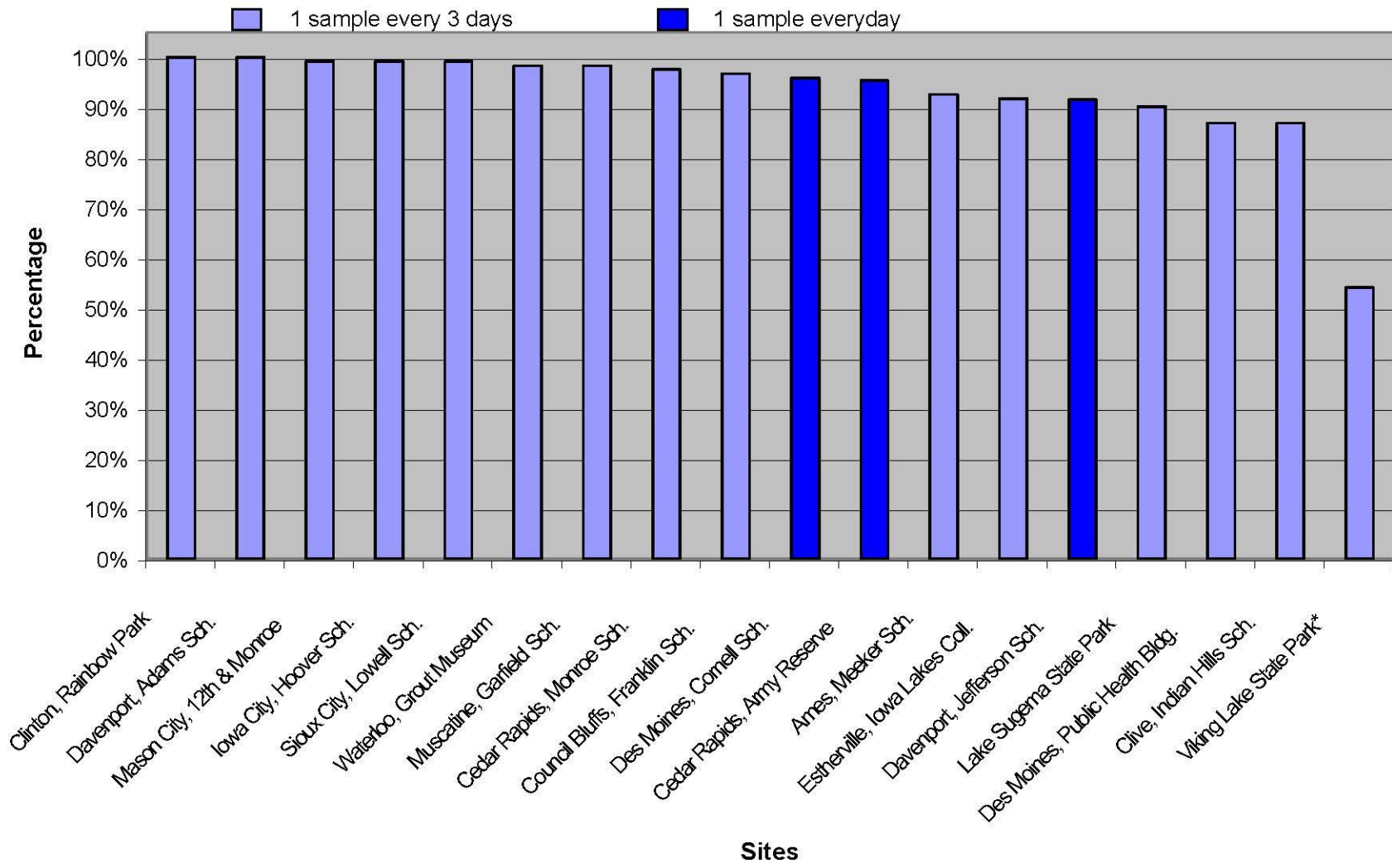
PM2.5 Monitors



Comparison of 2002 PM2.5 Data with National Ambient Air Quality Standards



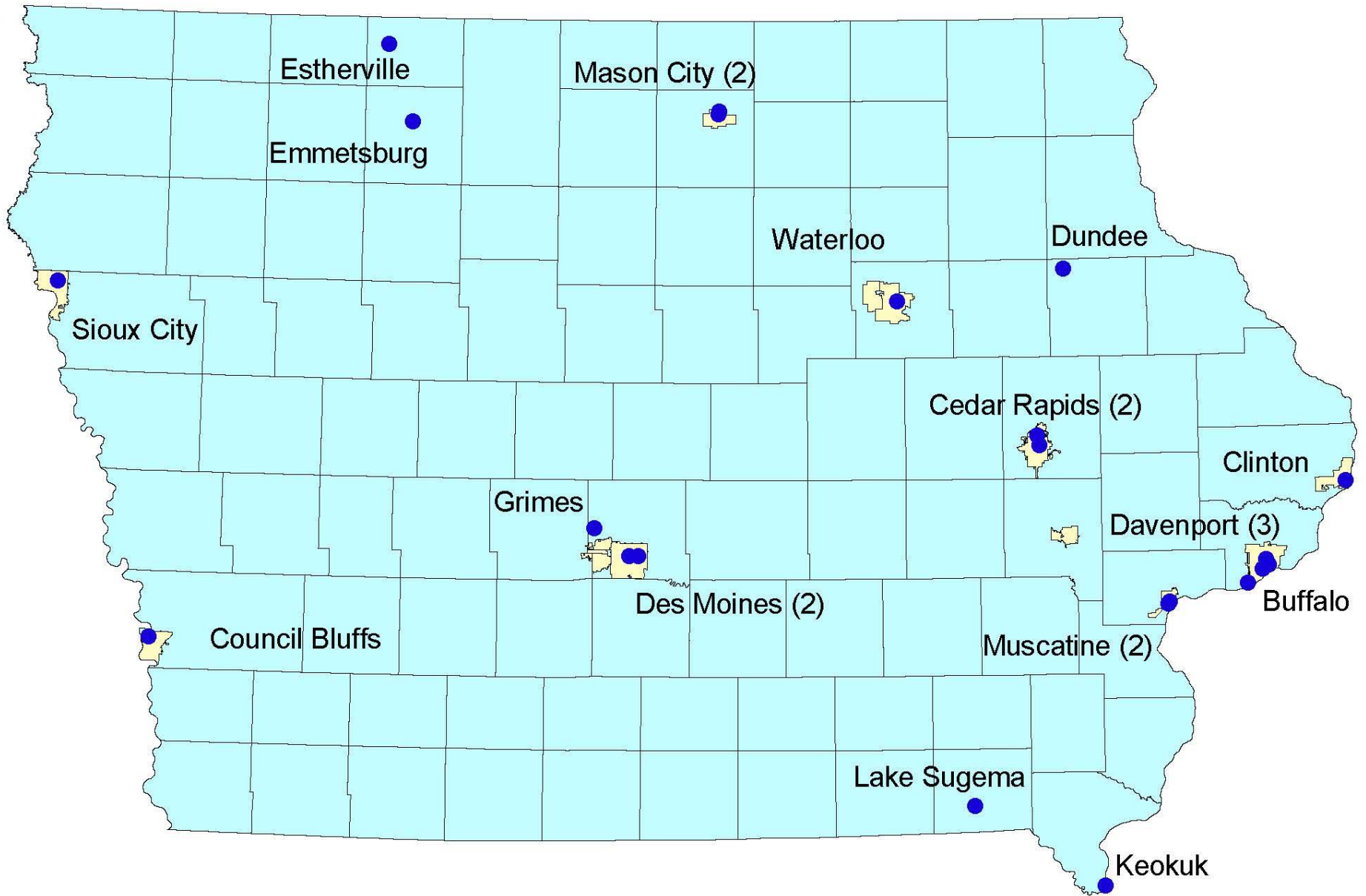
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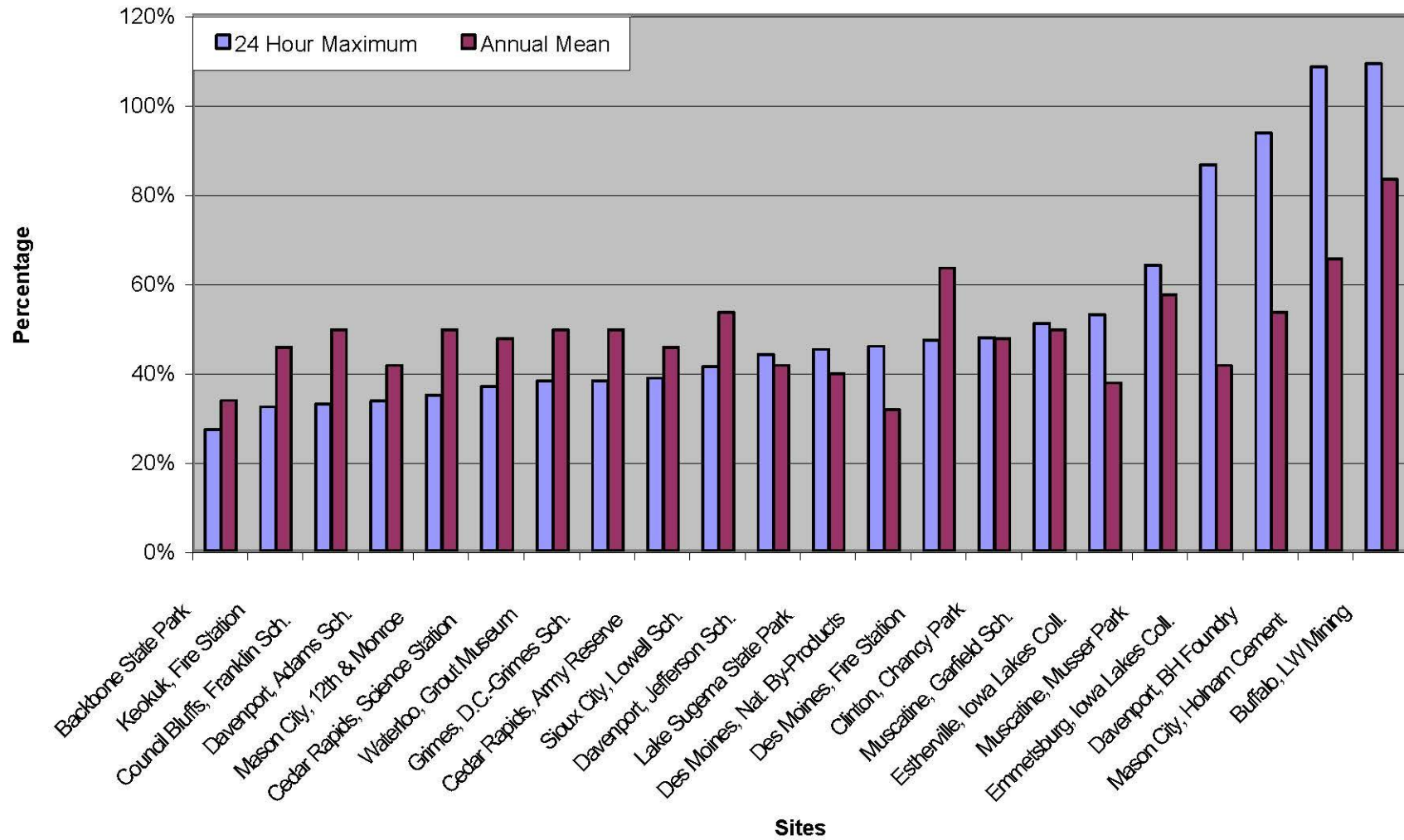
**PM10 Monitors
Site Locations**

| Site | Name | City | County | Site Label |
|-----------|-------------------------------|----------------|---------------|-------------------------------|
| 190130008 | Grout Museum | Waterloo | Black Hawk | Waterloo, Grout Museum |
| 190330018 | Holnam Cement | Mason City | Cerro Gordo | Mason City, Holnam Cement |
| 190330019 | 12th and Monroe | Mason City | Cerro Gordo | Mason City, 12th & Monroe |
| 190450019 | Chancy Park | Clinton | Clinton | Clinton, Chancy Park |
| 190550001 | Backbone State Park | | Delaware | Backbone State Park |
| 190630003 | Iowa Lakes College | Estherville | Emmet | Estherville, Iowa Lakes Coll. |
| 191110008 | Fire Station | Keokuk | Lee | Keokuk, Fire Station |
| 191130029 | Science Station | Cedar Rapids | Linn | Cedar Rapids, Science Station |
