Leading Iowans in Caring for Our Natural Resources

Ambient Air Monitoring

For the abatement, control and prevention of ambient air pollution in the state, including measures as necessary to assure attainment and maintenance of ambient air quality standards.

- **Nonattainment.** Ambient Air Quality Standards for Particles ($PM_{2.5}$ and PM_{10}), Ozone, Nitrogen Dioxide, Sulfur Dioxide, Carbon Monoxide, and Lead are set nationally to protect public health and welfare. Violations of those standards can lead to areas (typically counties or MSA's) being designated as being in "Nonattainment" with those standards.

    - Nonattainment designations mean that the public is breathing air pollution that can be injurious to their health - causing or contributing to asthma, heart failure, bronchitis, brain damage and other health problems.

    - In addition, federal requirements restrict economic growth that cause an increase in air pollution in the area, and required curtailment of activities sufficient to assure that the health standards are met quickly. This includes restrictions on new industry, the expansion of existing industry, and transportation projects.

- **Particle Pollution.** Portions of Scott and Muscatine counties continue to barely meet the 24-hour fine particle ($PM_{2.5}$) health based standards of 35 micrograms per cubic meter. Field support for operating and maintaining the monitors, as well as expedited review of data to assure correctly attributing factors influencing exceedances of the standard are critical to determining whether an area is attaining the standard. EPA has recently been ordered by the court to re-assess the annual fine particle and PM_{10} standards.

- **Ozone standard tightened in 2008.** Western Iowa also has ozone levels very close to the standard of 75 parts per billion. The revised standards come at a time of aging infrastructure. Older equipment is prone to mechanical failure and inaccuracies. Equipment failure and partial data collection can lead to assumptions that could inappropriately characterize an area as having pollutant levels over the air quality standards, leading to a designation of non-attainment.

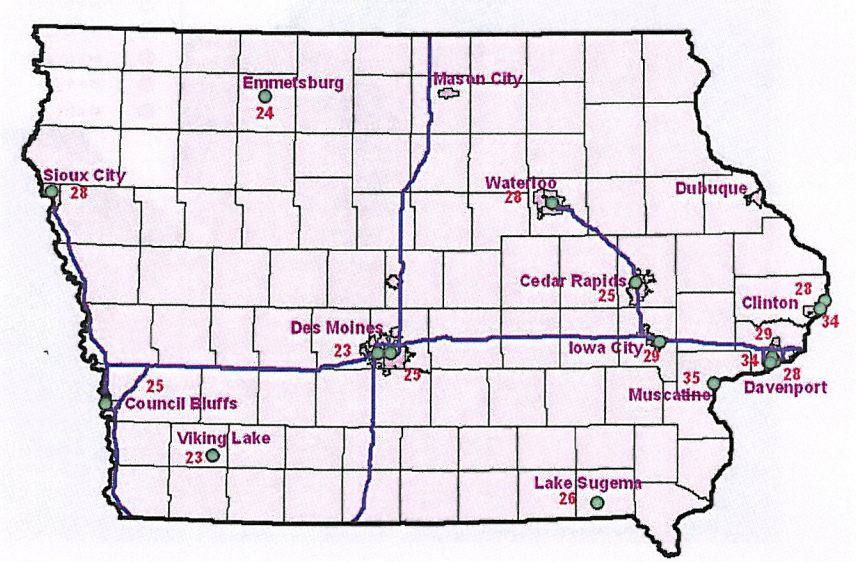
- **Lead standard, ten times more stringent, established in 2008.** The revised standard for Lead requires an entirely new ambient monitoring network. The new network will require siting and operation of both source oriented and community oriented monitors.

- **2009 and 2010 will see revised standards for Sulfur Dioxide and Nitrogen Dioxide.** EPA will be establishing revised (likely more stringent and more protective of public health) National Ambient Air Quality Standards for Nitrogen Dioxide (NO_2) and Sulfur Dioxide (SO_2). Monitoring equipment that can reliably measure against these standards will need to replace the existing aging equipment to assure that measurements are taken accurately.

Fine Particle ($PM_{2.5}$) Air Pollution in Iowa
2003 – 2008

The National Ambient Air Quality Health-based Standard for fine particle air pollution is **35 micrograms** of PM2.5 per cubic meter of air.
Three-year averages of the 98th percentile values from each year, called the "Design Value" are used to compare against the standard.

