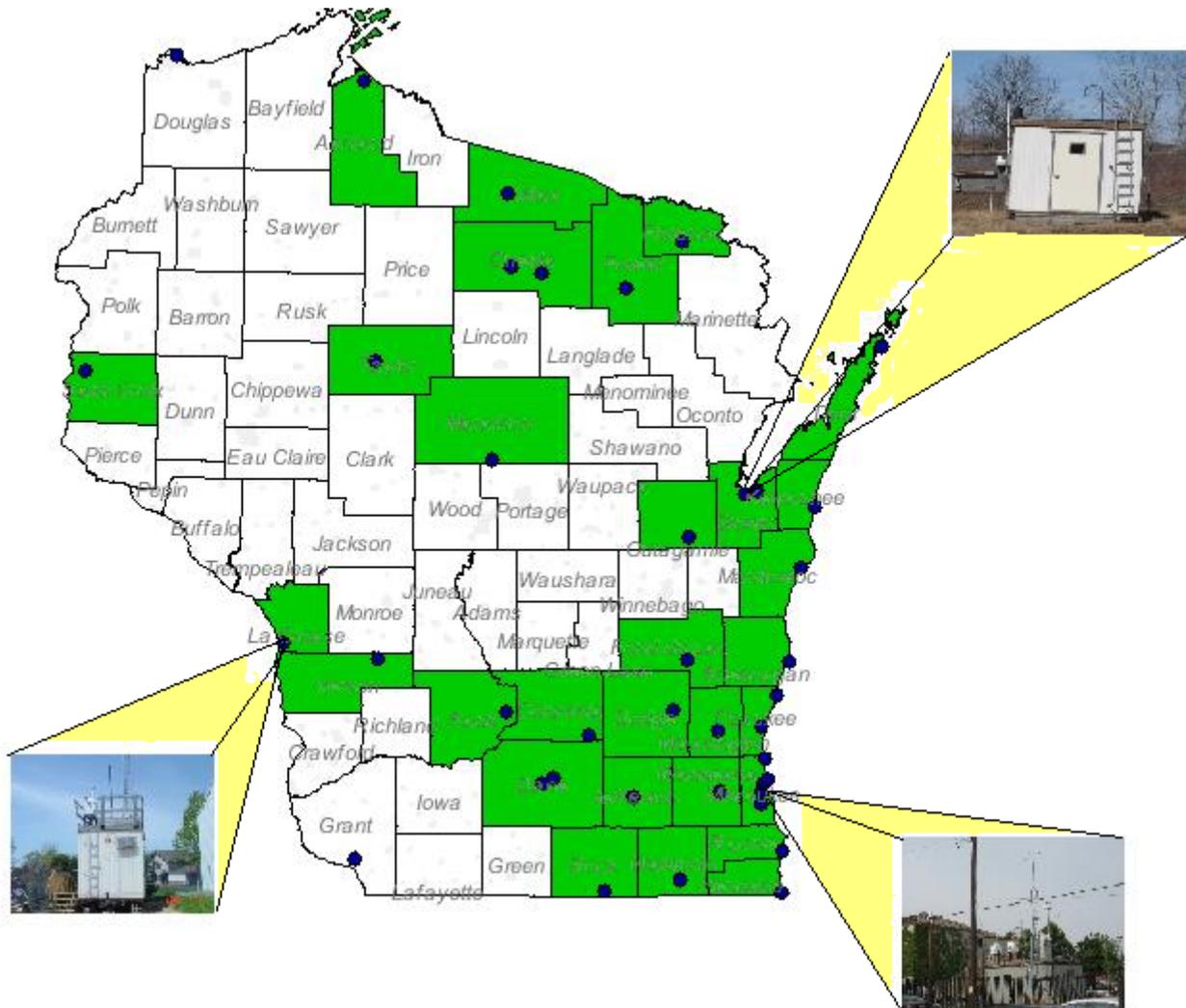




# Wisconsin Department of Natural Resources/Air Monitoring

## Network Plan 2011

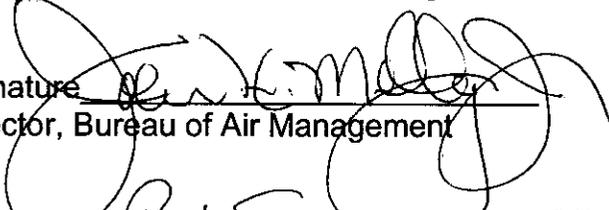
June 2010



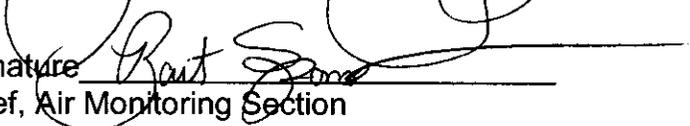
# 2011 Wisconsin Air Monitoring Network Plan

## Signature page

By the signatures below, the Wisconsin Department of Natural Resources/Air Monitoring certifies that the information contained in this Network document for sampling year 2011 is complete and accurate at the time of submittal to EPA Region 5. However, due to circumstances that may arise during the sampling year, some network information may change. A notification of change and a request for approval will be submitted to EPA Region 5 at that time.

Signature   
Director, Bureau of Air Management

Date 6/25/2010

Signature   
Chief, Air Monitoring Section

Date 6/25/2010

## Public Notification and Comment Period

Pursuant to federal requirements, the Department of Natural Resources will provide a 30 day public comment period for review of this ambient air quality monitoring network plan.

Written comments on this monitoring network plan document may be submitted directly to

Mr. Bart Sponseller,  
c/o Air Monitoring Section, Bureau of Air Management,  
P.O. Box 7921,  
Madison, WI 53707,

no later than June 21, 2010. Written comments will have the same weight and effect as oral comments presented at the meeting. A copy of the proposed revision to the Monitoring Plan is available for public inspection at the Bureau of Air Management, 7th Floor, 101 S. Webster Street, Madison, Wisconsin, on the following web address: <http://dnr.wi.gov/air/aq/monitor/netreview.htm> or by mail (at no charge) from Mr. Bart Sponseller at the address noted above.

In accordance with 40 C.F.R. 58.10(a)(1), the Wisconsin Department of Natural Resources, Air Monitoring shall make the annual monitoring network plan available for public inspection for at least 30 days prior to submission to the US EPA. The annual monitoring network plan details the operation and location of ambient air monitors operated by the Wisconsin Department of Natural Resources Air Monitoring Section.

## **Disclaimer**

The network design proposed in this document represents a balance between the desired number of monitors and monitoring frequency and expected funding levels. The desired network configuration considers monitoring history, population distribution, federal monitoring requirements under the Clean Air Act, 40 Code of Federal Regulations (CFR) Part 58 and expected staffing levels.

EPA proposed a number of rule changes that could have a significant effect on Wisconsin's network design in 2011 and 2012. For example, EPA proposed shifting a requirement for an urban lead monitor to NCore sites, possibly exempting rural NCore sites and allowing measurements with PM10 samplers rather than total suspended particulate (TSP). Until these rules are finalized, some ambiguity in the 2011 network will remain.

Recommended changes to this network will be implemented during the 2011 calendar year, contingent upon adequate funding levels. In 2011, the federal grant funding for the fine particulate matter (PM2.5) program may be changed to require that states provide 40 percent (%) matching funds. If this occurs, Wisconsin may not be able to provide such a match and will likely have to discontinue various monitoring, perhaps extending beyond the PM2.5 program.

Network operations may change during the years without public notice based on unexpected circumstances. Examples of unexpected circumstances include catastrophic equipment failure, construction or demolition activities, loss of site access, or monitor obstructions.

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## **Acronyms and Abbreviations**

AMS: Air Monitoring Section  
AQCR: Air Quality Control Region  
AQI: Air Quality Index  
BAM/AM: Bureau of Air Management  
CBSA: Core-Based Statistical Area  
CMSA: Consolidated Metropolitan Statistical Area  
DEQ: Division of Environmental Quality  
DQA: Data Quality Assessment  
DQO: Data Quality Objectives  
ETV: Environmental Technology Verification Program  
EOM: Enhanced Ozone Monitoring  
EPA: United States Environmental Protection Agency  
FEM: Federal Alternate Method  
FDMS: Filter Dynamic Measurement System  
FRM: Federal Reference Method  
MSA: Metropolitan Statistical Area  
NAAQS: National Ambient Air Quality Standards  
NATTS: National Ambient Toxic Trend Sites  
PAMS: Photochemical Assessment Monitoring Site  
PM10: Particulate Matter 10 micron or smaller in size  
PM2.5: Particulate Matter 2.5 micron or smaller in size  
PMcoarse: Particulate Matter 2.5 to 10 micron in size  
QAPP: Quality Assurance Project Plan  
R&P: Ruprecht & Pataschnick (now part of Thermo .)  
SLAMS: State and Local Air Monitoring Sites  
SPM: Special Purpose Monitors  
TEOM: Tapered Element Oscillating Method  
UV: Ultra Violet  
VOC: Volatile Organic compounds  
WDNR: Wisconsin Department of Natural Resources

## **Monitor (Parameter) Abbreviations**

CO – Carbon Monoxide  
Hg - Mercury  
NO<sub>2</sub> – Nitrogen Dioxide  
NO<sub>y</sub> – Reactive Oxides of Nitrogen  
O<sub>3</sub> - Ozone  
Pb – Lead  
SO<sub>2</sub> – Sulfur Dioxide  
T – Temperature  
WD - Wind Direction  
WS – Wind Speed

## Introduction and Background

### Federal Regulatory History

In October 1975, the United State Environmental Protection Agency (US EPA) established a work group to critically review and evaluate current air monitoring activities. This group was named the Standing Air Monitoring Working Group (SAMWG). The review by the SAMWG indicated several areas, nationally, where monitoring deficiencies existed which needed correction. The principal areas needing correction were: (1) an excess of monitoring sites in some areas to assess air quality (2) existing regulations did not allow for flexibility to conduct special purpose monitoring studies (3) data reporting was untimely and incomplete, caused by a lack of uniformity in site location and probe siting, sampling methodology, quality assurance practices, and data handling procedures.

In August 1978, recommendations developed by SAMWG, to remedy the deficiencies in the existing monitoring activities, were combined with the new requirements of Section 319 of the Clean Air Act. Section 319 provided for: (1) the development of uniform air quality monitoring criteria and methodology (2) reporting of a uniform air quality index in major urban areas and (3) the establishment of a nation wide air quality monitoring system, which utilizes uniform monitoring criteria and provides for monitoring sites in major urban areas that supplement State monitoring. The combination of the recommendations and requirements were included in a proposed revision to the federal air monitoring regulations.

In May 1979, air monitoring regulations were finalized by the US EPA requiring certain modifications and additions to be included in the State Implementation Plan for air quality surveillance. These regulations require each state to operate a network of monitoring sites designated as State and Local Air Monitoring Sites (SLAMS) that measure ambient concentrations of air pollutants for which federal standards have been established. The SLAMS designation contains provisions concerning the conformity to specific siting and monitoring criteria not previously required. The regulations also provide for an annual review of the monitoring network to insure objectives are being met and to identify needed modification. Other federal air monitoring regulations have been codified in 40CFR Part 58 since 1979.

### Enhanced Ozone Monitoring – Photochemical Assessment Monitoring (PAMS)

The 2011 monitoring program will be the seventeenth year of Enhanced Ozone Monitoring (EOM) as required by the 1990 Clean Air Act Amendments and the revised 40 CFR Part 58. For Wisconsin, the 2011 program will also be continuation of ozone precursor monitoring conducted since 1992. The 2011 program uses both established and proven monitoring methods. Photochemical Assessment Monitoring Sites (PAMS) monitoring is now focused at the SER HQ site. The reduction in monitoring and consolidation of older PAMS sites allows Wisconsin to focus on newer monitoring technologies, while still maintaining the collection of critical PAMS data.

The Wisconsin EOM program is part of a Lake Michigan Regional EOM program conducted by the states of Illinois, Indiana, Michigan, and Wisconsin. The Lake Michigan PAMS

network has consisted of two components. The first fulfills the requirements of the Lake Michigan Alternative PAMS Plan as approved by EPA in 1993, and the second includes supplemental measurements and activities developed and implemented by the four states to support the Lake Michigan Data Analysis Plan, photochemical modeling, and air quality analysis efforts.

The Wisconsin PAMS Network includes three monitoring sites. One urban source region site located in Milwaukee and two rural downwind sites, located at Harrington Beach State Park and in the Woodland Dunes conservancy near Manitowoc. The three sites are a subset of 33 fixed ozone sites located throughout Wisconsin.

### National Atmospheric Deposition Program

The National Atmospheric Deposition Program (NADP) is a cooperative research program whose goal is to monitor the chemistry of precipitation (rain and snow) consistently and as accurately as possible for long periods of time to determine trends over time. The program consists of three precipitation monitoring networks: National Trends Network (NTN), Mercury Deposition Network (MDN), and Atmospheric Integrated Research Monitoring Network (AIRMON). Wisconsin established NTN monitoring in 1980 as part of its acid rain program and continues to operate seven sites. Monitoring includes one-week precipitation-only samples with analyses for pH, sulfate, nitrate, chloride, ammonium, phosphate, calcium, magnesium, potassium, and sodium. MDN samples follow the same collection schedule and include analyses for total and methyl mercury. Wisconsin has six MDN sites, some of which overlap the NTN sites, the earliest of which began operating in 1995. EPA does not fund this network so Wisconsin's monitoring has been funded through Focus on Energy. More details about the NADP program can be found at <http://nadp.sws.uiuc.edu>.

Although not required by the EPA, this network plan includes the location of the NTN and MDN sites because these sites affect siting and operational decisions. For sites that only have NADP monitoring, locational information is approximate and the maps presented do not have dots for the precise site location.

### HazeCam

For many years, visibility impairment has been considered the "best understood and most easily measured effect of air pollution." (Council on Environmental Quality, 1978) The Midwest Regional Planning Organization, with the cooperation of a number of other groups, established a visibility camera network at both urban and rural locations in the Midwest. The images from the cameras are updated every 15 minutes. In addition, near real-time air quality data and meteorological data are provided to distinguish natural from man-made causes of poor visibility, and to provide current air pollution levels to the public. (Information taken from [www.mwhazecam.net](http://www.mwhazecam.net)).

Wisconsin has operated two Hazecam sites, one in Milwaukee and the other in Mayville. In 2008, limited grant funding prompted the air monitoring program to discontinue the Mayville Hazecam. Funding permitting, Wisconsin will continue operating the Milwaukee Hazecam site. Site information has been included in this network plan for informational purposes.

### Data Processing and Reporting

With the exception of the NADP sites, the HazeCam and fine particle speciation, ambient air quality data are stored in a centralized server located at the Wisconsin Department of Administration. For the continuous pollutant monitoring, data are retrieved hourly and posted to the DNR Air Quality website and sent to AirNow. Particulate data collected over 24 hours (filter-based method) is made available on the Air Quality website as it is processed.

The HazeCam, while funded by the Department, reports data directly to the Midwest HazeCam website every 15 minutes ([www.mwhazecam.net](http://www.mwhazecam.net)).

After data has passed all quality assurance checks, data are transmitted via the Exchange Network Node to US EPA's national data storage system known as AQS.

The contract laboratory for fine particle speciation is responsible for reporting the results directly to US EPA.

## Network Review Format

### Regulatory Requirements for the Network Plan

Requirements for an annual monitoring network description are provided for in 40 CFR Part 58.10, annual monitoring network plan and periodic network assessment. Beginning July 1, 2007, State agencies are required to submit an annual network plan of SLAMS, NCore, STN stations, State speciation stations, SPM stations, and, PAMS stations, if they exist in the State. The plan must include a statement of the purposes for each monitor and evidence that siting and operation of each monitor meets the requirements of 40 CFR Part 58 Appendices A, C, D, and E. In additions, the plan must be made available to the public for at least 30 days prior to its submission to EPA.

The annual monitoring network plan must contain the following information for each existing and proposed site:

- (1) The AQS site identification number.
- (2) The location, including street address and geographical coordinates.
- (3) The sampling and analysis method(s) for each measured parameter.
- (4) The operating schedules for each monitor.
- (5) Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
- (6) The monitoring objective and spatial scale of representativeness for each monitor
- (7) The identification of any sites that are suitable and sites that are not suitable for comparison against the annual  $PM_{2.5}$  NAAQS
- (8) The MSA, CBSA, CSA or other area represented by the monitor.
- (9) The designation of any Pb monitors as either source-oriented or non-source-oriented
- (10) Any source-oriented monitors for which a waiver has been requested or granted by the EPA Regional Administrator
- (11) Any source-oriented or non-source-oriented site for which a waiver has been requested or granted by the EPA Regional Administrator for the use of Pb- $PM_{10}$  monitoring in lieu of Pb-TSP.