| 191130037 | Army Reserve Center | Cedar Rapids | Linn | Cedar Rapids, Army Reserve |
| 191390015 | Garfield School | Muscatine | Muscatine | Muscatine, Garfield Sch. |
| 191390020 | Musser Park | Muscatine | Muscatine | Muscatine, Musser Park |
| 191471002 | Iowa Lakes College | Emmetsburg | Palo Alto | Emmetsburg, Iowa Lakes Coll. |
| 191530026 | Dallas Center - Grimes School | Grimes | Polk | Grimes, D.C.-Grimes Sch. |
| 191530059 | National By-Products | Des Moines | Polk | Des Moines, Nat. By-Products |
| 191532001 | Fire Station | Des Moines | Polk | Des Moines, Fire Station |
| 191550009 | Franklin Elementary | Council Bluffs | Pottawattamie | Council Bluffs, Franklin Sch. |
| 191630015 | Jefferson Elementary | Davenport | Scott | Davenport, Jefferson Sch. |
| 191630017 | Linwood Mining | Buffalo | Scott | Buffalo, LW Mining |
| 191630018 | Adams Elementary | Davenport | Scott | Davenport, Adams Sch. |
| 191630019 | Black Hawk Foundry | Davenport | Scott | Davenport, BH Foundry |
| 191770005 | Lake Sugema State Park | | Van Buren | Lake Sugema State Park |
| 191930017 | Lowell Elementary | Sioux City | Woodbury | Sioux City, Lowell Sch. |