2006-2008



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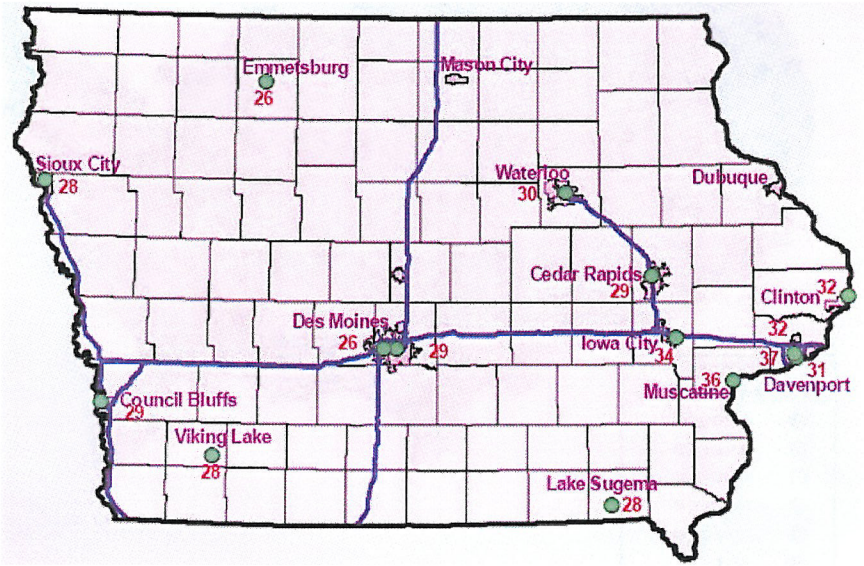

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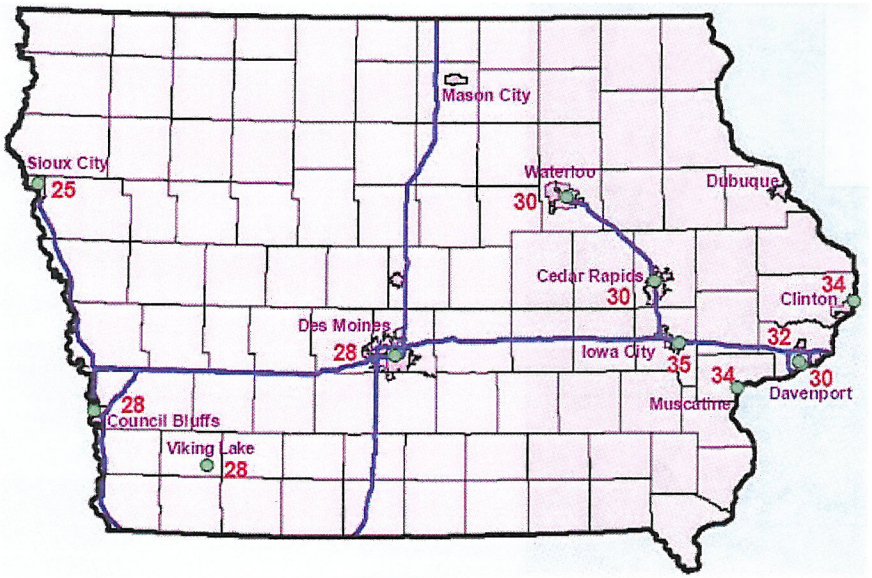

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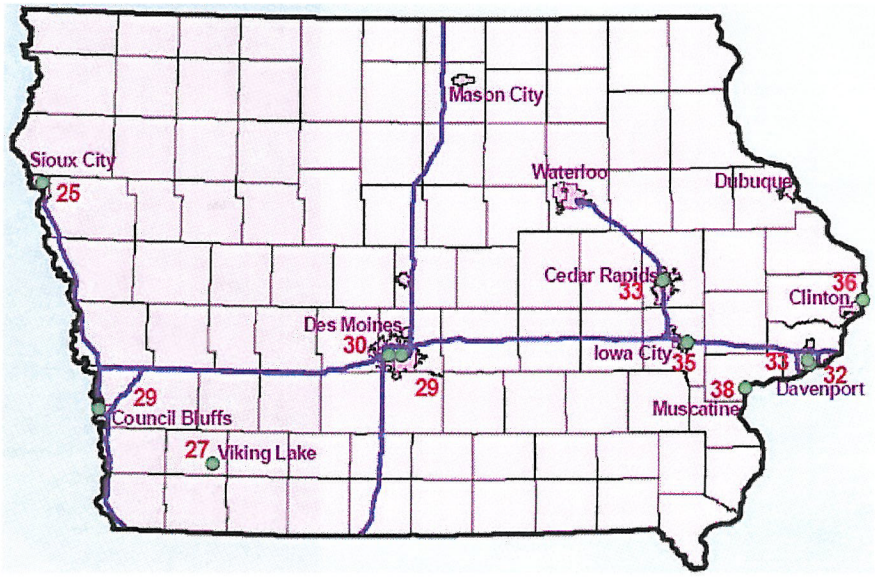
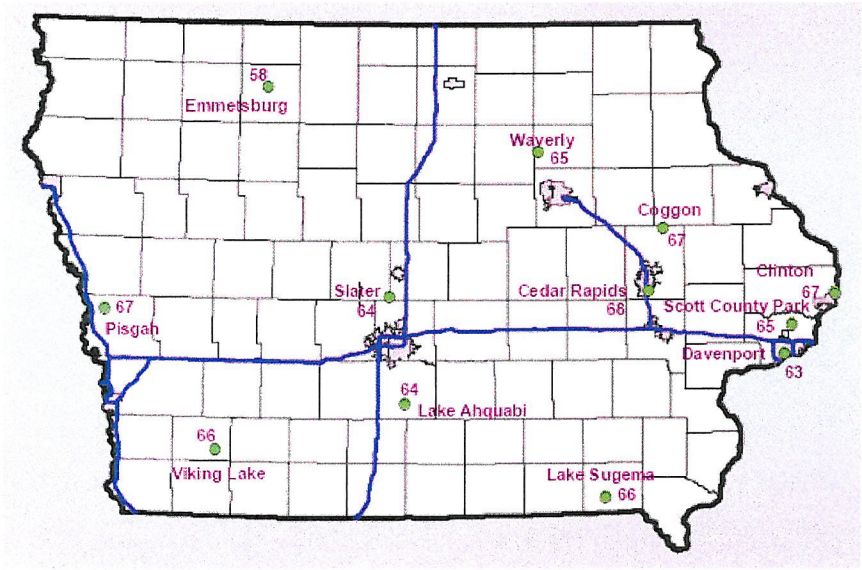