## Plan Organization

Wisconsin's ambient air monitoring network review plan is organized into four main parts.

1) **Summary of Changes:** The summary of changes includes a discussion of regulatory changes or other significant factors that affect the network design. These factors may include but are not limited to availability of resources, site access considerations, local or regional concerns (e.g. significant construction), population or source information or a data quality assessment (value of site in the network). Those assessments result in changes to the pollutant network design or schedule, which are summarized in this section of the report.

2) **Network Summary Reports.** This section contains summary reports of the network. EPA Air Quality Control Regions are used as a means to group similar areas and incorporate interstate influences in an air shed. For each region, there is a description of the air shed, a table listing the sites in that region and their locational information, and a table that identifies the monitors for those sites. In addition to this section, two additional reports are included:

Monitoring Sites by Pollutant  
Monitoring Sites by County

3) **Air Monitoring Site Descriptions:** Each air monitor site is described in detail with the following information for each monitoring site in the network:

- ▶ Air Quality System (AQS) site identification number for existing sites.
- ▶ Site name
- ▶ Location, including the street address and geographical ordinates, for each monitoring site.
- ▶ Core-Based Statistical Area designation (CBSA)
- ▶ Sampling and analysis method used for each measured parameter.
- ▶ Operating schedule for each monitor.
- ▶ Monitoring objective
- ▶ Spatial scale for each monitor.
- ▶ Area of Representativeness
- ▶ GIS map of the site location
- ▶ Pictures from the site

4) **Supporting Documentation:** This section contains relevant supporting documentation that network design and reporting requirements are being met. Any waivers granted by EPA will be presented here. Other pertinent documentation may also be included in this section.

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## Regulatory Changes Affecting Network Operations

Over the last two years, EPA proposed or adopted revisions to several NAAQS and monitoring rules that involve establishing new monitors at existing sites, setting up additional sites, or changing existing monitoring. Although most of the proposals will not affect the Wisconsin network until 2012, the two rules, the ozone monitoring rule and the revised NAAQS for lead have implementation requirements that will be effective in 2011.

### **Ozone Monitoring Network Design Requirements**

On July 16, 2009 (74 FR 34525), EPA proposed changing the monitoring season in Wisconsin from April 15 – October 15 to April 1 – October 31 with implementation no later than the season following final rule promulgation. WDNR provided comments and data to support limiting the season to April 1 – September 30. The final rule is expected in June 2010 with implementation in the 2011 monitoring season.

EPA also proposed additional monitoring requirements in non-urban areas. States would be required to operate a minimum of three ozone monitors in non-urban areas, to allow for:

- Assessment of ozone concentrations in areas such as federal, state, or Tribal lands, including wilderness areas that have ozone-sensitive natural vegetation and/or ecosystems, to determine compliance with the revised secondary NAAQS.
- Assessment of at least one smaller population center of between 10,000 and 50,000 people that is expected to have ozone concentrations of at least 85 percent of the NAAQS level of 0.075 ppm averaged over an 8-hour period (0.064 ppm).
- Monitoring in the location of expected maximum ozone concentration outside of any urban area, potentially including the far-downwind transport zones of currently well-monitored urban areas.

An assessment of Wisconsin's network indicated that the existing monitors are sufficient to meet the requirements of the first and third bullets above. Two Wisconsin communities, Eau Claire and Oshkosh met the population threshold described in the second bullet above and may require new monitors in 2012.

### **Revised National Ambient Air Quality Standards for Lead**

EPA promulgated a new lead NAAQS on October 15, 2008. The new standard is set forth in 40 CFR Part 50. §50.16 National primary and secondary ambient air quality standards for lead.

(a) The national primary and secondary ambient air quality standards for lead (Pb) and its compound are 0.15 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), arithmetic mean concentration over a 3-month period, measured in the ambient air as Pb either by:

- (1) A reference method based on Appendix G of this part and designated in accordance with part 50 of this chapter or;
- (2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The national primary and secondary ambient air quality standards for Pb are met when the maximum arithmetic 3-month mean concentration for a 3-year period, as determined in accordance with Appendix R of this part, is less than or equal to 0.15 ( $\mu\text{g}/\text{m}^3$ ).

### **Monitoring Requirements for Lead**

40 CFR Part 58 Appendix D, 4.5 specifies that Pb) monitoring must be conducted, taking into account Pb sources which are expected to, or have been shown to, contribute to maximum Pb concentrations in ambient air in excess of the NAAQS, the potential for high population exposure, and logistics of siting a monitor. At a minimum there must be one (1) source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each Pb source which emits 1.0 or more tons per year. The facility emissions are to be based on the most recent National Emission Inventory (NEI) or other scientifically justifiable methods and data, such as improved emissions factors or site-specific data. Waivers may be granted, if the state can demonstrate that the Pb source will not contribute to a maximum Pb concentration in ambient air in excess of 50% ( $0.075 \mu\text{g}/\text{m}^3$ ) of the NAAQS. The source-oriented sites are to be operational by January 1, 2010. In addition, one non-source-oriented SLAMS site is required in each CBSA with a population equal to or greater than 500,000 people. These sites are to be operational by January 1, 2011.

Wisconsin Pb sources, potentially requiring monitoring, were identified through the NEI, Toxics Release Inventory (TRI) and state emission inventory databases. Table 1 lists these sites along with the original NEI, TRI, and State Emissions Inventory (EI) data. As the databases were not all in agreement, updated information was requested from the individual sources to determine the most current emissions data. Primary importance was given to state EI data, as it is considered to be most accurate by US EPA Region 5 and the Department.

### **Source Analysis**

Source emissions inventory evaluation and modeling analyses were performed in 2009 and submitted to US EPA Region 5 on June 26, 2009. The sources were divided into three (3) categories to decide the next step in determining the need to monitor:

Category 1 – facilities where emissions exceed 1 tpy based on emission estimates confirmed by the state. Dispersion modeling is performed as a first step in the process of siting a monitor or applying for a waiver. If the modeling results show a maximum Pb concentration of 50% or more of the NAAQS, in a publicly accessible area, then the state should site a monitor. If the results show that the industry does not contribute to 50% of the NAAQS, then the state can apply for a waiver to siting a monitor.

Category 2 – facilities where emissions are confirmed to be between 0.7-1 tpy and EPA requests modeling. The state is asked to perform dispersion modeling of these sources in order to assess the maximum ambient Pb concentrations and potential need for a monitor. If the modeling results show a maximum Pb concentration of 50% or more of the NAAQS, including background, then the state should site an ambient monitor. If the modeling demonstrates that the source does not contribute to 50% of the NAAQS, then it is not necessary to monitor.

Category 3 – Facilities exceeding 1 tpy according to EPA inventories, but shown by the state to be lower. The state should provide EPA with an explanation of how it determined that existing estimates were erroneous and why the source does not need to be considered for modeling or monitoring.

Updated information for *Kohler*, show that yearly lead mass emissions for 2007 and 2008 from Kohler were:

2007 = 1490.6 lb/year or 0.75 tons/year  
2008 = 1335.4 lb/year or 0.67 tons/year

The company installed new air handling systems and dust controls in 2007 that reduced particulate emissions, including lead. Since the project took place during 2007, 2007 emissions were higher than 2008. WDNR does not have revised state inventory Pb emission estimates from Kohler for 2006. Kohler fell into category 2, where modeling demonstrated concentrations above 50% of the NAAQS. Monitor siting is still to be determined at this time.

For *Milwaukee Gray Iron, LLC*, the revised and approved state emission numbers are (0.2 tpy each year). Because emissions are less than 0.5 tpy, WDNR will not be required to locate a monitor near Milwaukee Gray. The facility closed in 2009.

WDNR will not be required to perform Pb air monitoring near *Citation Foundry* in Browntown (Green County). The lead emissions from the facility, as reviewed and approved by the compliance engineer, are less than 0.5 tons per year.

2006 = 228 lbs  
2007 = 183 lbs  
2008 = 232 lbs

Modeling (for 2008 - the highest year) indicates that Citation Browntown models at 44% of the NAAQS.

Both Thilmany Papers Kaukauna and Waupaca 2/3 facilities fall under Category 1, not requiring monitoring. Modeled lead concentrations for both facilities indicated 3-month rolling average concentrations less than 50% of the NAAQS. Thilmany modeled at 14.7% of the NAAQS and Waupaca 2/3 modeled at 7.3% of the NAAQS.

## Summary of Proposed Network Changes for Criteria Pollutants:

### Fine Particle Network

With the publication of FEM method for continuous TEOM-FDMS PM<sub>2.5</sub>, instruments at the locations indicated below were upgraded to the FEM configuration in early 2009 and the 12 month testing period will be completed in 2011. If testing demonstrates comparability with FRM results, the continuous instruments will become the primary PM<sub>2.5</sub> monitors and the filter-based PM<sub>2.5</sub> monitoring will be reduced or discontinued. Equipment at additional sites may be upgraded to FEM configurations based on the experience with the initial upgrades, equipment age, and available funds.

Green Bay East  
La Crosse DOT  
Madison East

The Chiwaukee TEOM is scheduled for upgrade during the summer of 2010.

EPA approved the MetOne Beta Attenuation Monitor (BAM) as a FEM for PM<sub>2.5</sub> on March 12, 2008. In the summer of 2009, the air monitoring program obtained two instruments on a trial basis to assess their performance and comparability with the FRM under Wisconsin's weather conditions. Additionally, a BAM unit configured for PM Coarse was purchased and installed at the Horicon site to meet federal NCore monitoring requirements for PM Coarse. This BAM is capable of reporting PM<sub>2.5</sub>, PM<sub>10</sub>, PM<sub>10</sub> (Local Conditions), and PM Coarse. If funding permits purchasing the two trial BAMS, FRM monitoring may be affected at the following sites:

Madison East  
Waukesha – Cleveland

Based on the operation of FEM monitors, current design values, and the anticipated funding, FRM sampling frequency will be adjusted as follows:

| Site                           | 2010 Freq. | 2011 Freq.           |
|--------------------------------|------------|----------------------|
| Chiwaukee                      | 1 in 3     | possibly discontinue |
| Devils Lake                    | 1 in 3     | 1 in 6               |
| Green Bay East                 | Daily      | 1 in 6               |
| Green Bay East (collocated)    | 1 in 12    | Discontinued         |
| Harrington Beach               | 1 in 3     | 1 in 6               |
| Horicon                        | 1 in 3     | 1 in 6               |
| La Crosse DOT                  | 1 in 3     | 1 in 12              |
| Milwaukee SER                  | 1 in 3     | possibly discontinue |
| Milwaukee 16 <sup>th</sup> St. | 1 in 3     | Daily                |
| Waukesha                       | 1 in 3     | 1 in 6               |

**Note:** A full list of FRM sampling frequencies is presented in the network summary report by pollutant. Sampling frequencies are also listed in the individual site reports.

Special purpose FRM monitoring at Madison East, begun in March 2010, will continue until

March 2011, to enable the air monitoring program to assess the performance of the PM2.5 Beta Attenuation Monitor (BAM). If funds are sufficient, the Department intends to issue a purchase requisition for one or two beta attenuation PM2.5 FEM units as well as a dual beta attenuation unit capable of generating PM2.5 FEM data..

The Department will continue supporting fine particle filter-based FRM community-oriented monitoring with the Eau Claire City-County Health Department on the school district building in the City of Eau Claire. The Department will also continue supporting FRM PM2.5 monitoring at the Forest County Potawatomi and Bad River tribal sites.

### **PM10 – PM Coarse Network**

A continuous PM Coarse instrument was installed at the Horicon NCore site in early 2010. Based on availability of funds, a continuous PM Coarse instrument may be set up at the Milwaukee SER HQ site during the latter half of 2010.

### **Gases Monitoring**

The ozone season in Wisconsin will begin on April 1, 2011. The season ending date will be uncertain until the final federal rule addressing changes to ozone monitoring seasons is published. As requested by EPA Region V, the Chiswaukee ozone site will continue monitoring April 1 through October 31.

DNR may continue operation of Harshaw monitoring at the Aspen FACE study location, provided that funding for the research project continues.

### **Lead Network**

If required by US EPA, the Department will submit monitoring waivers for three facilities:

Citation Foundry – Browntown  
Thilmany Papers – Kaukauna  
Thyssen Krupps 2/3 – Waupaca

The Department awaits the final revised Pb monitoring rule decision due in late 2010. The rule proposes using a 0.5 ton/year emissions threshold, which would require the evaluation of more facilities for monitoring requirements. As proposed, a Pb TSP monitor would also be required at NCore sites. If lead monitoring is required at all NCore sites, a Pb monitor will be installed at Horicon.

### **PAMS**

No changes to the PAMS network are anticipated at this time. EPA is performing an assessment of PAMS and preliminary information suggests changes to site locations; however, the recommendations are not final. VOC monitoring with the AutoGC at the Milwaukee DNR Headquarters site is vulnerable to instrument failure. Should it fail, this monitoring would be discontinued until federal funds for replacing the instrument became available.

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## Network Summary Reports

To aid in understanding the monitoring network overall design, three network summary reports are presented here. Two of the reports group the monitoring geographically and the third details the network by the type of monitoring or in the case of non-EPA monitoring, by program. The report groupings are:

- Site and Monitors by Air Quality Control Region
- Monitoring Sites by Pollutant
- Sites and Monitors by County

### Sites and Monitors by Air Quality Control Region

#### Lake Michigan Intra-State Air Quality Control Region

This air region is characterized by its variety in land use. The region varies from farmland in the south to wooded land in the north. Industry and population centers are located along the lower Fox River between Green Bay and northern Lake Winnebago, as well as along the northwest shore of Lake Winnebago; this area is referred to as the Fox River Valley. The Fox River Valley has many closely spaced cities which include the largest concentration of paper manufacturing facilities in the world. The area running from Oshkosh through Kaukauna is considered a major urbanized area. Besides the paper industry, this region is important for metal products and food processing. The eastern boundary of the region is Lake Michigan, and fishing and shipping industries are concentrated in the towns on the lakefront. Large coal-fired power plants are located in Sheboygan and in Green Bay. Green Bay also has a wide variety of other industry, including a cement plant, large al unloading and storage facilities, petroleum product storage and transshipment, etc.



Lake Michigan Monitoring Sites

| AQS #       | Site Name      | CBSA or MSA        | Latitude Longitude     | Address   | City       | County      | Site Est. |
|-------------|----------------|--------------------|------------------------|---|------------|-------------|-----------|
| 55-087-0009 | Appleton AAL   | Appleton-Neenah,WI | 44.30694<br>-88.39556  | 4432 N Meade St                                 | Appleton   | Outagamie   | 4/15/95   |
| 55-039-0006 | Fond du Lac    | Fond du Lac        | 43.68778<br>-88.42194  | N3996 Kelly Rd,<br>Town of Byron                |            | Fond du Lac | 4/22/94   |
| 55-009-0005 | Green Bay East | Green Bay,<br>WI   | 44.50726<br>-87.99329  | East High School,<br>1415 E. Walnut             | Green Bay  | Brown       | 1/1/71    |
| 55-009-0026 | Green Bay UW   | Green Bay,<br>WI   | 44.53<br>-87.90889     | UW-Green Bay,<br>Hwys 54 & 57                   | Green Bay  | Brown       | 4/7/94    |
| 55-061-0002 | Kewaunee       |                    | 44.44278<br>-87.506111 | Route 1, Hwy 42                                 | Kewaunee   | Kewaunee    | 4/6/94    |
| 55-117-0008 | Kohler         |                    | 43.74395<br>-87.7763   | 444 Highland Dr<br>53044                        | Kohler     | Sheboygan   | 12/15/09  |
| 55-071-0007 | Manitowoc      |                    | 44.13861<br>-87.61611  | Woodland Dunes State<br>Park<br>2315 Goodwin Rd | Two Rivers | Manitowoc   | 4/5/94    |
| 55-029-0004 | Newport        |                    | 45.23778<br>-86.99361  | Newport State Park<br>(Near Ellison Bay)        |            | Door        | 4/15/89   |
| 55-117-     | Sheboygan      | Sheboygan,         | 43.66694               | Kohler Andre Park,                              |            | Sheboygan   | 6/26/97   |

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| AQS # | Site Name | CBSA or MSA | Latitude Longitude | Address            | City   | County | Site Est. |
|-------|-----------|-------------|--------------------|--------------------|--------|--------|-----------|
| 0006  |           | WI          | -87.71639          | 1520 Old Park Road |        |        |           |
| NA    | Suring    |             | 45.053<br>-88.372  | 10360 Big Eddie Ln | Suring | Oconto | 1/23/85   |

### Lake Michigan Monitors

| AQS #       | Site Name      | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coarse | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb - TSP | Metals (PM <sub>10</sub> ) | N O y | P A H | VOC Carbonyl | NTN | Hg |
|-------------|----------------|----------------|-------------------|-----------------------------|------------------|-----------|-----------------|-----------------|----|-----|----------|----------------------------|-------|-------|--------------|-----|----|
| 55-087-0009 | Appleton AAL   | S              | X                 |                             |                  |           |                 |                 |    |     |          |                            |       |       |              |     |    |
| 55-039-0006 | Fond du Lac    | S              |                   |                             |                  |           |                 |                 |    |     |          |                            |       |       |              |     |    |
| 55-009-0005 | Green Bay East |                | C                 | F                           |                  |           | X               |                 |    |     |          |                            |       |       |              |     |    |
| 55-009-0026 | Green Bay UW   | S              |                   |                             |                  |           |                 |                 |    |     |          |                            |       |       |              |     |    |
| 55-061-0002 | Kewaunee       | S              |                   |                             |                  |           |                 |                 |    |     |          |                            |       |       |              |     |    |
| 55-117-0008 | Kohler         |                |                   |                             |                  |           |                 |                 |    |     | X        |                            |       |       |              |     |    |
| 55-071-0007 | Manitowoc      | S              | X                 | X                           | X                |           |                 | S               |    | X   |          | X                          | S     |       |              |     |    |
| 55-029-0004 | Newport        | S              |                   |                             |                  |           |                 |                 |    | S   |          |                            |       |       |              |     |    |
| 55-117-0006 | Sheboygan      | S              |                   |                             |                  |           |                 |                 |    | S   |          |                            |       |       |              |     |    |
| NA          | Suring         |                |                   |                             |                  |           |                 |                 |    |     |          |                            |       |       |              | NT  |    |

X – Year round monitoring

S – Seasonal monitoring

C – Collocated monitor

M- Fine Particle Speciation – Cation/Anion/Carbon

F – Testing for Federal Equivalency Monitor

P – PAMS and schedule

RF – Precipitation for National Weather Service

NT – National Trends Network

MD – Mercury Deposition Network

SP - Special purpose, may not meet siting criteria

HS – High Sensitivity

### Southeastern Wisconsin Intra-State AQCR

The topography of this air region is generally flat and rolling. One terrestrial feature of special interest is the Menomonee River Valley which enters Milwaukee Harbor through the center of Milwaukee. Lake Michigan exerts a strong effect, on the local weather, especially along the shoreline.