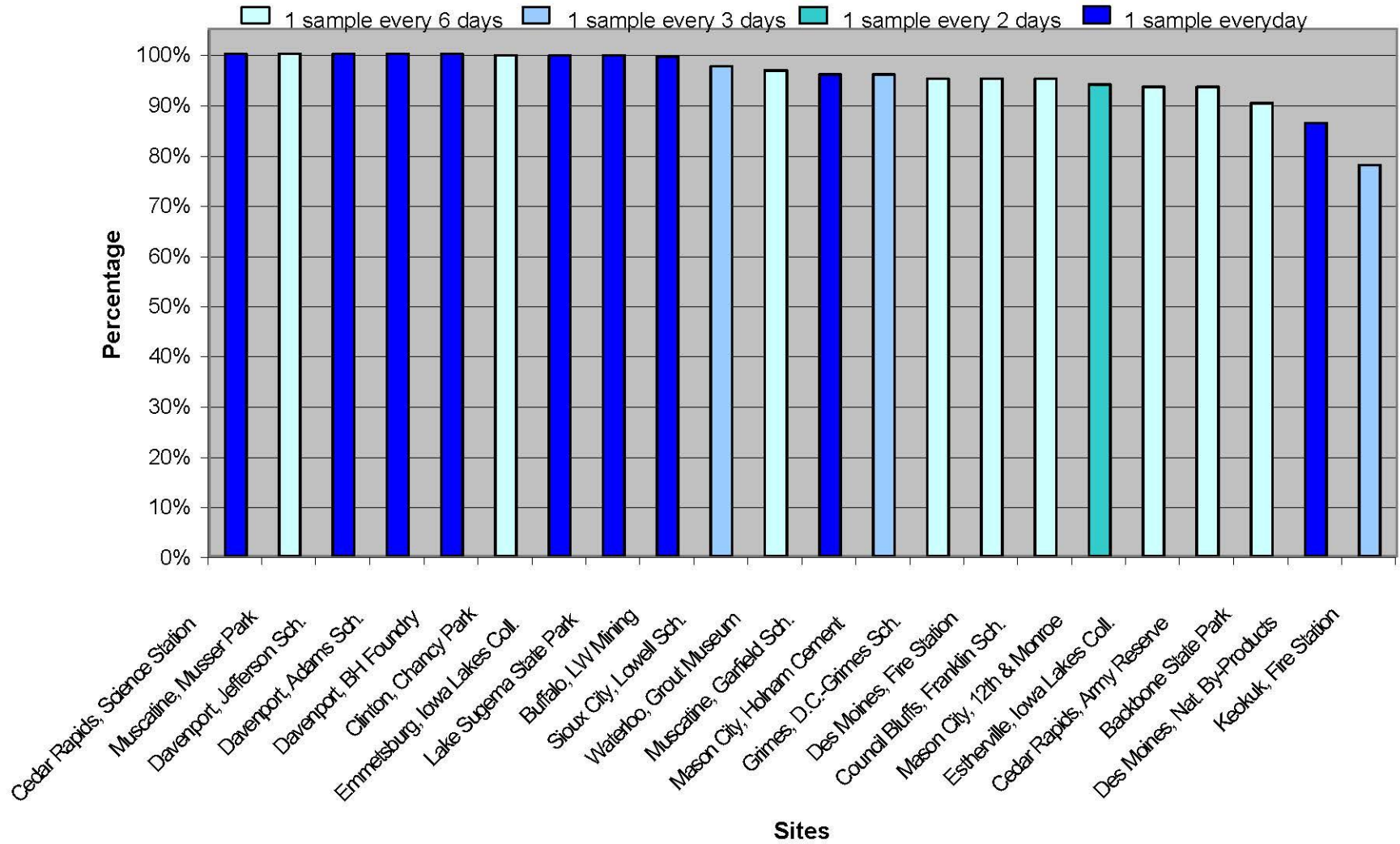
PM10 Monitors



Comparison of 2002 PM10 Data with National Ambient Air Quality Standards



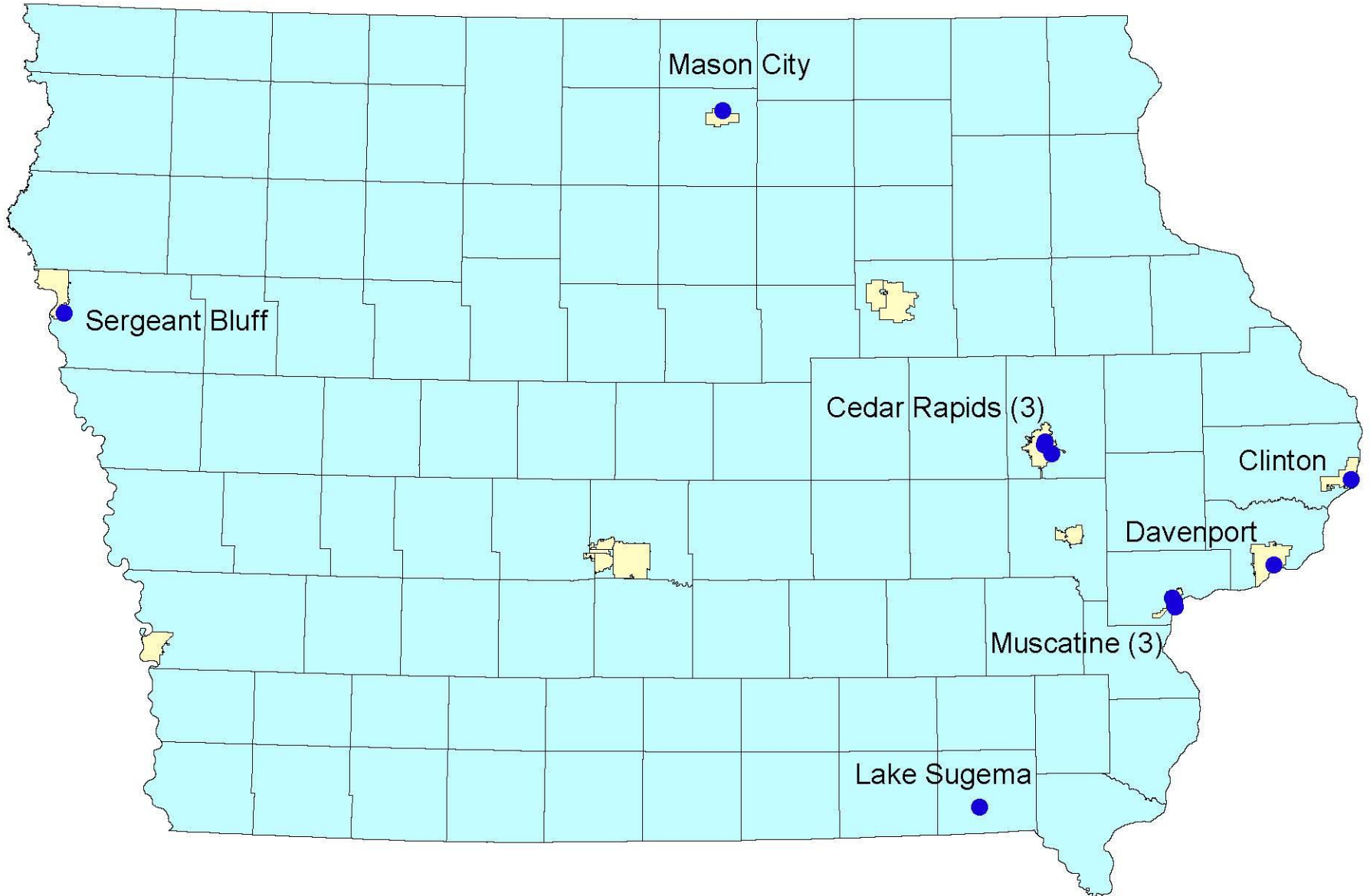
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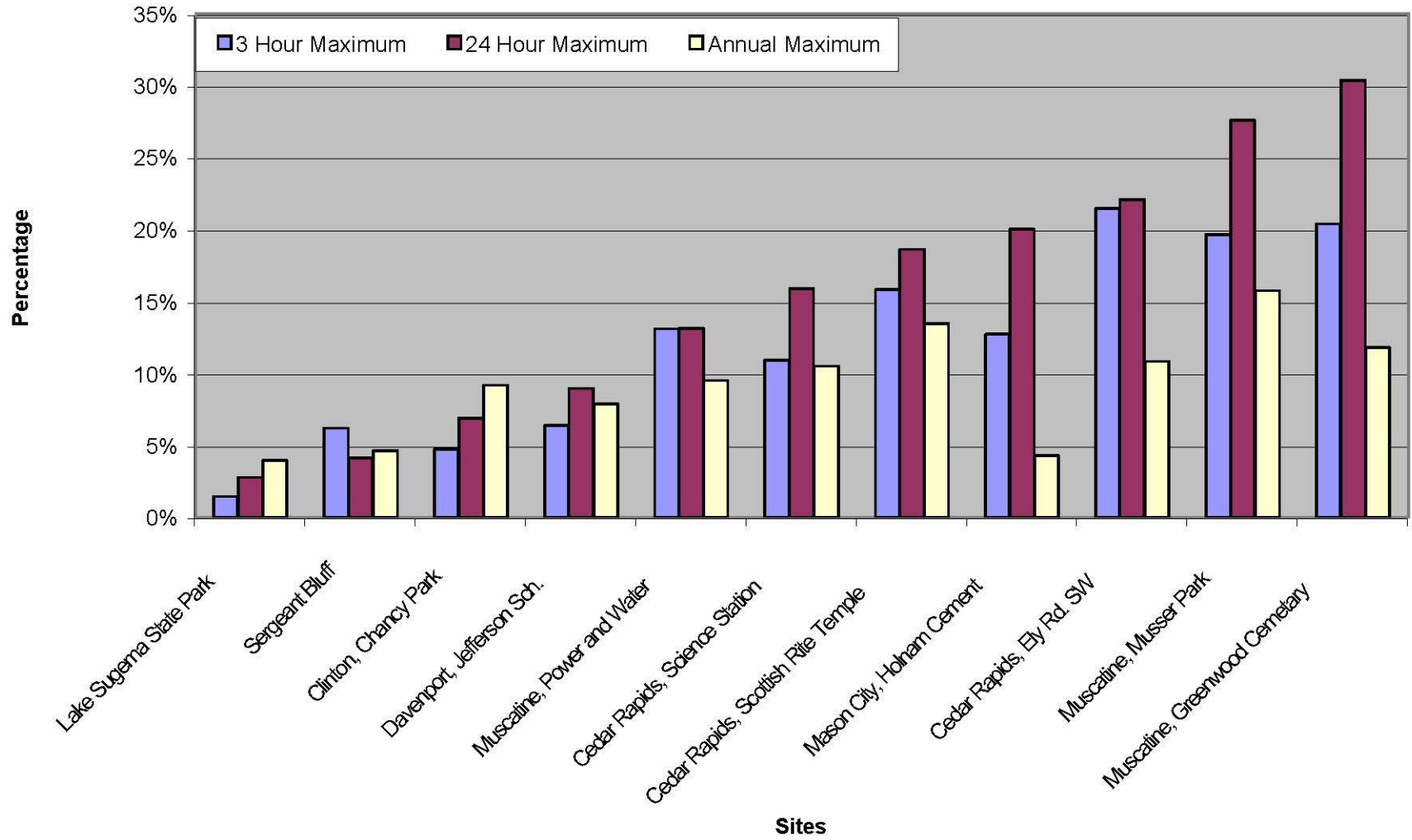
Sulfur Dioxide Monitors**Site Locations**

| Site ID | Name | City | County | Site Label |
|----------------|-------------------------|----------------|---------------|------------------------------------|
| 190330018 | Holnam Cement | Mason City | Cerro Gordo | Mason City, Holnam Cement |
| 190450019 | Chancy Park | Clinton | Clinton | Clinton, Chancy Park |
| 191130029 | Science Station | Cedar Rapids | Linn | Cedar Rapids, Science Station |
| 191130031 | Scottish Rite Temple | Cedar Rapids | Linn | Cedar Rapids, Scottish Rite Temple |
| 191130038 | Ely Rd. SW | Cedar Rapids | Linn | Cedar Rapids, Ely Rd. SW |
| 191390016 | Greenwood Cemetery | Muscatine | Muscatine | Muscatine, Greenwood Cemetery |
| 191390017 | Muscatine Power & Water | Muscatine | Muscatine | Muscatine, Power and Water |
| 191390020 | Musser Park | Muscatine | Muscatine | Muscatine, Musser Park |
| 191630015 | Jefferson Elementary | Davenport | Scott | Davenport, Jefferson Sch. |
| 191770005 | Lake Sugema State Park | | Van Buren | Lake Sugema State Park |
| 191930018 | Sergeant Bluff | Sergeant Bluff | Woodbury | Sergeant Bluff |