Ozone (O_3) Air Pollution in Iowa
2003 – 2008

The National Ambient Air Quality Health-based Standard for Ozone is **75 parts per billion**.
Three-year averages of the 4th highest daily maximum 8-hour average values from each year,
called the "Design Value" are used to compare against the standard.

2006-2008



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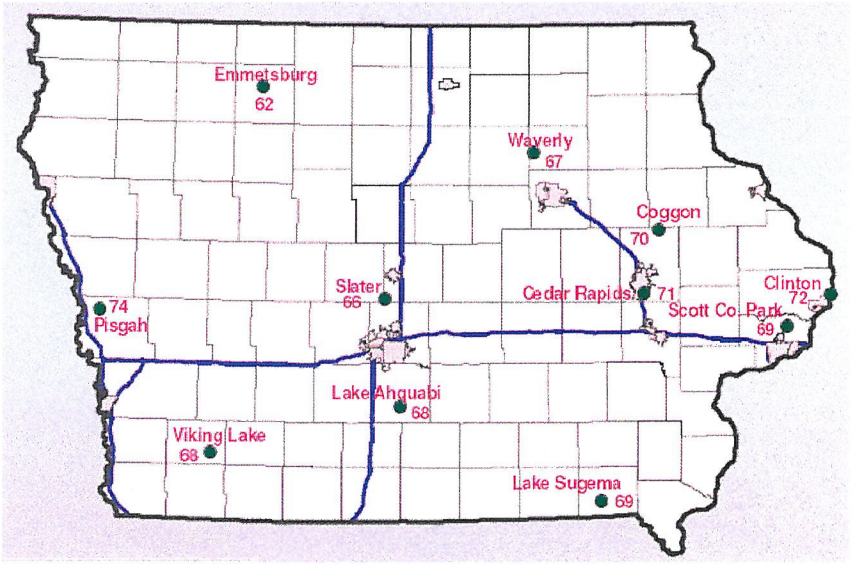
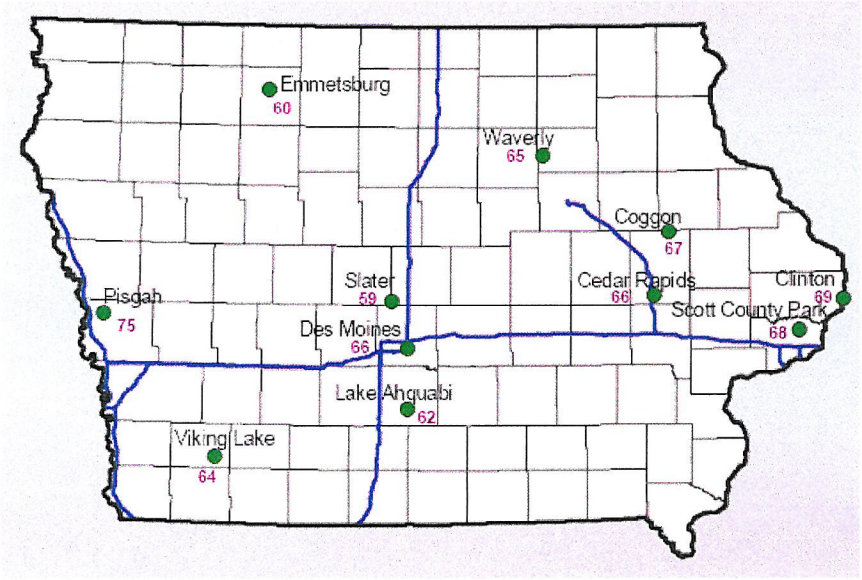


2004-2006



2003-2005