The population center of the southeast region is Milwaukee. The population extends outward toward the Milwaukee-Ozaukee County line and south through Kenosha into the Chicago area. This pattern also extends westward into the eastern portion of Waukesha County.

The highly diversified industrial patterns of the region reflect the population distribution, i.e., centered at Milwaukee and decreasing in



## 2011 Wisconsin Air Monitoring Network Plan

density to the north, west, and south. The western portion of Ozaukee, Waukesha, and Racine and Kenosha unties, and most of Washington and Walworth unties are primarily agricultural.

### Current Southeastern Wisconsin Monitoring Sites

| AQS #       | Site Name                      | CBSA or MSA           | Latitude Longitude       | Address                                | City             | County     | Site Est. |
|-------------|--------------------------------|-----------------------|--------------------------|--|------------------|------------|-----------|
| 55-079-0085 | Bayside                        | Milwaukee-Waukesha,WI | 43.18111<br>-87.90056    | 601 E. Ellsworth Lane                  | Bayside          | Milwaukee  | 5/1/84    |
| 55-059-0019 | Chiwaukee                      | Kenosha,WI            | 42.504722<br>-87.80930   | Chiwaukee Prairie, 11838 First Court   | Pleasant Prairie | Kenosha    | 4/15/88   |
| 55-089-0008 | Grafton                        | Milwaukee-Waukesha,WI | 43.34306<br>-87.92083    | Grafton, Hwy32 And I43                 | Grafton          | Ozaukee    | 6/5/91    |
| 55-089-0009 | Harrington Beach               | Milwaukee-Waukesha,WI | 43.49806<br>-87.81       | Harrington Beach State Park, 531 Hwy D |                  | Ozaukee    | 6/8/94    |
| 55-127-0005 | Lake Geneva                    |                       | 42.58<br>-88.49917       | RR4 Elgin Club Rd                      | Lake Geneva      | Walworth   | 7/10/87   |
| 55-079-0052 | Milw - Havenwoods              | Milwaukee-Waukesha,WI | 43.128889<br>-87.970833  |  |                  | Milwaukee  |           |
| 55-079-0058 | Milw College Ave Park and Ride | Milwaukee-Waukesha,WI | 42.9305685<br>-87.932104 |  | Milwaukee        | Milwaukee  | 3/18/09   |
| 55-079-0026 | Milw SER DNR HQ                | Milwaukee-Waukesha,WI | 43.06111<br>-87.9125     | 2300 N M. L. King Jr Dr                | Milwaukee        | Milwaukee  | 1/1/99    |
| 55-079-0010 | Milw Sixteenth St.             | Milwaukee-Waukesha,WI | 43.016674<br>-87.93333   | Health Center, 1337 So 16th St         | Milwaukee        | Milwaukee  | 4/4/97    |
| 55-079-0041 | Milw UWM                       | Milwaukee-Waukesha,WI | 43.07528<br>-87.88444    | UWM North Campus, 2114 E Kenwood Blvd  | Milwaukee        | Milwaukee  | 1/1/73    |
| 55-101-0017 | Racine                         | Racine,WI             | 42.71389<br>-87.379861   | 1519 Washington Ave                    | Racine           | Racine     | 1/1/77    |
| 55-131-0009 | Slinger                        | Milwaukee-Waukesha,WI | 43.32722<br>-88.22028    | Slinger, Hwy 60 & Scenic, Polk Twnshp  | Slinger          | Washington | 6/1/91    |
| 55-133-0027 | Wauk-Cleveland                 | Milwaukee-Waukesha,WI | 43.02028<br>-88.215      | 1310 Cleveland Ave                     | Waukesha         | Waukesha   | 2/3/89    |

#### Southeastern Wisconsin Monitors

| AQS #       | Site Name        | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coars e | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET     | Pb - TSP | Metals (PM <sub>10</sub> ) | N O y | P A H | VOC Carb -onyl | NTN | Hg |
|-------------|------------------|----------------|-------------------|-----------------------------|------------------|------------|-----------------|-----------------|----|---------|----------|----------------------------|-------|-------|----------------|-----|----|
| 55-079-0085 | Bayside          | S              |                   |                             |                  |            |                 |                 |    |         |          |                            |       |       |                |     |    |
| 55-059-0019 | Chiwaukee        | S              | X                 | F                           |                  |            |                 |                 |    | X<br>RF |          |                            |       |       |                |     |    |
| 55-089-0008 | Grafton          | S              |                   |                             |                  |            |                 |                 |    | S<br>RF |          |                            |       |       |                |     |    |
| 55-089-0009 | Harrington BCH   | S              | X                 | X                           |                  |            |                 |                 |    | X       |          |                            |       |       |                |     |    |
| 55-079-0052 | Haven-woods      |                |                   |                             |                  |            |                 |                 |    | X       |          |                            |       |       |                |     |    |
| 55-127-0005 | Lake Geneva      | S              |                   |                             |                  |            |                 |                 |    | S       |          |                            |       |       |                |     | MD |
| 55-079-0058 | Milw College Ave |                | X                 | X                           | X                |            |                 |                 |    |         |          | X                          |       |       |                |     |    |
| 55-079-0026 | Milw SER DNR HQ  | X              | C<br>M            | X                           |                  |            |                 | X               |    |         |          |                            | S     |       | P              |     |    |

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| AQS #       | Site Name          | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coars e | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb - TSP | Metals (PM <sub>10</sub> ) | N O y | P A H | VOC Carb -onyl | NTN | Hg |
|-------------|--------------------|----------------|-------------------|-----------------------------|------------------|------------|-----------------|-----------------|----|-----|----------|----------------------------|-------|-------|----------------|-----|----|
| 55-079-0010 | Milw Sixteenth St. | X              | X                 |                             |                  |            |                 |                 |    | X   |          | X                          |       |       | X              |     | X  |
| 55-079-0041 | Milw UWM           |                |                   |                             |                  |            |                 |                 |    | X   |          |                            |       |       |                |     | MD |
| 55-101-0017 | Racine             | S              |                   |                             |                  |            |                 |                 |    | S   |          |                            |       |       |                |     |    |
| 55-131-0009 | Slinger            | S              |                   |                             |                  |            |                 |                 |    | S   |          |                            |       |       |                |     |    |
| 55-133-0027 | Wauk-Cleveland     | S              | X                 | X                           | X                |            |                 |                 |    | X   |          |                            |       |       |                |     |    |

X – Year round monitoring

S – Seasonal monitoring

C – Collocated monitor

M- Fine Particle Speciation – Cation/Anion/Carbon

F – Testing for Federal Equivalency Monitor

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SP - Special purpose, may not meet siting criteria

HS – High Sensitivity

### Southern Wisconsin AQCR

The majority of the land in the Southern Wisconsin Air Region is gently rolling farmland. In Lafayette county, for example, 93 % of the land is in farms. Madison, in the Dane county metropolitan area, had a 2009 population of 227,700. Dane county as a whole had a population of 473,622. (Population figures are final estimates from the Wisconsin Dept. of Administration.) There were 584 manufacturing establishments (2002) in Dane county. Outside of Madison, industry is scattered and is mainly, electrical power generation, an occasional foundry, or quarrying



### Current Southern Wisconsin Monitoring Sites

| AQS #       | Site Name             | CSA or UA  | Latitude Longitude      | Address                                       | City      | County    | Site Est. |
|-------------|-----------------------|------------|-------------------------|---|-----------|-----------|-----------|
| 55-021-0015 | Columbus              |            | 43.31444<br>-89.10889   | Wendt Rd,<br>Columbus                         | Columbus  | Columbia  | 8/10/88   |
| 55-111-0007 | Devils Lake           |            | 43.435028<br>-89.679917 | Devils Lake State<br>Park, E12886<br>Tower Rd |           | Sauk      | 5/11/95   |
| 55-027-0001 | Horicon Wildlife Area |            | 43.466<br>-88.621       | 1210 N Palmatory                              | Horicon   | Dodge     | 12/18/09  |
| 55-055-0002 | Jefferson             |            | 43.00208<br>-88.81869   | Willow Dr.                                    | Jefferson | Jefferson | 4/15/88   |
| 55-025-0041 | Madison East          | Madison,WI | 43.10083<br>-89.35722   | East High, 2302<br>Hoard St                   | Madison   | Dane      | 4/15/92   |
| 55-025-0047 | Madison University    | Madison,WI | 43.07377<br>-89.43597   | , 2557 University<br>Ave                      | Madison   | Dane      | 1/3/99    |

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## Current Southern Wisconsin Monitors

| AQS #       | Site Name          | O3 | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coarse | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET     | Pb - TSP | Metals (PM <sub>10</sub> ) | NOy    | PAH | VOC Carb -onyl | NTN | Hg |
|-------------|--------------------|----|-------------------|-----------------------------|------------------|-----------|-----------------|-----------------|----|---------|----------|----------------------------|--------|-----|----------------|-----|----|
| 55-021-0015 | Columbus           | S  |                   |                             |                  |           |                 |                 |    | S<br>RF |          |                            |        |     |                |     |    |
| 55-111-0007 | Devils Lake        | S  | C                 | C                           |                  |           |                 |                 |    | X       |          |                            |        |     |                | NT  | MD |
| 55-027-0001 | Horicon            | X  | X<br>M            |                             | X                | X         | HS              |                 | HS | X<br>RF |          | X                          | H<br>S | X   | X              |     | X  |
| 55-055-0002 | Jefferson          | S  |                   |                             |                  |           |                 |                 |    | RF      |          |                            |        |     |                |     |    |
| 55-025-0041 | Madison East       | S  |                   |                             |                  |           |                 |                 |    | X       |          |                            |        |     |                |     |    |
| 55-025-0047 | Madison University |    | X                 |                             | X                |           |                 |                 |    |         |          |                            |        |     |                |     |    |

X – Year round monitoring

S – Seasonal monitoring

C – Collocated monitor

M- Fine Particle Speciation – Cation/Anion/Carbon

F – Testing for Federal Equivalency Monitor

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HS – High Sensitivity

## Rockford-Janesville-Beloit Interstate AQCR

The Rockford-Janesville-Beloit control Region combines agricultural activities with the Beloit Janesville, Wisconsin and Rockford, Illinois urban-industrial areas. Rock county, the Wisconsin portion of the Air Region, is mostly flat farmland which becomes gently rolling farmland near the Rock River. Industry in the region consists of manufacturing, foundry operations and electrical power plants



### Current Rockford – Janesville – Beloit Monitoring Sites

| AQS #       | Site Name | CBSA or MSA          | Latitude Longitude     | Address                        | City   | County | Site Est. |
|-------------|-----------|----------------------|------------------------|--------------------------------|--------|--------|-----------|
| 55-105-0024 | Beloit    | Janesville-Beloit,WI | 42.508889<br>-89.05667 | Cunningham,<br>1948 Merrill St | Beloit | Rock   | 4/6/94    |

### Current Rockford – Janesville – Beloit Monitors

| AQS #       | Site Name | O3 | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coarse | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb TSP | Metals (PM <sub>10</sub> ) | NOy | PAH | VOC Carb -onyl | NTN | Hg |
|-------------|-----------|----|-------------------|-----------------------------|------------------|-----------|-----------------|-----------------|----|-----|--------|----------------------------|-----|-----|----------------|-----|----|
| 55-105-0024 | Beloit    | S  |                   |                             |                  |           |                 |                 |    |     |        |                            |     |     |                |     |    |

X – Year round monitoring

S – Seasonal monitoring

C – Collocated monitor

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MD – Mercury Deposition Network

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HS – High Sensitivity

### Southwestern Wisconsin - Metropolitan Dubuque, Iowa Interstate AQCR

This air region is primarily agricultural and covers one county in Wisconsin and several in Iowa. Grant County in Wisconsin consists of gently rolling farmland and is bordered by the Mississippi River. The only major city - Dubuque, Iowa - is across the Mississippi River and to the southwest of the Wisconsin portion of the region. Industry in Dubuque is mainly farm related chemical and equipment manufacturing.



Current Metropolitan Dubuque Monitoring Sites

| AQS #       | Site Name | CBSA or MSA | Latitude Longitude    | Address                        | City | County | Site Est. |
|-------------|-----------|-------------|-----------------------|--------------------------------|------|--------|-----------|
| 55-043-0009 | Potosi    |             | 42.69213<br>-90.69637 | 128 Hwy 61,<br>Potosi Township |      | Grant  | 1/6/99    |

Current Metropolitan Dubuque Monitors

| AQS #       | Site Name | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coarse | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb - TSP | Metals (PM <sub>10</sub> ) | NOy | PAH | VOC / Carbonyl | NTN | Hg |
|-------------|-----------|----------------|-------------------|-----------------------------|------------------|-----------|-----------------|-----------------|----|-----|----------|----------------------------|-----|-----|----------------|-----|----|
| 55-043-0009 | Potosi    |                | X                 |                             |                  |           |                 |                 |    |     |          |                            |     |     |                |     |    |

X – Year round monitoring  
 S – Seasonal monitoring  
 C – Collocated monitor  
 M- Fine Particle Speciation – Cation/Anion/Carbon  
 F – Testing for Federal Equivalency Monitor  
 P – PAMS and schedule  
 RF – Precipitation for National Weather Service  
 NT – National Trends Network  
 MD – Mercury Deposition Network  
 SP - Special purpose, may not meet siting criteria  
 HS – High Sensitivity

### Southeast Minnesota - La Crosse (West Central Wisconsin) Interstate AQCR

This air region ranges from un-glaciated rolling hills and farmland in the south, to extensive wooded areas and lakes in the north. The Wisconsin portion of the Minnesota-La Crosse Region has a varied topography. The northwestern part, i.e., north of La Crosse, is rugged and is characterized by ridge crests, in contrast to the broad flat-topped divides of the region lying between the La Crosse and Wisconsin Rivers. The Mississippi gorge runs along the western edge of Wisconsin. The top of the gorge is over 400 feet above the river on both the Wisconsin and Minnesota sides.