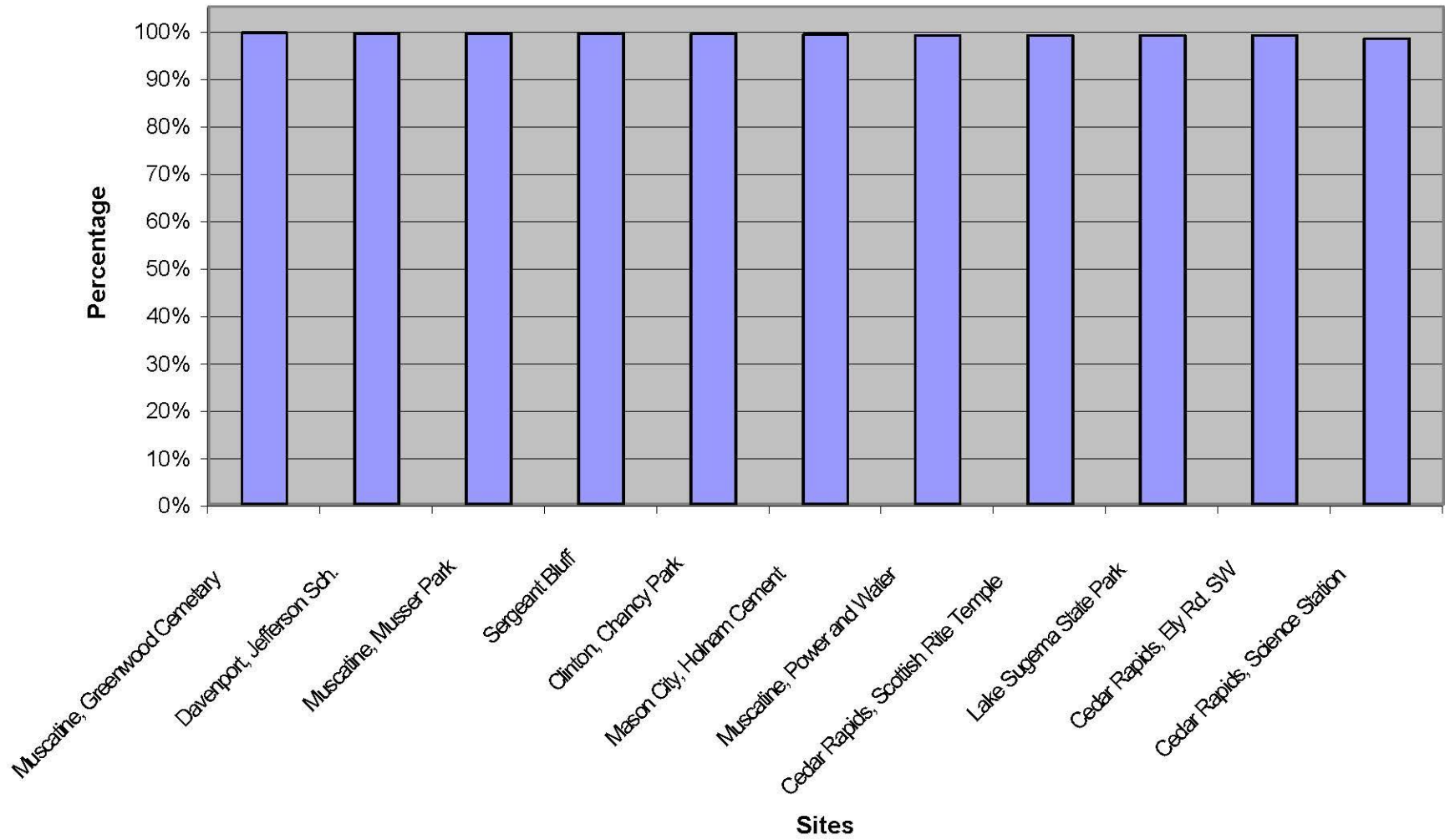
Sulfur Dioxide Monitors



Comparison of 2002 Sulfur Dioxide Data with National Ambient Air Quality Standards