Current Southeast Minnesota – LaCrosse Monitoring Sites

| AQS #       | Site Name                                 | CSA or UA                | Latitude Longitude   | Address                    | City       | County     | Site Est.  |
|-------------|---|--------------------------|----------------------|----------------------------|------------|------------|------------|
| 55-035-0100 | Eau Claire School District Administration | Eau Claire-Menominee, WI | 44.812<br>-91.496    | 500 East Main              | Eau Claire | Eau Claire | 03/20/2009 |
| 55-063-0012 | Lacrosse-DOT                              | La Crosse,WI-MN          | 43.778<br>-91.225    | 3550 Mormon Coulee Rd      | La Crosse  | La Crosse  | 10/13/2005 |
| 55-109-     | Somerset                                  |                          | 45.12444<br>-92.6625 | Hwy 64, Somerset Town Hall | Somerset   | St. Croix  | 01/01/1967 |

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| AQS #       | Site Name        | CSA or UA | Latitude Longitude    | Address                                 | City    | County | Site Est. |
|-------------|------------------|-----------|-----------------------|---|---------|--------|-----------|
| 1002        |                  |           |                       |   |         |        |           |
| 55-123-0008 | Wildcat Mountain |           | 43.70222<br>-90.56833 | Wildcat Mountain State Park,<br>Hwy 33, | Ontario | Vernon | 7/3/89    |

### Current Southeast Minnesota – LaCrosse Monitors

| AQS #       | Site Name        | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coarse | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb - TSP | Metals (PM <sub>10</sub> ) | N O y | P A H | VOC/ Carb- onyl | NTN | Hg |
|-------------|------------------|----------------|-------------------|-----------------------------|------------------|-----------|-----------------|-----------------|----|-----|----------|----------------------------|-------|-------|-----------------|-----|----|
| 55-035-0100 | Eau Claire       |                | X                 |                             |                  |           |                 |                 |    |     |          |                            |       |       |                 |     |    |
| 55-063-0012 | Lacrosse-DOT     | S              | X                 | F                           |                  |           |                 |                 | X  | X   |          |                            |       |       |                 |     |    |
| 55-109-1002 | Somerset         | S              | X                 | X                           |                  |           |                 |                 |    | X   |          |                            |       |       |                 |     |    |
| 55-123-0008 | Wildcat Mountain | S              | X                 | X                           |                  |           |                 |                 | X  | X   |          |                            |       |       |                 | MD  |    |

X – Year round monitoring

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HS – High Sensitivity

## Northwest Wisconsin - Duluth, Minnesota Interstate Air Quality Control Region

Wisconsin portion of the Duluth-Superior Air Region has two geographically distinct areas. The northern portions of Bayfield, Douglas, and Ashland counties are level lowland plains. The climate in these regions is affected by Lake Superior. The region south of these plains is generally flat, interrupted by hills (600-800 feet). In Price and Washburn counties, 80% of the area is forested. Superior is one of the major industrial cities in the area, as well as a major Great Lakes' port with much oil and grain handling activity. Duluth, also a heavily industrialized city, is across the St. Louis River just to the west of Superior. Throughout the rest of the region there are scattered lumbering operations and paper mills.



### Current Northwest Wisconsin – Duluth Minnesota Monitoring Sites

| AQS #       | Site Name                     | CSA or UA | Latitude Longitude      | Address                             | City     | County   | Site Est. |
|-------------|-------------------------------|-----------|-------------------------|-------------------------------------|----------|----------|-----------|
| 55-003-0010 | Bad River (Tribal site)       |           | 46.602344<br>-90.656153 | Bad River Tribal School – Odanah    |          | Ashland  | 7/25/02   |
| 55-119-8001 | Perkinstown                   |           | 45.203889<br>-90.6      | 1 Mi E. Perkinstown On State Road.M |          | Taylor   | 1/1/88    |
|             | Brule River                   |           |                         |                                     |          | Douglas  | 3/5/96    |
|             | Spoooner                      |           | 45.822<br>-91.874       |                                     |          | Washburn | 6/3/80    |
| 55-031-0019 | Superior Sewage Treatment Plt |           | 46.72694<br>-92.07167   | Avenue E                            | Superior | Douglas  | 11/21/84  |

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## Current Northwest Wisconsin – Duluth Minnesota Monitors

| AQS #        | Site Name               | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coars e | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb - TSP | Metals (PM <sub>10</sub> ) | NO <sub>y</sub> | VOC / Carb -onyl | PAH | NTN | Hg |
|--------------|-------------------------|----------------|-------------------|-----------------------------|------------------|------------|-----------------|-----------------|----|-----|----------|----------------------------|-----------------|------------------|-----|-----|----|
| 55-003-0010- | Bad River (Tribal site) | X              | C                 |                             |                  |            |                 |                 | X  | X   |          |                            |                 |                  |     |     |    |
| 55-119-8001  | Perkinstown             |                | X<br>M            | F                           |                  |            |                 |                 |    |     |          |                            |                 |                  |     |     |    |
| NA           | Brule River             |                |                   |                             |                  |            |                 |                 |    |     |          |                            |                 |                  |     | NT  | MD |
| NA           | Spooner                 |                |                   |                             |                  |            |                 |                 |    |     |          |                            |                 |                  |     | NT  |    |
| 55-031-0019  | Superior STP            |                |                   |                             |                  |            |                 |                 | X  | X   |          |                            |                 |                  |     |     |    |

X – Year round monitoring

S – Seasonal monitoring

C – Collocated monitor

M- Fine Particle Speciation – Cation/Anion/Carbon

F – Testing for Federal Equivalency Monitor

P – PAMS and schedule

RF – Precipitation for National Weather Service

NT – National Trends Network

MD – Mercury Deposition Network

SP - Special purpose, may not meet siting criteria

HS – High Sensitivity

## North Central Wisconsin Intra-State Air Quality Control Region

The North Central Wisconsin Air Region extends from the Northern Highland south through the Central Plain. The flat surface of the Northern Highland slopes from elevations as high as 1,700 feet on the north to 1,000 feet on the south and is interrupted by numerous hills. In the northern unties most of the land is forested; for example, in Vilas county, 80% of the land area is in forests. South of Marathon county most of the land is agricultural, and is generally flat with less than 100 feet of relief.

Population and industry are concentrated along the Wisconsin River Valley in the Wausau, Stevens Point and Wisconsin Rapids area. Major industrial activity consists of paper mills and electrical power generation.



## Current North Central Wisconsin Monitoring Sites

| AQS #       | Site Name                | CSA or MSA | Latitude Longitude    | Address                                | City         | County   | Site Est. |
|-------------|--------------------------|------------|-----------------------|--|--------------|----------|-----------|
| 55-085-0004 | Harshaw                  |            | 45.67806<br>-89.63222 | Harshaw Farm,<br>4398 Grace Lane,      | Harshaw      | Oneida   | 6/16/94   |
| 55-073-0012 | Lake Dubay               | Wausau, WI | 44.70722<br>-89.76972 | 1780 Bergen Rd,<br>Bergen Township     |              | Marathon | 9/25/91   |
| 55-037-0001 | Popple River             |            | 45.79556<br>-88.40056 | Fire Station #565                      | Florence     | Florence | 5/8/87    |
| 55-141-0024 | Port Edwards –Erc        |            | 44.33877<br>-89.885   | 101 Hwy 73 South                       | Port Edwards | Wood     | 11/1/08   |
| 55-041-0007 | Potawatomi (Tribal site) |            | 45.56498<br>-88.80859 | Fire Tower Rd,                         | Crandon      | Forest   | 6/4/02    |
| 55-085-0996 | Rhineland                |            | 45.64528<br>-89.4125  | Rhineland Water Tower, Lake & High St. | Rhineland    | Oneida   | 4/13/81   |
| 55-         | Trout Lake               |            | 46.04806              | Trout Lake Nursery,                    | Boulder      | Vilas    | 1/1/73    |

## 2011 Wisconsin Air Monitoring Network Plan

| AQS #    | Site Name | CSA or MSA | Latitude Longitude | Address      | City     | County | Site Est. |
|----------|-----------|------------|--------------------|--------------|----------|--------|-----------|
| 125-0001 |           |            | -89.65361          | County Hwy M | Junction |        |           |

Current North Central Wisconsin Monitors

| AQS #       | Site Name    | O <sub>3</sub> | PM <sub>2.5</sub> | PM <sub>2.5</sub> Total Atm | PM <sub>10</sub> | PM Coarse | SO <sub>2</sub> | NO <sub>2</sub> | CO | MET | Pb TSP | Metals (PM <sub>10</sub> ) | NO <sub>y</sub> | PAH | VOC/ Carbonyl | NTN | Hg |
|-------------|--------------|----------------|-------------------|-----------------------------|------------------|-----------|-----------------|-----------------|----|-----|--------|----------------------------|-----------------|-----|---------------|-----|----|
| 55-085-0004 | Harshaw      | S              |                   |                             |                  |           |                 |                 |    |     |        |                            |                 |     |               |     |    |
| 55-073-0012 | Lake Dubay   | S              |                   |                             |                  |           |                 |                 | X  | X   |        |                            |                 |     |               |     |    |
| 55-037-0001 | Popple River | S              |                   |                             |                  |           |                 |                 |    | S   | S      |                            |                 |     |               |     |    |
| 55-141-0024 | Port Edwards |                |                   |                             |                  |           |                 |                 |    | SP  | SP     |                            |                 |     |               |     | X  |
| 55-041-0007 | Potawatomi   | X              | X                 |                             |                  | X         | X               |                 | X  | X   |        |                            |                 | X   |               |     | X  |
| 55-085-0996 | Rhineland    |                |                   |                             |                  | X         |                 |                 | X  | X   |        |                            |                 |     |               |     |    |
| 55-125-0001 | Trout Lake   |                | X                 |                             |                  |           |                 |                 |    |     |        |                            |                 |     |               |     | MD |

X – Year round monitoring

S – Seasonal monitoring

C – Collocated monitor

M- Fine Particle Speciation – Cation/Anion/Carbon

F – Testing for Federal Equivalency Monitor

P – PAMS and schedule

RF – Precipitation for National Weather Service

NT – National Trends Network

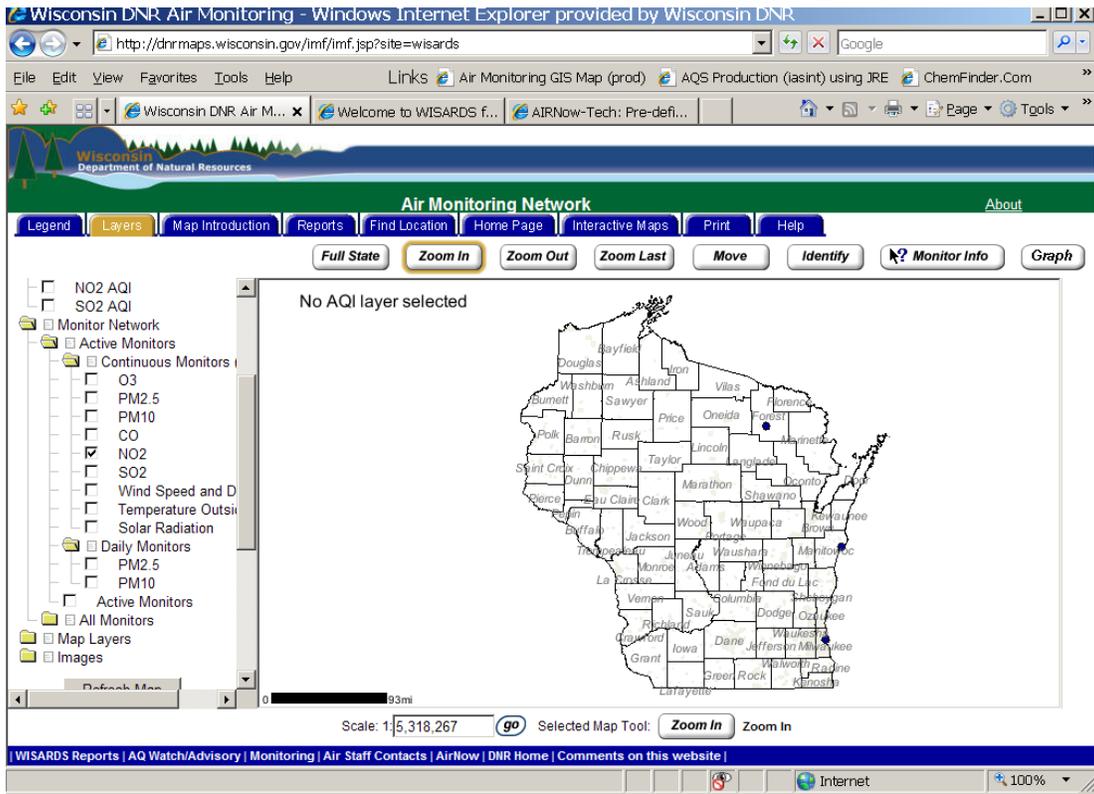
MD – Mercury Deposition Network

SP - Special purpose, may not meet siting criteria

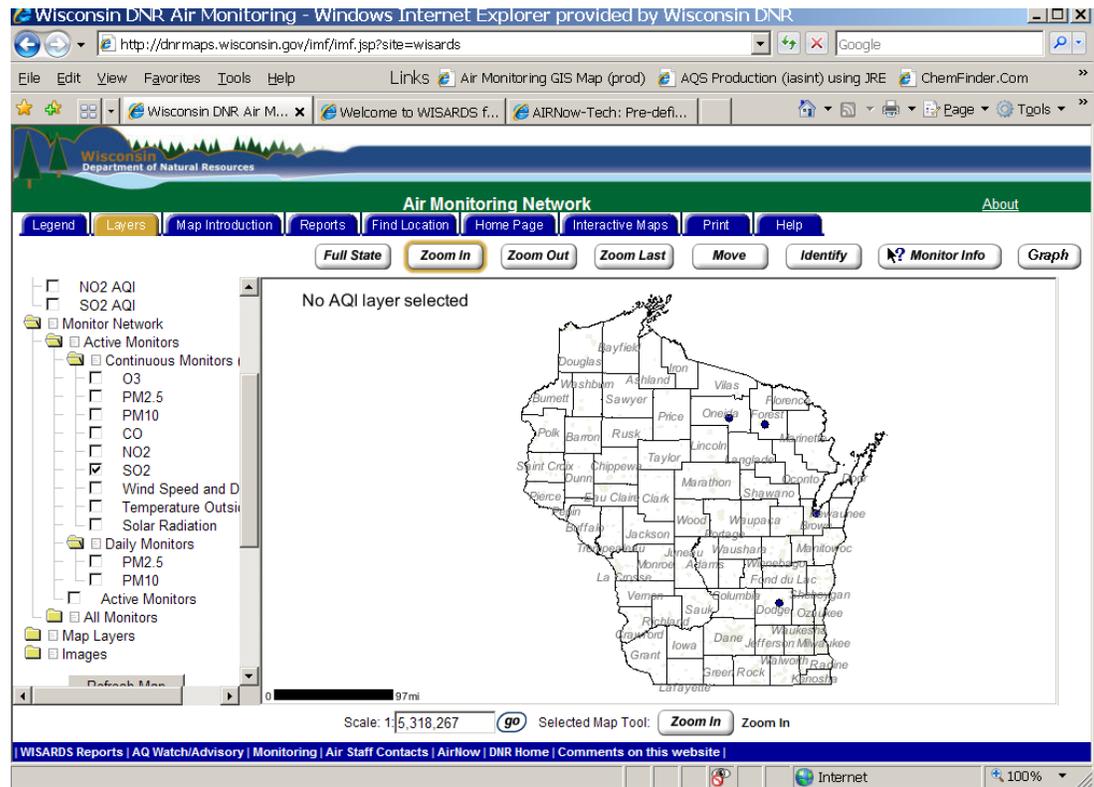
HS – High Sensitivity

## Monitoring Sites by Pollutant

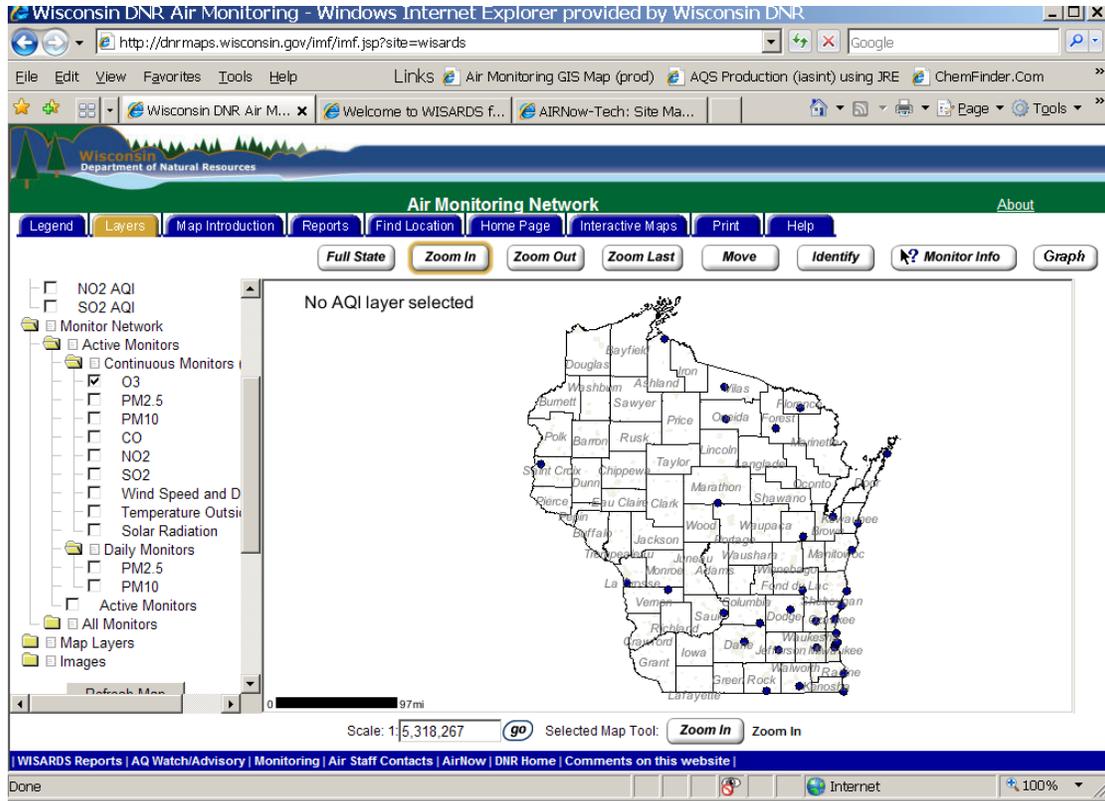
### Nitrogen Dioxide (NO<sub>2</sub>) Network Map



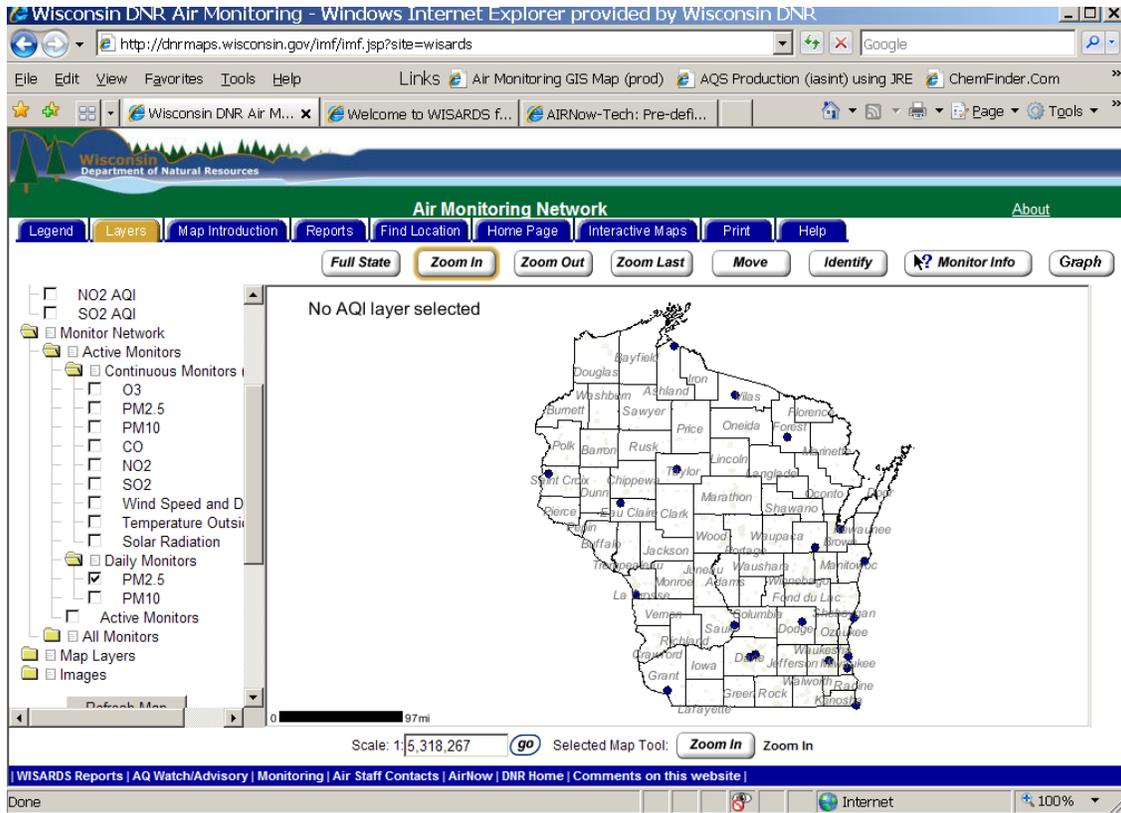
### SO<sub>2</sub> Network Map



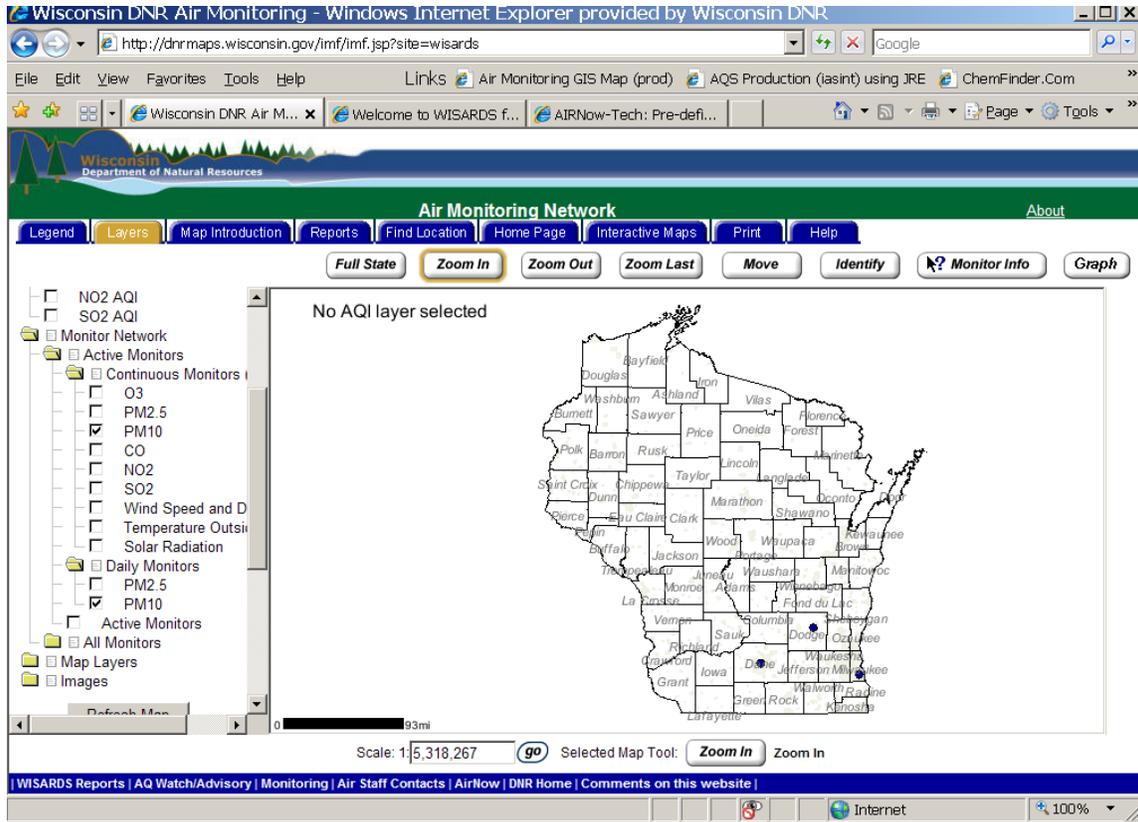
### Ozone Network Map



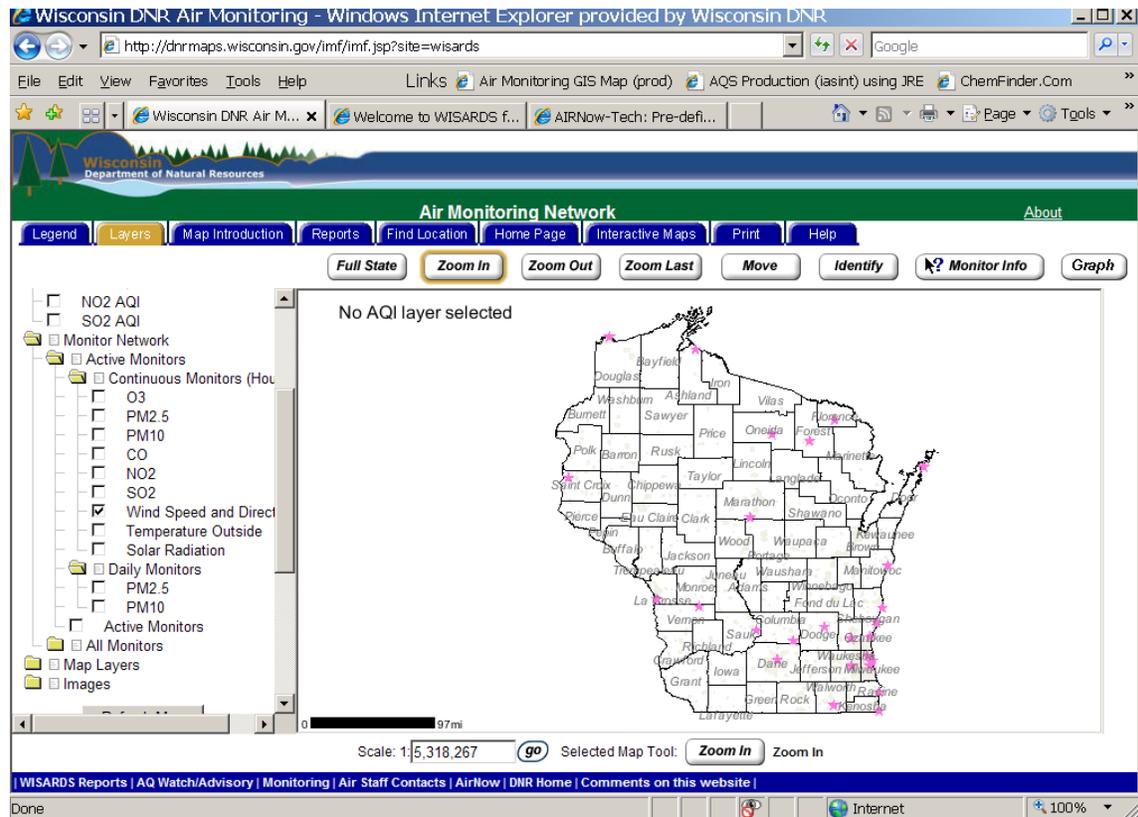
### PM2.5 Network Map



## PM<sub>10</sub> Network Map



## Map of Sites with Meteorology



## Report of Monitoring Sites by Pollutant

| <b>Carbon Monoxide (CO)</b> |            |             |                     |         |        |                        |
|-----------------------------|------------|-------------|---------------------|---------|--------|------------------------|
| Site Name                   | Urban Area | AQS         | Address             | City    | County | Comments               |
| Horicon Wildlife Area       | None       | 55-027-0001 | 1210 N Palmatory St | Horicon | Dodge  | High Sensitivity NCore |

| <b>Enhanced Ozone Monitoring (EOM – PAMS)</b> |                        |             |                         |            |           |   |
|---|------------------------|-------------|-------------------------|------------|-----------|---|
| Site Name                                     | Urban Area             | AQS         | Address                 | City       | County    | Comments  |
| Harrington Beach Park                         | Milwaukee-Waukesha, WI | 55-089-0009 | 531 Hwy D               |            | Ozaukee   | Ozone, MET  |
| Manitowoc Woodland Dunes                      |                        | 55-071-0007 | 2315 Goodwin Rd         | Two Rivers | Manitowoc | Ozone, MET, NOx and NOy                             |
| Milwaukee SER DNR HDQRS                       | Milwaukee-Waukesha, WI | 55-079-0026 | 2300 N M. L. King Jr Dr | Milwaukee  | Milwaukee | Ozone, MET, NOx, NOy, PAMS VOCs & Carbonyls, AutoGC |

| <b>Nitrogen Dioxide (NO<sub>2</sub>)</b> |                        |             |                         |            |           |                         |
|--|------------------------|-------------|-------------------------|------------|-----------|-------------------------|
| Site Name                                | Urban Area             | AQS         | Address                 | City       | County    | Comments                |
| Manitowoc Woodland Dunes                 |                        | 55-071-0007 | 2315 Goodwin Rd         | Two Rivers | Manitowoc | PAMS – High Sensitivity |
| Milwaukee SER DNR HDQRS                  | Milwaukee-Waukesha, WI | 55-079-0026 | 2300 N M. L. King Jr Dr | Milwaukee  | Milwaukee | PAMS                    |

| <b>Nitrogen, Reactive Oxides (NOy)</b> |                        |             |                         |            |           |                         |
|--|------------------------|-------------|-------------------------|------------|-----------|-------------------------|
| Site Name                              | Urban Area             | AQS         | Address                 | City       | County    | Comments                |
| Horicon Wildlife Area                  | None                   | 55-027-0001 | 1210 N Palmatory St     | Horicon    | Dodge     | High Sensitivity NCore  |
| Manitowoc Woodland Dunes               |                        | 55-071-0007 | 2315 Goodwin Rd         | Two Rivers | Manitowoc | PAMS – High Sensitivity |
| Milwaukee SER DNR HDQRS                | Milwaukee-Waukesha, WI | 55-079-0026 | 2300 N M. L. King Jr Dr | Milwaukee  | Milwaukee | PAMS                    |

| <b>NADP NTN - MDN</b> |            |             |                 |         |          |                      |
|-----------------------|------------|-------------|-----------------|---------|----------|----------------------|
| Site Name             | Urban Area | AQS         | Address         | City    | County   | Comments             |
| Brule River           |            |             |                 |         | Douglas  | MDN                  |
| Devils Lake           |            | 55-111-0007 | E12886 Tower Rd | Baraboo | Sauk     | MDN (Event Sampling) |
| Lake DuBay            |            | 55-073-0012 |                 |         | Marathon | NTN                  |

## 2011 Wisconsin Air Monitoring Network Plan

|                                |                        |             |   |                  |               |   |
|--------------------------------|------------------------|-------------|---|------------------|---------------|---|
| Lake Geneva                    |                        | 55-127-0005 | RR #4 Elgin Club Rd                     | Lake Geneva      | Walworth      | NTN<br>MDN                              |
| Milwaukee – UWM North          | Milwaukee-Waukesha, WI | 55-079-0041 |   |                  |               | MDN                                     |
| Popple River                   |                        | 55-037-0001 | Fire Station #565                       | Popple River     | Florence      | NTN<br>MDN                              |
| Spooner                        | None                   |             |   |                  | Washburn      | NTN                                     |
| Suring                         | None                   |             |   |                  | Oconto        | NTN                                     |
| Trout Lake                     |                        | 55-073-0012 |   | Boulder Junction |               | NTN<br>MDN                              |
| Wildcat Mountain               | None                   | 55-123-0008 | Wildcat Mountain State Park Hwy 33      | Ontario          | Vernon        | NTN                                     |
|                                |                        |             |   |                  |               |   |
| <b>Ozone (O<sub>3</sub>)</b>   |                        |             |   |                  |               |   |
| <b>Site Name</b>               | <b>Urban Area</b>      | <b>AQS</b>  | <b>Address</b>                          | <b>City</b>      | <b>County</b> | <b>Comments</b>                         |
| Appleton AAL                   | Appleton-Neenah, WI    | 55-087-0009 | 4432 N Meade St                         | Appleton         | Outagamie     |   |
| Bad River Tribal School-Odanah |                        | 55-003-0010 | Bad River Tribal School - Odanah        |                  | Ashland       | Tribal - Year Round                     |
| Bayside                        | Milwaukee-Waukesha, WI | 55-079-0085 | 601 E. Ellsworth Lane                   | Bayside          | Milwaukee     |   |
| Beloit-Cunningham              | Janesville-Beloit, WI  | 55-105-0024 | Cunningham, 1948 Merrill St             | Beloit           | Rock          |   |
| Chiwaukee Prairie Staline      | Kenosha, WI            | 55-059-0019 | Chiwaukee Prairie, 11838 First Court    | Pleasant Prairie | Kenosha       | April 1 – October 31<br>Chicago CSA     |
| Columbus                       |                        | 55-021-0015 | Wendt Rd,                               | Columbus         | Columbia      | Madison CSA – maximum downwind          |
| Devils Lake Park               |                        | 55-111-0007 | Devils Lake State Park, E12886 Tower Rd |                  | Sauk          |   |
| Fond du Lac                    |                        | 55-039-0006 | N3996 Kelly Rd,                         | Town of Byron    | Fond du Lac   |   |
| Grafton                        | Milwaukee-Waukesha, WI | 55-089-0008 | Hwy32 And I43                           | Grafton          | Ozaukee       |   |
| Green Bay UW                   | Green Bay, WI          | 55-009-0026 | UW-Green Bay, Hwys 54 & 57              | Green Bay        | Brown         |   |
| Harrington Beach Park          | Milwaukee-Waukesha, WI | 55-089-0009 | Harrington Beach State Park, 531 Hwy D  |                  | Ozaukee       |   |
| Harshaw Farm                   |                        | 55-085-0004 | Harshaw Farm, 4398 Grace Lane,          | Harshaw          | Oneida        | USFS FACE Study                         |
| Horicon Wildlife Area          |                        | 55-027-0001 | 1210 N Palmatory St                     | Horicon          | Dodge         | NCore – replaced Mayville site 12/2009. |
| Jefferson                      |                        | 55-055-0002 | .                                       | Jefferson        | Jefferson     |   |
| Kewaunee                       |                        | 55-         | Route 1, Hwy 42                         | Kewaunee         | Kewaunee      |   |