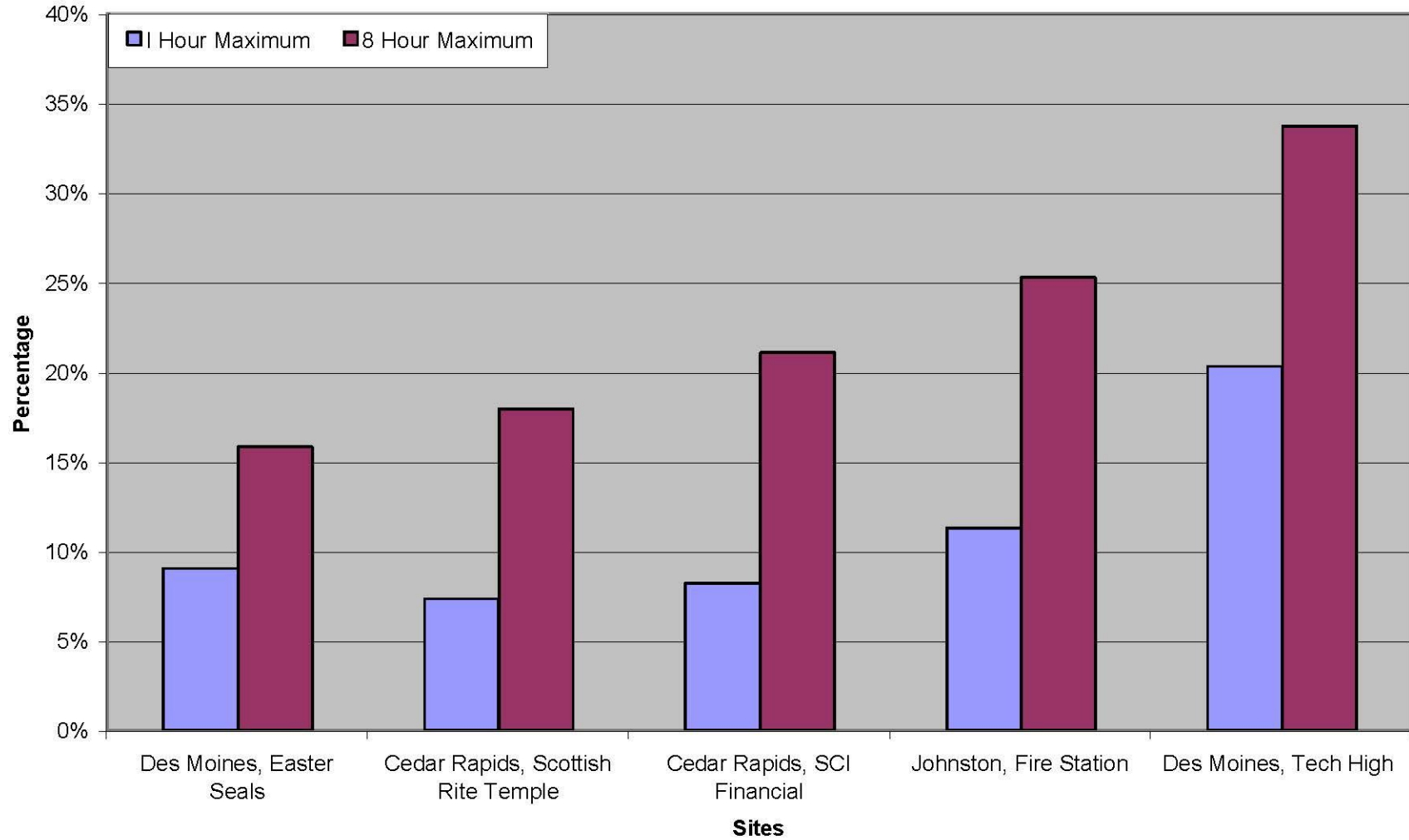
Data Capture



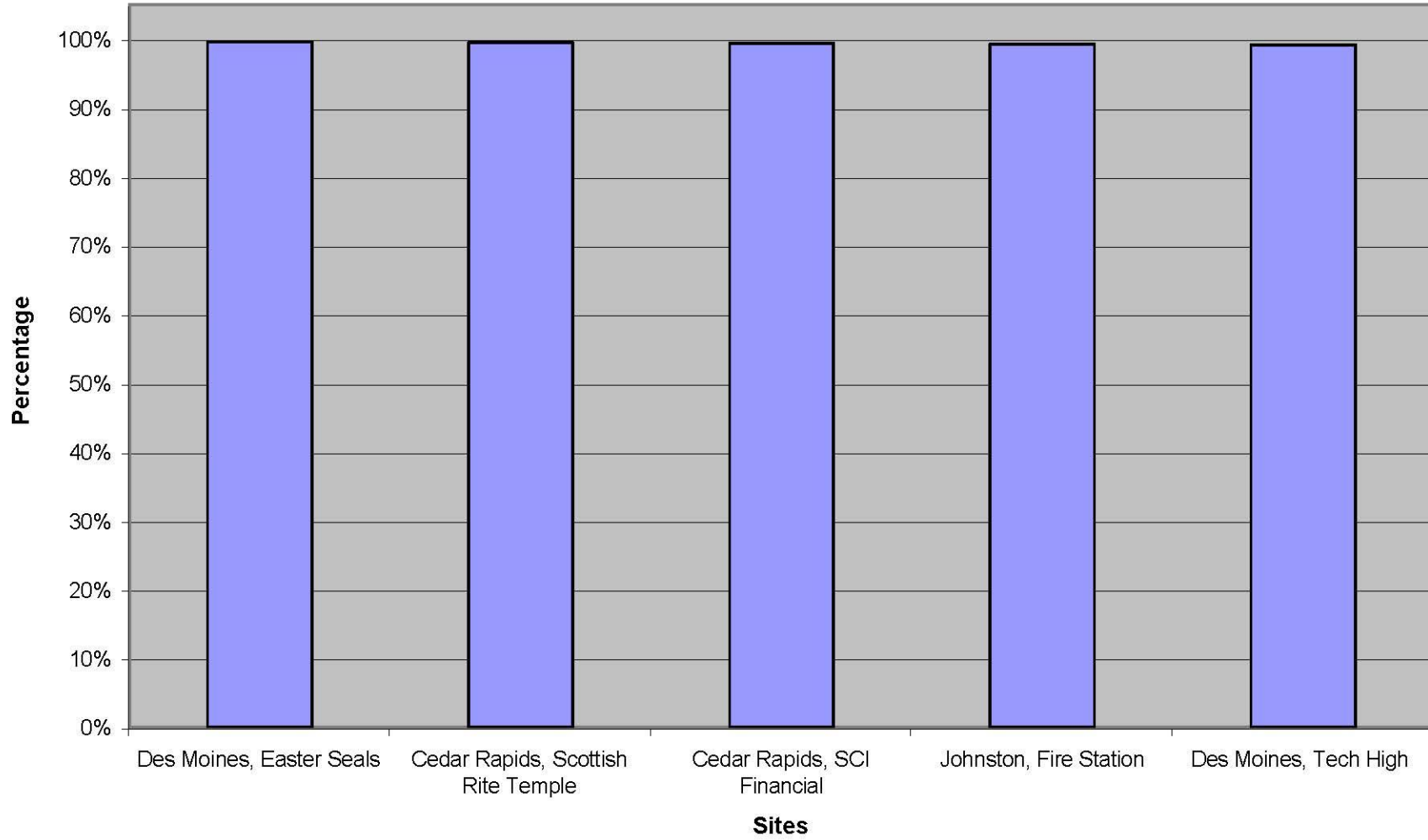
**Carbon Monoxide Monitors
Site Locations**

| Site | Name | City | County | Site Label |
|-------------|----------------------|--------------|---------------|------------------------------------|
| 191130030 | SCI Financial Group | Cedar Rapids | Linn | Cedar Rapids, SCI Financial |
| 191130031 | Scottish Rite Temple | Cedar Rapids | Linn | Cedar Rapids, Scottish Rite Temple |
| 191530052 | Tech High School | Des Moines | Polk | Des Moines, Tech High |
| 191530061 | Easter Seals | Des Moines | Polk | Des Moines, Easter Seals |
| 191530062 | Fire Station | Johnston | Polk | Johnston, Fire Station |

Comparison of 2002 Carbon Monoxide Data with National Ambient Air Quality Standards