## 2011 Wisconsin Air Monitoring Network Plan

|                                      |                       |             |                                       |                  |            |  |
|--------------------------------------|-----------------------|-------------|---------------------------------------|------------------|------------|--|
|                                      |                       | 061-0002    |                                       |                  |            |  |
| LaCrosse-DOT Building                | La Crosse,WI-MN       | 55-063-0012 | 3550 Mormon Coulee Rd                 | La Crosse        | La Crosse  | Region V requested monitoring with cont. PM2.5 |
| Lake Dubai                           |                       | 55-073-0012 | 1780 Bergen Rd, Bergen Tnshp          |                  | Marathon   |  |
| Lake Geneva                          |                       | 55-127-0005 | RR4 Elgin Club Rd                     | Lake Geneva      | Walworth   |  |
| Madison East                         | Madison,WI            | 55-025-0041 | 2302 Hoad St                          | Madison          | Dane       |  |
| Manitowoc Woodland Dunes             |                       | 55-071-0007 | 2315 Goodwin Rd                       | Two Rivers       | Manitowoc  |  |
| Milwaukee SER DNR HDQRS              | Milwaukee-Waukesha,WI | 55-079-0026 | 2300 N M. L. King Jr Dr               | Milwaukee        | Milwaukee  | Year Round                                     |
| Milwaukee Sixteenth St Health Center | Milwaukee-Waukesha,WI | 55-079-0010 | 1337 So 16th St                       | Milwaukee        | Milwaukee  | Childhood Asthma Study Env. Justice            |
| Milwaukee UWM-North                  | Milwaukee-Waukesha,WI | 55-079-0041 | 2114 E Kenwood Blvd                   | Milwaukee        | Milwaukee  | Discontinued ozone Oct. 2009                   |
| Newport Park                         |                       | 55-029-0004 | Newport State Park (Near Ellison Bay) |                  | Door       | Maximum downwind                               |
| Popple River                         |                       | 55-037-0001 | NADP Fire Station #565                | Florence         | Florence   |  |
| Potawatomi                           |                       | 55-041-0007 | Fire Tower Rd, Potawatomi Site        | Crandon          | Forest     | Tribal – Year Road                             |
| Racine                               | Racine,WI             | 55-101-0017 | 1519 Washington Ave                   | Racine           | Racine     |  |
| Sheboygan Kohler Andre               | Sheboygan,WI          | 55-117-0006 | 1520 Old Park Road                    |                  | Sheboygan  |  |
| Slinger                              |                       | 55-131-0009 | Hwy 60 & Scenic, Polk Township        | Slinger          | Washington |  |
| Somerset                             |                       | 55-109-1002 | Somerset Town Hall Hwy 64,            | Somerset         | St. Croix  | Minneapolis-St. Paul,MN-WI CSA                 |
| Trout Lake                           |                       | 55-125-0001 | Trout Lake Nursery, County Hwy M      | Boulder Junction | Vilas      |  |
| Waukesha-Cleveland Ave               | Milwaukee-Waukesha,WI | 55-133-0027 | 1310 Cleveland Ave                    | Waukesha         | Waukesha   |  |
| WildCat Mountain                     |                       | 55-123-0008 | Hwy 33,                               | Ontario          | Vernon     |  |

| Lead (Pb) | Site Name | Urban Area | AQS         | Address | City   | County    | Comments        |
|-----------|-----------|------------|-------------|---------|--------|-----------|-----------------|
|           | Kohler    | Sheboygan  | 55-117-0008 |         | Kohler | Sheboygan | Source Oriented |

## 2011 Wisconsin Air Monitoring Network Plan

| <b>Metals (Toxics)</b>               |                        |             |                                 |             |               |                                 |
|--------------------------------------|------------------------|-------------|---------------------------------|-------------|---------------|---------------------------------|
| <b>Site Name</b>                     | <b>Urban Area</b>      | <b>AQS</b>  | <b>Address</b>                  | <b>City</b> | <b>County</b> | <b>Comments</b>                 |
| Horicon Wildlife Area                |                        | 55-027-0001 | Mayville, Near N6705 Madison Rd |             | Dodge         | National Air Toxics Trends Site |
| Milwaukee Sixteenth St Health Center | Milwaukee-Waukesha, WI | 55-079-0010 | Health Center, 1337 So 16th St  | Milwaukee   | Milwaukee     | Toxics – Not for NAAQS          |
| Potawatomi                           |                        | 55-041-0007 | Fire Tower Rd, Potawatomi Site  | Crandon     | Forest        | Tribal Toxics – Not for NAAQS   |

| <b>PAMS VOCs and Carbonyls</b> |                        |             |                         |             |               |                                     |
|--------------------------------|------------------------|-------------|-------------------------|-------------|---------------|-------------------------------------|
| <b>Site Name</b>               | <b>Urban Area</b>      | <b>AQS</b>  | <b>Address</b>          | <b>City</b> | <b>County</b> | <b>Comments</b>                     |
| Milwaukee SER DNR HDQRS        | Milwaukee-Waukesha, WI | 55-079-0026 | 2300 N M. L. King Jr Dr | Milwaukee   | Milwaukee     | 24hour, 4 – 3 hour, AutoGC Seasonal |

| <b>PM Coarse</b>        |                        |             |                         |             |               |                    |
|-------------------------|------------------------|-------------|-------------------------|-------------|---------------|--------------------|
| <b>Site Name</b>        | <b>Urban Area</b>      | <b>AQS</b>  | <b>Address</b>          | <b>City</b> | <b>County</b> | <b>Comments</b>    |
| Horicon Wildlife Area   | None                   | 55-027-0001 | 1210 N Palmatory St     | Horicon     | Dodge         | NCORE - Continuous |
| Milwaukee SER DNR HDQRS | Milwaukee-Waukesha, WI | 55-079-0026 | 2300 N M. L. King Jr Dr | Milwaukee   | Milwaukee     | Funds permitting   |

| <b>PM<sub>10</sub></b>               |                        |             |                                |             |               |                               |
|--------------------------------------|------------------------|-------------|--------------------------------|-------------|---------------|-------------------------------|
| <b>Site Name</b>                     | <b>Urban Area</b>      | <b>AQS</b>  | <b>Address</b>                 | <b>City</b> | <b>County</b> | <b>Comments</b>               |
| Madison University Ave.              | Madison, WI            | 55-025-0047 | 2557 University Ave            | Madison     | Dane          |                               |
| Horicon Wildlife Area                | None                   | 55-027-0001 | 1210 N Palmatory St            | Horicon     | Dodge         | NCORE - Continuous            |
| Milwaukee College Ave Park & Ride    | Milwaukee-Waukesha, WI | 55-079-0058 | 1550 W College Ave             | Milwaukee   | Milwaukee     |                               |
| Milwaukee Sixteenth St Health Center | Milwaukee-Waukesha, WI | 55-079-0010 | Health Center, 1337 So 16th St | Milwaukee   | Milwaukee     | Toxics – Not for NAAQS        |
| Potawatomi                           | None                   | 55-041-0007 | Fire Tower Rd, Potawatomi Site | Crandon     | Forest        | Tribal Toxics – Not for NAAQS |
| Waukesha-Cleveland Ave               | Milwaukee-Waukesha, WI | 55-133-0027 | 1310 Cleveland Ave             | Waukesha    | Waukesha      | SIP Area                      |

| <b>PM<sub>2.5</sub></b> |                     |             |                         |             |               |  |
|-------------------------|---------------------|-------------|-------------------------|-------------|---------------|--|
| <b>Site Name</b>        | <b>Urban Area</b>   | <b>AQS</b>  | <b>Address</b>          | <b>City</b> | <b>County</b> | <b>Comments</b>                            |
| Appleton AAL            | Appleton-Neenah, WI | 55-087-0009 | 4432 N Meade St         | Appleton    | Outagamie     | FRM only<br>FRM Frequency:<br>every 3 days |
| Bad River Tribal        |                     | 55-         | Bad River Tribal School |             | Ashland       | Tribal Collocated                          |

## 2011 Wisconsin Air Monitoring Network Plan

|                                      |                               |             |   |                  |           |  |
|--------------------------------------|-------------------------------|-------------|---|------------------|-----------|--|
| School-Odanah                        |                               | 003-0010    | - Odanah                                |                  |           | FRM Frequency:<br>every 6 days   |
| Chiwaukee Prairie Stateline          | Kenosha,WI                    | 55-059-0019 | Chiwaukee Prairie,<br>11838 First Court | Pleasant Prairie | Kenosha   | FRM Frequency:<br>every 3 days or<br>discontinue<br>TEOM FEM   |
| Devils Lake Park                     |                               | 55-111-0007 | E12886 Tower Rd                         |                  | Sauk      | Collocated<br>FRM Frequency:<br>every 6 days<br>TEOM   |
| Green Bay East High                  | Green Bay,WI                  | 55-009-0005 | 1415 E. Walnut                          | Green Bay        | Brown     | FRM Frequency:<br>every 6 days<br>TEOM FEM test  |
| Harrington Beach Park                | Milwaukee-<br>Waukesha,WI     | 55-089-0009 | 531 Hwy D                               |                  | Ozaukee   | FRM Frequency:<br>every 6 days<br>TEOM   |
| Horicon Wildlife Area                | None                          | 55-027-0001 | 1210 N Palmatory St                     | Horicon          | Dodge     | NCORE, Speciation<br>FRM Frequency:<br>Every 6 days<br>BAM FEM test  |
| Lacrosse-DOT Building                | La Crosse,WI-<br>MN           | 55-063-0012 | 3550 Mormon Coulee Rd                   | La Crosse        | La Crosse | FRM Frequency:<br>every 12 days<br>TEOM – Near FEM   |
| Madison East                         | Madison, WI                   | 55-025-0041 | 2302 Hoard St                           | Madison          | Dane      | Special Purpose<br>FRM every 3 days;<br>Continuous<br>BAM & TEOM<br>FEM test                                     |
| Madison University Ave.              | Madison,WI                    | 55-025-0047 | 2557 University Ave                     | Madison          | Dane      | FRM Frequency:<br>Daily  |
| Manitowoc Woodland Dunes             |                               | 55-071-0007 | 2315 Goodwin Rd                         | Two Rivers       | Manitowoc | FRM Frequency:<br>every 6 days<br>TEOM   |
| Milwaukee College Avenue Park & Ride | Milwaukee-<br>Waukesha,WI     | 55-079-0059 | 1550 W College Ave                      | Milwaukee        | Milwaukee | FRM Frequency:<br>every 6 days<br>TEOM   |
| Milwaukee SER DNR HDQRS              | Milwaukee-<br>Waukesha,WI     | 55-079-0026 | DNR SER Hdqrts, 2300 N M. L. King Jr Dr | Milwaukee        | Milwaukee | Speciation<br>FRM Frequency:<br>every 12 days,<br>discontinue<br>collocation<br>TEOM (may be<br>replaced by BAM) |
| Milwaukee Sixteenth St Health Center | Milwaukee-<br>Waukesha,WI     | 55-079-0010 | Health Center, 1337 So 16th St          | Milwaukee        | Milwaukee | FRM Frequency:<br>Daily  |
| Perkinstown                          |                               | 55-119-8001 | 1 Mi E. Perkinstown On Sr.M             |                  | Taylor    | Speciation<br>FRM Frequency:<br>every 6 days<br>TEOM   |
| Potawatomi                           |                               | 55-041-0007 | Fire Tower Rd,<br>Potawatomi Site       | Crandon          | Forest    | Tribal<br>FRM Frequency:<br>every 6 days<br>Collocation may be<br>discontinued                                   |
| Potosi                               |                               | 55-043-0009 | 128 Hwy 61, Potosi Township             |                  | Grant     | FRM only<br>FRM Frequency:<br>every 3 days   |
| Somerset                             | Minneapolis-St.<br>Paul,MN-WI | 55-109-1002 | Hwy 64, Somerset Town Hall              | Somerset         | St. Croix | FRM Frequency:<br>every 3 days<br>TEOM-near FEM  |
| Trout Lake                           |                               | 55-125-0001 | Trout Lake Nursery,<br>County Hwy M     | Boulder Junction | Vilas     | FRM only<br>FRM Frequency:<br>every 6 days   |

## 2011 Wisconsin Air Monitoring Network Plan

|                        |                        |             |                    |          |          |  |
|------------------------|------------------------|-------------|--------------------|----------|----------|--|
| Waukesha-Cleveland Ave | Milwaukee-Waukesha, WI | 55-133-0027 | 1310 Cleveland Ave | Waukesha | Waukesha | Speciation<br>FRM Frequency:<br>every 6 days<br>BAM FEM test<br>TEOM |
|------------------------|------------------------|-------------|--------------------|----------|----------|--|

| <b>PM<sub>2.5</sub> Speciation</b> |                        |             |   |             |           |          |
|------------------------------------|------------------------|-------------|---|-------------|-----------|----------|
| Site Name                          | Urban Area             | AQS         | Address                                 | City        | County    | Comments |
| Horicon Wildlife Area              |                        | 55-027-0001 | 1210 N Palmatory St                     | Horicon     | Dodge     | NCore    |
| Milwaukee SER DNR HDQRS            | Milwaukee-Waukesha, WI | 55-079-0026 | DNR SER Hdqrts, 2300 N M. L. King Jr Dr | Milwaukee   | Milwaukee |          |
| Perkinstown                        |                        | 55-119-8001 | SR.M - 1 Mi E. of Perkinstown           | Perkinstown | Taylor    |          |
| Waukesha-Cleveland Ave             | Milwaukee-Waukesha, WI | 55-133-0027 | 1310 Cleveland Ave                      | Waukesha    | Waukesha  |          |

| <b>Sulfur Dioxide (SO<sub>2</sub>)</b> |               |             |   |           |        |                                     |
|--|---------------|-------------|---|-----------|--------|-------------------------------------|
| Site Name                              | Urban Area    | AQS         | Address                                   | City      | County | Comments                            |
| Green Bay East High                    | Green Bay, WI | 55-009-0005 | 1415 E. Walnut                            | Green Bay | Brown  | SIP-required<br>Source Influenced   |
| Horicon Wildlife Area                  |               | 55-027-0001 | 1210 N Palmatory St                       | Horicon   | Dodge  | NCore – High<br>Sensitivity         |
| Potawatomi                             |               | 55-041-0007 | Fire Tower Rd,<br>Potawatomi Site         | Crandon   | Forest | Tribal                              |
| Rhineland Tower                        |               | 55-085-0996 | Rhineland Water<br>Tower, Lake & High St. | Rhineland | Oneida | Source oriented;<br>SIP Requirement |

| <b>Toxics</b>                        |                        |             |                     |           |           |                               |
|--------------------------------------|------------------------|-------------|---------------------|-----------|-----------|-------------------------------|
| Site Name                            | Urban Area             | AQS         | Address             | city      | County    | Comments                      |
| Horicon Wildlife Area                |                        | 55-027-0001 | 1210 N Palmatory St | Horicon   | Dodge     |                               |
| Milwaukee Sixteenth St Health Center | Milwaukee-Waukesha, WI | 55-079-0010 | 1337 So 16th St     | Milwaukee | Milwaukee | Environmental<br>Justice Area |
| Potawatomi                           |                        | 55-041-0007 | Fire Tower Rd,      | Crandon   | Forest    | Tribal                        |

| <b>Meteorology (MET)</b>       |             |             |                                      |                  |         |          |
|--------------------------------|-------------|-------------|--------------------------------------|------------------|---------|----------|
| Site Name                      | Urban Area  | AQS         | Address                              | city             | County  | Comments |
| Bad River Tribal School-Odanah |             | 55-003-0010 | Bad River Tribal School - Odanah     |                  | Ashland |          |
| Chiwaukee Prairie Stateline    | Kenosha, WI | 55-059-0019 | Chiwaukee Prairie, 11838 First Court | Pleasant Prairie | Kenosha |          |