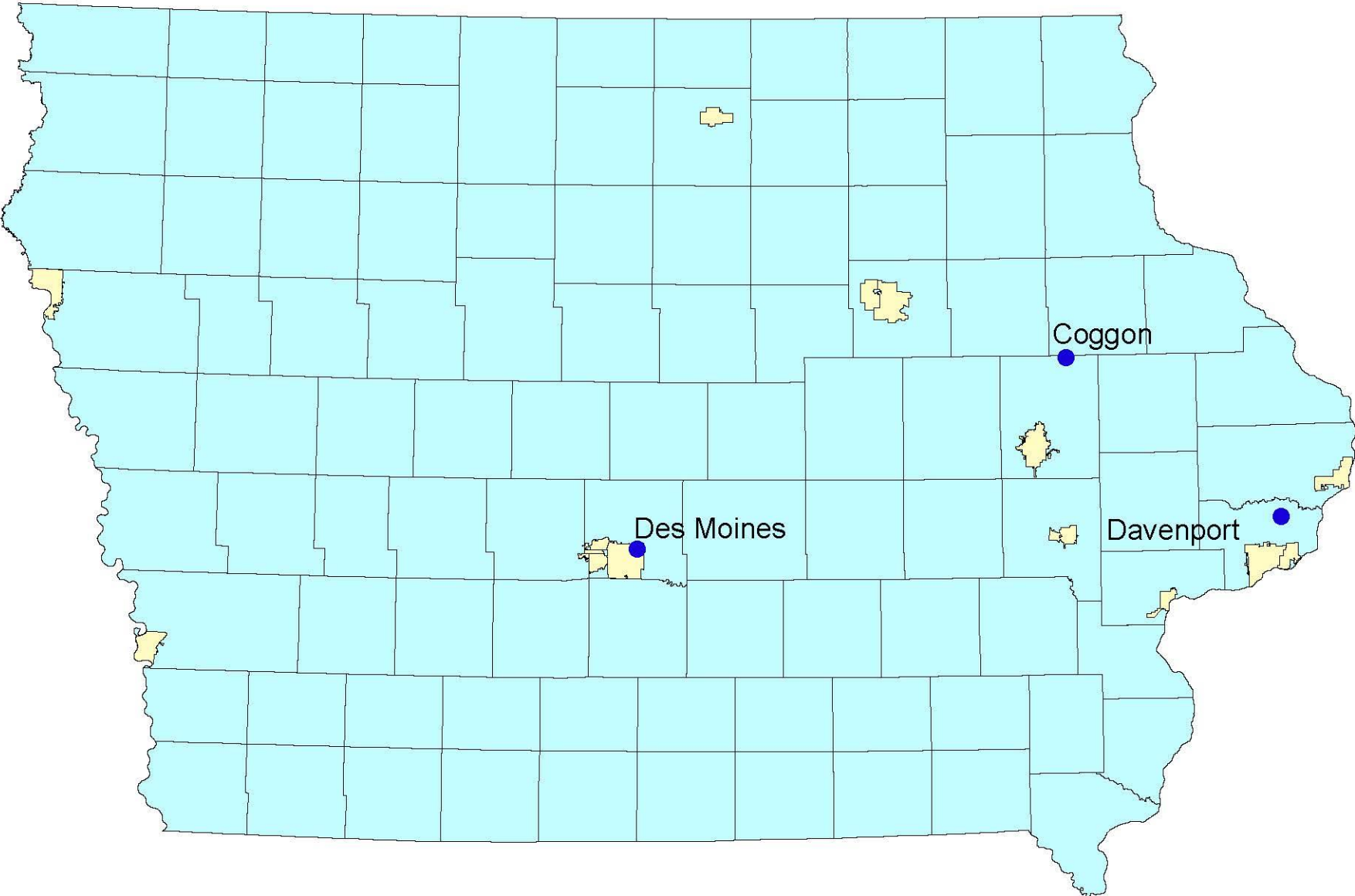
Data Capture



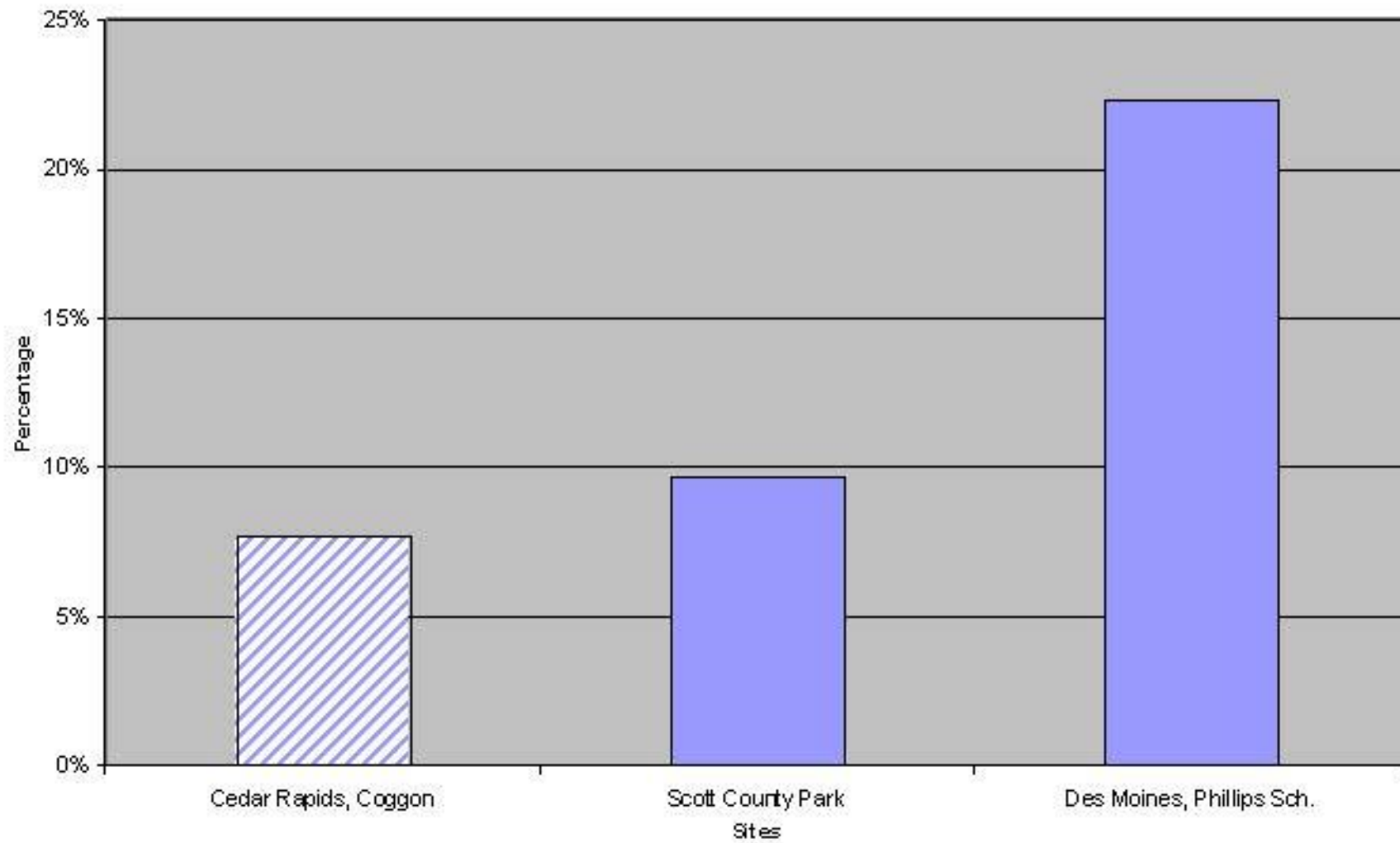
Nitrogen Dioxide Monitors**Site Locations**

| Site | Name | City | County | Site Label |
|-------------|-------------------|--------------|---------------|---------------------------|
| 191130033 | Coggon | Cedar Rapids | Linn | Cedar Rapids, Coggon |
| 191530058 | Phillips School | Des Moines | Polk | Des Moines, Phillips Sch. |
| 191630014 | Scott County Park | Davenport | Scott | Scott County Park |