## 2011 Wisconsin Air Monitoring Network Plan

|                                      |                            |             |   |             |            |                                   |
|--------------------------------------|----------------------------|-------------|---|-------------|------------|-----------------------------------|
| Columbus                             |                            | 55-021-0015 | Wendt Rd, Columbus                      | Columbus    | Columbia   |                                   |
| Devils Lake Park                     |                            | 55-111-0007 | Devils Lake State Park, E12886 Tower Rd |             | Sauk       |                                   |
| Grafton                              | Milwaukee-Waukesha,WI      | 55-089-0008 | Grafton, Hwy32 And I43                  | Grafton     | Ozaukee    |                                   |
| Harrington Beach Park                | Milwaukee-Waukesha,WI      | 55-089-0009 | 531 Hwy D                               |             | Ozaukee    |                                   |
| Horicon Wildlife Area                |                            | 55-027-0001 | 1210 N Palmatory St                     | Horicon     | Dodge      | NCore - Continuous                |
| Kohler                               | Sheboygan                  | 55-117-0008 |   | Kohler      | Sheboygan  | PM Instrument                     |
| Lacrosse-DOT Building                | La Crosse,WI-MN            | 55-063-0012 | 3550 Mormon Coulee Rd                   | La Crosse   | La Crosse  |                                   |
| Lake Dubai                           |                            | 55-073-0012 | 1780 Bergen Rd, Bergen Township         |             | Marathon   |                                   |
| Lake Geneva                          |                            | 55-127-0005 | RR4 Elgin Club Rd                       | Lake Geneva | Walworth   |                                   |
| Madison East                         | Madison,WI                 | 55-025-0041 | 2302 Hoad St                            | Madison     | Dane       |                                   |
| Manitowoc Woodland Dunes             |                            | 55-071-0007 | 2315 Goodwin Rd                         | Two Rivers  | Manitowoc  |                                   |
| Milwaukee - Havenwoods               | Milwaukee-Waukesha,WI      | 55-079-0052 | 6141 N Hopkins                          | Milwaukee   | Milwaukee  | Educational site                  |
| Milwaukee SER DNR HDQRS              | Milwaukee-Waukesha,WI      | 55-079-0026 | Dnr Ser Hdqrs, 2300 N M. L. King Jr Dr  | Milwaukee   | Milwaukee  |                                   |
| Milwaukee Sixteenth St Health Center | Milwaukee-Waukesha,WI      | 55-079-0010 | 1337 So 16th St                         | Milwaukee   | Milwaukee  |                                   |
| Milwaukee – UWM North                | Milwaukee-Waukesha,WI      | 55-079-0041 | 2114 E Kenwood Ave                      | Milwaukee   | Milwaukee  | Building scheduled for demolition |
| Newport Park                         |                            | 55-029-0004 | Newport State Park (Near Ellison Bay)   |             | Door       |                                   |
| Popple River                         |                            | 55-037-0001 | NADP Fire Station #565                  | Florence    | Florence   |                                   |
| Potawatomi                           |                            | 55-041-0007 | Fire Tower Rd, Potawatomi Site          | Crandon     | Forest     |                                   |
| Racine                               | Racine,WI                  | 55-101-0017 | 1519 Washington Ave                     | Racine      | Racine     |                                   |
| Sheboygan Kohler Andre               | Sheboygan,WI               | 55-117-0006 | 1520 Old Park Road                      |             | Sheboygan  |                                   |
| Slinger                              | Milwaukee-Waukesha,WI      | 55-131-0009 | Hwy 60 & Scenic, Polk Twnshp            | Slinger     | Washington |                                   |
| Somerset                             | Minneapolis-St. Paul,MN-WI | 55-109-     | Somerset Town Hall Hwy 64,              | Somerset    | St. Croix  |                                   |

## 2011 Wisconsin Air Monitoring Network Plan

|                                 |                        |             |                    |          |          |                                |
|---------------------------------|------------------------|-------------|--------------------|----------|----------|--------------------------------|
|                                 |                        | 1002        |                    |          |          |                                |
| Superior Sewage Treatment Plant | Duluth-Superior        | 55-031-0019 | Avenue E           | Superior | Douglas  | Supports industrial monitoring |
| Waukesha-Cleveland Ave          | Milwaukee-Waukesha, WI | 55-133-0027 | 1310 Cleveland Ave | Waukesha | Waukesha |                                |
| Wildcat Mountain                |                        | 55-123-0008 | Highway 33         | Ontario  | Vernon   |                                |

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## 2011 Wisconsin Air Monitoring Network Plan

### Monitoring sites by County

Note: NADP National Trends and Mercury Deposition Network sites are not indicated on this list.

| Site Name                  | AQS         | Pollutants  | Address                                  | Site Began  |
|----------------------------|-------------|---|--|-------------|
| <b>County: Ashland</b>     |             |   |  |             |
| Bad River                  | 55-003-0010 | O3, PM2.5   | Bad River Tribal School - Odanah         | 25-Jul-2002 |
| <b>County: Brown</b>       |             |   |  |             |
| Green Bay E High           | 55-009-0005 | SO2, PM2.5, Cont. PM2.5   | East High, 1415 E. Walnut                | 01-Jan-1971 |
| Green Bay UW               | 55-009-0026 | O3  | UW-Green Bay, Hwys 54 & 57               | 07-Apr-1994 |
| <b>County: Columbia</b>    |             |   |  |             |
| Columbus                   | 55-021-0015 | O3, WS, WD, T, Precip   | Wendt Rd, Columbus                       | 10-Aug-1988 |
| <b>County: Dane</b>        |             |   |  |             |
| Madison East               | 55-025-0041 | O3, PM2.5, Cont. PM2.5, WS, WD, Temp,   | East High, 2302 Hoard St                 | 15-Apr-1992 |
| Madison University Ave     | 55-025-0047 | PM10, PM2.5   | 2557 University Ave                      | 03-Jan-1999 |
| <b>County: Dodge</b>       |             |   |  |             |
| Horicon Wildlife Area      | 55-027-0001 | CO, SO2, NOy, O3, PM10, PM2.5, Cont. PM2.5, Speciation PMCoarse, Toxic Metals, VOCs, Carbonyls, PAHs, MET | 1210 N Palmatory St                      | 18-Dec-2009 |
| <b>County: Door</b>        |             |   |  |             |
| Newport                    | 55-029-0004 | O3  | Newport State Park (Near Ellison Bay)    | 15-Apr-1989 |
| <b>County: Florence</b>    |             |   |  |             |
| Popple River               | 55-037-0001 | O3  | Popple River, NADP Fire Station #565     | 08-May-1987 |
| <b>County: Fond du Lac</b> |             |   |  |             |
| Fond du Lac                | 55-039-0006 | O3  | N3996 Kelly Rd, Town of Byron            | 22-Apr-1994 |
| <b>County: Forest</b>      |             |   |  |             |
| Potawatomi                 | 55-041-0007 | SO2, NO2, O3, PM10, PM2.5, Toxic Metals, Hg   | Fire Tower Rd, Potawatomi Site           | 04-Jun-2002 |
| <b>County: Grant</b>       |             |   |  |             |
| Potosi                     | 55-043-0009 | PM2.5   | 128 Hwy 61, Potosi Township              | 06-Jan-1999 |
| <b>County: Jefferson</b>   |             |   |  |             |
| Jefferson                  | 55-055-0002 | O3, Precip  | Jefferson H.S. Trailer, Willow Dr.       | 15-Apr-1988 |
| <b>County: Kenosha</b>     |             |   |  |             |
| Chiwaukee                  | 55-059-0019 | O3, PM2.5, Cont. PM2.5, WS, WD, T, Precip   | Chiwaukee Prairie, 11838 First urt       | 15-Apr-1988 |
| <b>County: Kewaunee</b>    |             |   |  |             |
| Kewaunee                   | 55-061-0002 | O3  | Kewaunee, Route 1, Hwy 42                | 06-Apr-1994 |
| <b>County: La Crosse</b>   |             |   |  |             |
| Lacrosse-DOT               | 55-063-0012 | O3, PM2.5, Cont. PM2.5, WS, WD  | 3550 Mormon Coulee Rd                    | 13-Oct-2005 |
| <b>County: Manitowoc</b>   |             |   |  |             |
| Manitowoc                  | 55-071-0007 | NO2, NOy, O3, PM2.5, Cont. PM2.5, WS, WD  | Manitowoc/WoodInd Dunes, 2315 Goodwin Rd | 05-Apr-1994 |
| <b>County: Marathon</b>    |             |   |  |             |
| Lake Dubay                 | 55-073-0012 | O3, WS, WD, T   | Lake Dubay, 1780 Bergen Rd, Bergen Tnshp | 25-Sep-1991 |

## 2011 Wisconsin Air Monitoring Network Plan

|                                 |                     |  |  |             |
|---------------------------------|---------------------|--|--|-------------|
| <b>County: Milwaukee</b>        |                     |  |  |             |
| Milw Havenwoods                 |                     | WS, WD, T  |  |             |
| Milw Sixteenth St.              | 55-079-0010         | O3, PM10,<br>PM2.5, VOCs,<br>Carbonyls, Toxic<br>metals<br>WS, WD, T   | Health Center, 1337 So 16th St           | 04-Apr-1997 |
| Milw SER DNR HQ                 | 55-079-0026-42602-1 | NO2, NOy, O3,<br>PM2.5, Cont.<br>PM2.5, Speciation,<br>PAMS VOCs and<br>Carbonyls, WS,<br>WD, T, RHUM,<br>BPress | DNR SER Hdqtrs, 2300 N M. L. King Jr Dr  | 01-Jan-1999 |
| Milw UWM                        | 55-079-0041         | Hg, WS, WD, T  | UWM North Campus, 2114 E Kenwood Blvd    | 01-Jan-1973 |
| Milw College Ave<br>Park & Ride | 55-079-0058         | PM10, PM2.5,<br>Cont. PM2.5  |  |             |
| Bayside                         | 55-079-0085         | O3   | 601 E. Ellsworth Lane                    | 01-May-1984 |
| <b>County: Oneida</b>           |                     |  |  |             |
| Harshaw                         | 55-085-0004         | O3   | Harshaw Farm, 4398 Grace Lane, Harshaw   | 16-Jun-1994 |
| Rhineland                       | 55-085-0996-42401-1 | SO2, WS, WD  | Rhineland Water Tower, Lake & High St.   | 13-Apr-1981 |
| <b>County: Outagamie</b>        |                     |  |  |             |
| Appleton AAL                    | 55-087-0009         | O3, PM2.5  | 4432 N Meade St                          | 15-Apr-1995 |
| <b>County: Ozaukee</b>          |                     |  |  |             |
| Grafton                         | 55-089-0008         | O3, WS, WD, T  | Grafton, Hwy32 And I43                   | 05-Jun-1991 |
| Harrington BCH                  | 55-089-0009         | O3, PM2.5, Cont.<br>PM2.5, WS, WD,<br>T  | Harrington Beach State Park, 531 Hwy D   | 08-Jun-1994 |
| <b>County: Racine</b>           |                     |  |  |             |
| Racine                          | 55-101-0017         | O3   | 1519 Washington Ave                      | 01-Jan-1977 |
| <b>County: Rock</b>             |                     |  |  |             |
| Beloit                          | 55-105-0024         | O3   | Cunningham, 1948 Merrill St              | 06-Apr-1994 |
| <b>County: Sauk</b>             |                     |  |  |             |
| Devils Lake                     | 55-111-0007         | O3, PM2.5, Cont.<br>PM2.5, WS, WD,<br>T  | Devils Lake State Park, E12886 Tower Rd  | 11-May-1995 |
| <b>County: Sheboygan</b>        |                     |  |  |             |
| Sheboygan                       | 55-117-0006         | O3   | Kohler Andre Park, 1520 Old Park Road    | 26-Jun-1997 |
| <b>County: Saint Croix</b>      |                     |  |  |             |
| Somerset                        | 55-109-1002         | O3, PM2.5, Cont.<br>PM2.5, WS, WD,<br>T  | Hwy 64, Somerset Town Hall               | 01-Jan-1967 |
| <b>County: Taylor</b>           |                     |  |  |             |
| Perkinstown                     | 55-119-8001         | PM2.5, Cont.<br>PM2.5, Speciation  | 1 Mi E. Perkinstown On Sr.M              | 01-Jan-1988 |
| <b>County: Vernon</b>           |                     |  |  |             |
| Wildcat Mtn                     | 55-123-0008         | O3, WS, WD, T  | Wildcat Mtn, Hwy 33, Ontario             | 03-Jul-1989 |
| <b>County: Vilas</b>            |                     |  |  |             |
| Trout Lake                      | 55-125-0001         | O3, PM2.5  | Trout Lake Nursery, County Hwy M         | 01-Jan-1973 |
| <b>County: Wood</b>             |                     |  |  |             |
| Port Edwards - Erco             | 55-141-0024         | Hg, WS, WD   | 101 Highway 73 South                     | 11-Nov-2008 |
| <b>County: Walworth</b>         |                     |  |  |             |
| Lake Geneva                     | 55-127-0005         | O3, WS, WD, T  | Lake Geneva Nadp Site, Rr4 Elgin Club Rd | 10-Jul-1987 |
| <b>County: Washington</b>       |                     |  |  |             |
| Slinger                         | 55-131-0009         | O3, WS, WD, T  | Slinger, Hwy 60 & Scenic, Polk Township  | 01-Jun-1991 |
| <b>County: Waukesha</b>         |                     |  |  |             |
| Wauk-Cleveland                  | 55-133-0027         | O3, PM10,<br>PM2.5, Cont.<br>PM2.5, WS, WD,<br>T   | 1310 Cleveland Ave                       | 03-Feb-1989 |

## 2011 Wisconsin Air Monitoring Network Plan

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## Site Descriptions

Each active site contains a standard set of information. Sites that have been discontinued in the recent past are retained in the report for at least one year following shut down; however, detailed site information with parameters and methods may not be presented. The Hazecam site and sites with NADP monitors only are listed with location information but other details are not relevant.

### Network Site Description Format

The network site descriptions contained in this document include the following information:

1. **Site Description**  
Specific information is provided to show the location of the monitoring equipment at the site, if the site is located in an CBSA, the AQS identification number, the GPS coordinates, and that monitors and monitor probes conform to the siting criteria.
2. **Date established**  
The date when each existing monitoring site was established is shown in the description.
3. **Site Approval Status**  
Each monitoring site in the existing network has been reviewed with the purpose of determining whether it meets all design criteria for inclusion in the SLAMS network. Sites that do not meet the criteria will either be relocated in the immediate area or when possible, re-sited at the present location.
4. **Monitoring Objectives**  
The monitoring network was designed to provide information to be used as a basis for the following actions:
  - ▶ To determine compliance with ambient air quality standards and to plan measures to attain these standards.
  - ▶ To activate emergency control procedures in the event of an impending air pollution episode.
  - ▶ To observe pollution trends throughout a region, including rural areas and
  - ▶ To report progress made toward meeting ambient air quality standards.
  - ▶ To provide a database for the evaluation of the effects of air quality on population, land use, and transportation planning
  - ▶ To provide a database for the development and evaluation of air dispersion models.
  - ▶ To provide the Air Quality Index to the public
5. **Monitoring Sites' Designations**  
Most sites described in the monitoring network are designated as State and Local Air Monitoring Stations (SLAMS). In addition, some of these sites fulfill other requirements, which must be identified. In this description of the network, designations are also made for, National Core Multi-pollutant Monitoring Stations (NCore), Special Purpose Monitors (SPM), Emergency Episode Monitoring sites and Air Quality Index sites (AQI). The following are the criteria used for each of these designations.

**SLAMS:** Requirements for monitoring provide for the establishment of a network of monitoring sites designated as State and Local Air Monitoring Sites (SLAMS) that measure ambient concentrations of those pollutants for which federal ambient air quality standards have been established. These sites must meet requirements that relate to four major areas: quality assurance, monitoring methodology, sampling interval and siting of instruments and instrument probes.

**AQI:** Certain sites in the SLAMS network provide data for daily index reporting. Index reporting is required for all urban areas with a population exceeding 350,000. The AQI is a method of reporting that converts concentration levels of pollution to a simple number scale of 0-500. Intervals on the AQI scale are related to potential health effects of the daily measured concentrations of the major pollutants. AQI values are updated with every hourly data polling to the public web site and to the Wisconsin Air Monitoring toll free hotline, 1-866-DailyAir .