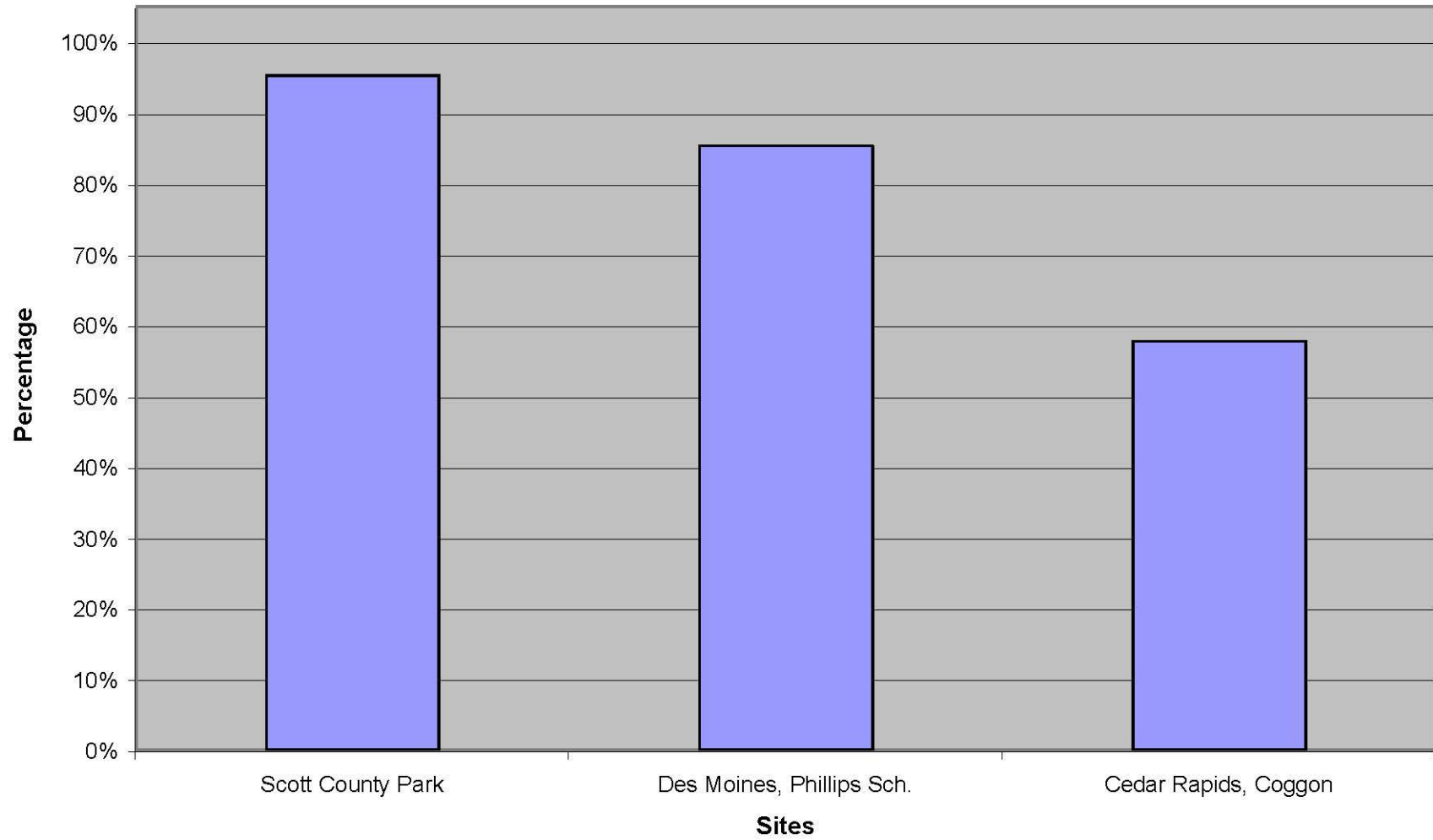
Nitrogen Dioxide Monitors



Comparison of 2002 Nitrogen Dioxide Data with National Ambient Air Quality Standards



Data Capture



Additional Chart Information

Listed below is additional information that may be useful in interpreting the charts contained in this review

Ozone

Comparison of 2002 Ozone Data with National Ambient Air Quality Standards

This graph shows the highest hourly ozone average (expressed as a percentage of the 0.125 ppm one-hour NAAQS) and highest eight-hour ozone average (expressed as a percentage of the 0.085 ppm eight-hour NAAQS) for each ozone monitor operated in 2002.

Data Capture

This graph shows the total number of hourly ozone values (expressed as a percentage of the total number of hours in the ozone season) for each ozone monitor operated in 2002. Ozone season runs from April through October; this amounts to 214 days or 5136 hours. An ozone monitor that recorded data for all 5136 hours of the ozone season would have a data capture rate of 100%

PM2.5

Comparison of 2002 PM2.5 Data with National Ambient Air Quality Standards

This graph shows the highest 24-hour value (expressed as a percentage of the 65.5 $\mu\text{g}/\text{m}^3$ 24-hour NAAQS), and the annual average (expressed as a percentage of the 15.05 $\mu\text{g}/\text{m}^3$ annual NAAQS) for each PM2.5 monitor operated in 2002.

Data Capture

For each PM2.5 monitor operated in 2002, this graph shows the fraction of scheduled sampling days in 2002 where a PM2.5 sample was actually collected. During 2002, PM2.5 samplers in Iowa were scheduled to operate at a sampling frequency of either one sample every third day (122 scheduled samples) or one sample each day (365 scheduled samples). The sampling frequency of each monitor is indicated in the legend of the graph.

PM10

Comparison of 2002 PM10 Data with National Ambient Air Quality Standards

This graph shows the highest 24-hour value (expressed as a percentage of the 155 $\mu\text{g}/\text{m}^3$ 24-hour NAAQS), and the annual average (expressed as a percentage of the 50.0 $\mu\text{g}/\text{m}^3$ annual NAAQS) for each PM10 monitor operated in 2002.

Data Capture

For each PM10 monitor operated in 2002, this graph shows the fraction of scheduled sampling days in 2002 where a PM10 sample was actually collected. During 2002, PM10 samplers in Iowa were scheduled to operate at a frequency of one sample every sixth day (61 scheduled samples), one sample every third day (122 scheduled samples), one sample every other day (182 scheduled samples) or one sample each day (365 scheduled samples). The sampling frequency of each monitor is indicated in the legend of the graph.

Sulfur Dioxide

Comparison of 2002 Sulfur dioxide Data with National Ambient Air Quality Standards

This graph shows the highest 3-hour value (expressed as a percentage of the 0.55 ppm 3-hour NAAQS), the highest 24-hour value (expressed as a percentage of the 0.145 ppm 24-hour NAAQS), and the annual average (expressed as a percentage of the 0.0305 ppm annual NAAQS) for each sulfur dioxide monitor operated in 2002.

Data Capture

This graph shows total number of hourly sulfur dioxide values (expressed as a percentage of the total number of hours in 2002) for each sulfur dioxide monitor that operated in 2002. A sulfur dioxide monitor that recorded data for all 8760 hours during 2002 would have a data capture rate of 100%.

Carbon Monoxide

Comparison of 2002 Carbon Monoxide Data with National Ambient Air Quality Standards

This graph shows the highest 1-hour value (expressed as a percentage of the 35.5 ppm 1- hour NAAQS), the highest 8-hour values (expressed as a percentage of the 9.5 ppm 8- hour NAAQS) for each carbon monoxide monitor operated in 2002.

Data Capture

This graph shows total number of hourly carbon monoxide values (expressed as a percentage of the total number of hours in 2002). A carbon monoxide monitor that recorded data for all 8760 hours during 2002 would have a data capture rate of 100%.

Nitrogen Dioxide

Comparison of 2002 Nitrogen Dioxide Data with National Ambient Air Quality Standards

This graph shows the annual average (expressed as a percentage of the 0.0535 ppm annual NAAQS) for each monitoring site that operated in 2002.

Data Capture

This graph shows total number of hourly nitrogen dioxide values, expressed as a percentage of the total number of hours in 2002. A nitrogen dioxide monitor that recorded data for all 8760 hours during 2002 would have a data capture rate of 100%.