**SPM:** Not all monitors and monitoring sites in the air quality surveillance network are included in the SLAMS network. In order to allow the capability of providing monitoring for complaint studies, modeling verification, and compliance status, certain monitors are reserved for short-term studies and designated as Special Purpose Monitors (SPM). These monitors are not committed to any one location or for any specified time period. They may be located as separate monitoring sites or be included at SLAMS locations. Monitoring data may be reported to US EPA, provided that the monitors and sites conform to all requirements of the SLAMS network.

**NCore:** In October 2006 the United States Environmental Protection Agency (EPA) issued final amendments to the ambient air monitoring regulations for criteria pollutants. These amendments are codified in 40 CFR parts 53 and 58. The purpose of the amendments was to enhance ambient air quality monitoring to better serve current and future air quality needs. One of the most significant changes in the regulations was the requirement to establish National Core (NCore) multi-pollutant monitoring stations. These stations will provide data on several pollutants at lower detection limits and replace the National Air Monitoring Station (NAMS) networks that have existed for several years. Final network plan were submitted to EPA by July 1, 2009 and the stations must be operational by January 1, 2011.

Since 1994, the Wisconsin Department of Natural Resources has operated a monitoring site near Mayville, Wisconsin. The Mayville site represented a rural location with relatively uniform land use and ambient air concentrations. By April 2007, WDNR began performing high sensitivity continuous gaseous, ozone, filter-based fine particle, continuous fine particle, speciated fine particle and meteorological monitoring at this location. In December 2009, WDNR moved the monitoring to the Horicon Wildlife Area to assure long-term siting.

## 6. **Monitoring Methods**

All sampling and analytical procedures used in the air monitoring network for determining compliance with regulatory standards conform to Federal reference

(FRM), alternate (FAM) or equivalent (FEM) methods. Wisconsin's network includes monitors that use accepted methodologies that are not approved for comparison with the NAAQS for the pollutant e.g, non-Federal Equivalent Method continuous PM<sub>2.5</sub> instruments.

**Fine Particles:** Most of the continuous PM<sub>2.5</sub> monitors in Wisconsin's network measure Total Atmospheric PM<sub>2.5</sub> using a TEOM-FDMS unit that is neither equivalent to the reference method nor appropriate for direct comparison with the NAAQS. Results from these monitors are used for public health monitoring and are the basis for issuing air quality watches and advisories. In 2009, EPA approved a TEOM-FDMS FEM. The Air Monitoring Program began upgrading the equipment to a FEM, or near-FEM, configuration as funding permitted. Upgrades include retrofitting or updating the FDMS revision C configuration including a revision C dryer, changing to a very sharp cut cyclone (VSCC) as well as a Revision C chiller, and changing instrument firmware. Equipment upgrades that omitted the Revision C chiller are considered near-FEM; however the data cannot be used for NAAQS comparisons for compliance. The data are acceptable for determining whether air quality watches or advisories are necessary. These instruments upgraded instruments are being tested and compared to the PM<sub>2.5</sub> FRM to assure that measurement meet comparability requirements for a FEM. Upon successful completing of the testing, these monitors will become the primary PM<sub>2.5</sub> monitors and FRM monitors may be discontinued or sampling frequency reduced.

**Lead:** With the exception of the collocated monitors at Kohler, which use Hi-volume TSP samplers, the lead monitors in Wisconsin's network use methods that are consistent with those in the National Air Toxics Trends program. Samples are collected with high volume PM<sub>10</sub> samplers. The lead determination is performed using ICP-MS that is consistent with the method developed by Pima County, Arizona which has FEM status. US EPA approved Wisconsin's analytical method in November 2009.

**Continuous PM<sub>10</sub>:** At the Horicon NCore site, a dual Met One Beta Attenuation Monitor measures PM<sub>10</sub> and calculates concentrations in both local conditions (LC) and at Standard Temperature and Pressure (STP). The LC measurements are appropriate for calculating coarse particle concentrations but are not appropriate for comparison with the NAAQS. The method for the PM<sub>10</sub> STP is a FEM and is appropriate for NAAQS comparisons. Until a utility or driver is available that interfaces with Wisconsin's data loggers, the logged concentrations are compared with the instrument value to assure that the value reported to AQS meets FEM requirements.

7. **Quality Assurance Status** The WDNR Air Monitoring Section has an extensive quality assurance program to ensure that all air monitoring data collected and reported to EPA's AQS data system is accurate and precise. Staff members audit air monitors on a scheduled basis, to ensure that each instrument is calibrated and operating properly. Data validation is performed monthly by verifying the data reported by each instrument is recorded accurately in the computerized database.

**Meteorology:** At special purpose or air toxics monitoring sites, siting for meteorological monitors may not meet the requirements in federal rules. Relative humidity, barometric pressure, and solar radiation may be measured at some sites to aid in instrument maintenance and data interpretation. Equipment calibration and audits for these monitors may not meet federal requirements so the data are not reported to EPA's AQS data system. At some locations, the National Weather Service (NWS) has provided mechanical tipping buckets for determining hourly precipitation values that are reported to the public website. With the exception of the device at the Horicon site, these devices are not equipped with heaters so they operate in the warmer months (April through October). NWS monitors the results and is responsible for assuring calibration and performing any necessary maintenance. The Air Monitoring Program does no quality assurance of these monitors so results are not reported to EPA's AQS data system.

**Air Toxics:** Monitoring schedules, calibrations, audits and collocation frequencies in the NATTS program are not consistent with the federal requirements for criteria pollutants. The data are quality assured before reporting; however, are not held to the same specification as the criteria pollutants.

#### 8. **Area of Representativeness**

Each site in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring site throughout which actual pollutant concentrations are reasonably similar. Area dimensions or scales of representativeness used in the network description are:

- (a) Micro scale - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- (b) Middle scale - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
- (c) Neighborhood scale - defines concentrations within an extended area of a city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers
- (d) Urban scale - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.
- (e) Regional scale - defines air quality level over areas having dimensions of 50 to hundreds of kilometers.

Closely associated with the area around the monitoring site where pollutant concentrations are reasonably similar are the basic monitoring exposures of the site. There are four basic exposures included in this description:

- (a) To determine the highest concentrations expected to occur in the area covered by the network.
- (b) To determine representative concentrations in areas of high population density.
- (c) To determine the impact on ambient pollution levels of significant sources or source categories.
- (d) To determine general background concentration levels.

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| <b>Monitoring Exposures</b> | <b>Siting Area Scale</b>    |
|-----------------------------|-----------------------------|
| Highest concentration       | Micro, Middle, Neighborhood |
| Population                  | Neighborhood, Urban         |
| Source impact               | Micro, Middle, Neighborhood |
| General/background          | Neighborhood, Regional      |

The design intent in locating sites is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the site.

**Appleton AAL**

AQS Site ID: 55-087-0009  
Location: 4400 block of N Meade St.,  
 Appleton  
County: Outagamie  
Coordinates: 44.306,  
 -88.395  
Date Established: 04/15/1995



CBSA: Appleton  
CSA: Appleton-Oshkosh-Neenah, WI  
UA: Appleton-Neenah  
AQCR: Lake Michigan Intra-State

Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting

This site is located in a neighborhood in Appleton. The sample inlet is 5 meters above ground level and 12 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and PM2.5 and to provide pollutant levels for daily air quality index reporting.

Monitors with Site Designation:

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | *Monitor Est. |
|---------|-------------------|-------------|-----------------|--------------------|---------------|
| Ozone   | API Ozone         | SLAMS       | UV Photometry   | continuous         | 04/15/1995    |
| PM2.5   | R&P<br>FRM2025    | SLAMS       | Gravimetric     | 1/3                | 01/01/1999    |

\* Date when monitor first located at the site. Monitoring may be discontinuous.

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a CORE Community Oriented for PM2.5 and Neighborhood for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

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Wisconsin Department of Natural Resources

### Air Monitoring Network

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Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

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You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

APPLETON AAL

No AQI layer selected

Scale: 1:30,633 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

Internet

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**Bad River – Odana (Tribal Site)**

AQS Site ID: 55-003-0010  
Location: Bad River Tribal School  
 Odanah  
County: Ashland  
GPS Coordinates: 46.6145,  
 -90.6987  
Date Established: 07/25/2002



CBSA: None – Rural site  
AQCR: Northwest Wisconsin - Duluth, Minnesota Interstate

Site Approval Status: Site and monitor meet all design criteria for the monitoring network.



Locational Setting:

This site is located on the Bad River Reservation adjacent to the Tribal School. The sample inlet is 3 meters above ground level and 400 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Tribal, Population Exposure

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of PM2.5 and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                                 | Monitor Equipment         | Designation | Analysis Method | Sampling Frequency  | Monitor Est. |
|---|---------------------------|-------------|-----------------|---------------------|--------------|
| Ozone                                   | API Ozone                 | Tribal      | UV Photometry   | Continuous          | 07/30/2      |
| PM2.5                                   | R&P<br>FRM2025            | Tribal      | Gravimetric     | 1/6 -<br>collocated | 07/25/2      |
| Wind<br>Speed/Direction.<br>Temperature | Met-One<br>Meteorological | Tribal      | Ultra Sonic     | Continuous          | 04/09/2      |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a regional scale for PM2.5 and ozone.

Comments:

The original ozone site was located at the Fish Hatchery but was moved in 2004.

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**Bayside**

AQS Site ID: 55-079-0085  
Location: 601 Ellsworth Lane,  
 Bayside  
County: Milwaukee  
GPS coordinates: 43.181,  
 -87.900  
Date Established: 05/01/1984

CBSA: Milwaukee/Waukesha  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

This site is located inside the Bayside Middle School, in the boiler room. The sample inlet is 6 meters above ground level and 848 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.



Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|-------------------|-------------|-----------------|--------------------|--------------|
| Ozone   | API Ozone         | SLAMS       | UV Photometry   | continuously       | 05/01/1984   |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

Navigation: Legend, Layers, Map Introduction, Reports, Find Location, Home Page, Interactive Maps, Print, Help

Map Tools: Full State, Zoom In, Zoom Out, Zoom Last, Move, Identify, Monitor Info, Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed.)  
Milwaukee

You can also type the first few letters of the monitor name:

Select one of the listed air quality monitors to zoom to that location:

- BAYSIDE
- MILWAUKEE APPLETON AVE
- MILWAUKEE - COLLEGE AVE PARK & RIDGE
- MILWAUKEE GREAT LAKES RESEARCH FACILITY
- MILWAUKEE I-94S & LAYTON (FAA)

Scale: 1:30,424 Selected Map Tool: Zoom Out Zoom Out

Footer: WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website

[Return to Table of Contents](#)

## Bayview Towers Hazecam

AQS Site ID: None  
Location: 3535 S Shore Dr.  
Bay View  
County: Milwaukee  
GPS coordinates: 42.999167  
-87.888333  
Date Established:  
  
CBSA: Milwaukee/Waukesha  
AQCR: Southeastern Wisconsin  
Intra-State



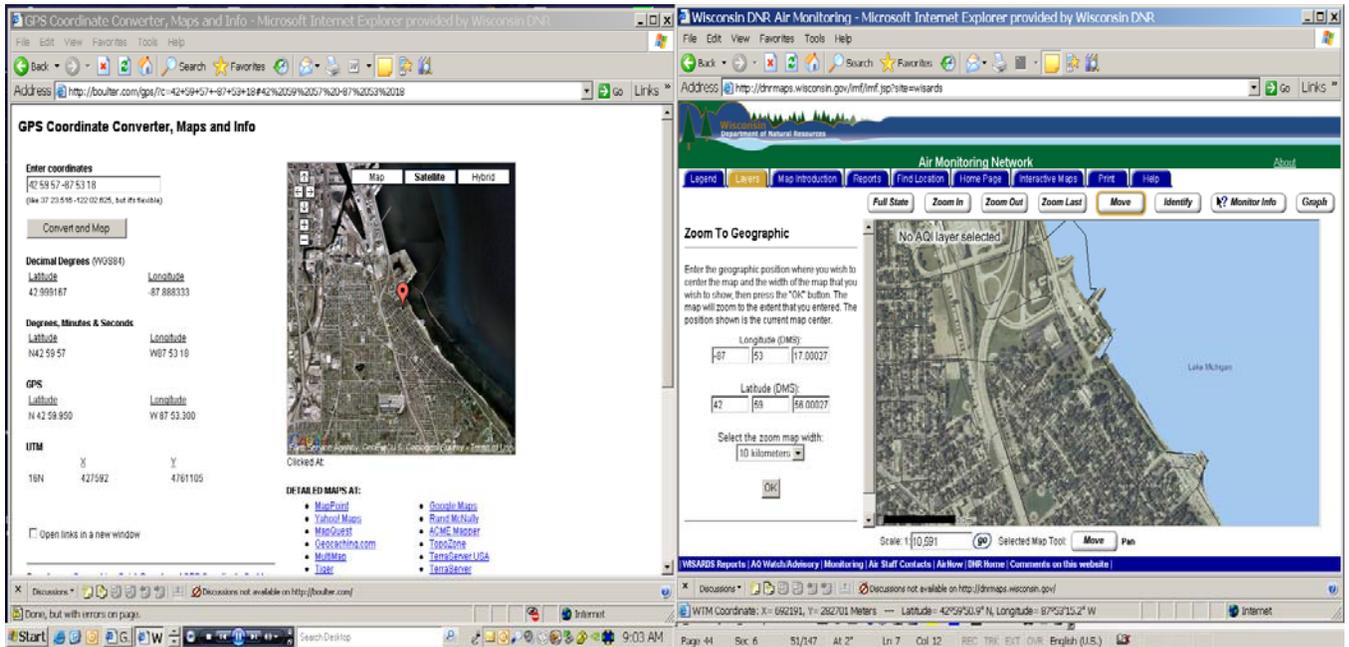
For many years, visibility impairment has been considered the "best understood and most easily measured effect of air pollution." In 1999, EPA promulgated rules to address visibility impairment due to regional haze. Regional haze is visibility impairment caused by the cumulative air pollutant emissions from numerous sources over a wide geographic area

To provide the public with information about visibility throughout the upper Midwest, the Midwest Regional Planning Organization, in cooperation with a number of other groups, established a visibility camera network. The network includes several urban (Milwaukee, WI; Chicago, IL; Cincinnati, OH; Indianapolis, IN; St. Paul, MN; and St. Louis, MO) and rural locations. Site operators include state and local air pollution control agencies, and the U.S. Fish and Wildlife Service.

The images from the cameras are updated every 15 minutes. In addition, near real-time air quality data (instantaneous) and meteorological data (hourly average) are provided to distinguish natural from man-made causes of poor visibility, and to provide current air pollution levels to the public.



# 2011 Wisconsin Air Monitoring Network Plan



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**Beloit**

AQS Site ID: 55-105-0024  
Location: 910 Town line Avenue, Beloit  
County: Rock  
GPS coordinates: 42.508,  
 -89.056  
Date Established: 04/04/1994

CBSA: Janesville, WI  
CSA: None  
UA: Beloit, WI-IL  
AQCR: Rockford-Janesville-Beloit Interstate



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting

This site is located in a fenced area at the Cunningham School in Beloit. The sample inlet is 6 meters above ground level and 17 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | Monitor Est |
|---------|-------------------|-------------|-----------------|--------------------|-------------|
| Ozone   | API Ozone         | SLAMS       | UV Photometry   | continuous         | 04/04/1994  |

Area of Representativeness:

This site represents population exposure on a urban scale

# 2011 Wisconsin Air Monitoring Network Plan

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## Brule River

AQS Site ID: None  
Location: Brule River State Park  
County: Douglas  
GPS coordinates: 46.746,  
-91.605  
Date Established: 03/05/1996  
  
CBSA: None  
AQCR: North Central Wisconsin Intra-  
State



Site Approval Status: Site and monitor meet all NADP design criteria for the MDN monitoring network.

### Locational Setting:

This site is located in a field at the end of Brule River Rd on the east side of the road. This site monitors atmospheric mercury deposition. The mercury deposition sampler is located 500 feet from the nearest road.

### Monitoring Objective:

The objective of the mercury deposition network (MDN) is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition. The data is used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Monitors: Wet deposition of mercury

### Quality Assurance Status:

This site meets National Atmospheric Deposition Program Mercury Deposition Network quality assurance requirements.

Area of Representativeness: This site is representative of regional mercury deposition.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dhrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

#### Zoom To Geographic

Enter the geographic position where you wish to center the map and the width of the map that you wish to show, then press the "OK" button. The map will zoom to the extent that you entered. The position shown is the current map center.

Longitude (DMS):  
-91 36 18.00000

Latitude (DMS):  
46 44 45.00027

Select the zoom map width:  
10 kilometers

OK

Back to main Find Locations page

No AQI layer selected

Lake Superior

Scale: 1:30,256 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dhrmaps.wisconsin.gov/>

WTM Coordinate: X= 397667, Y= 697803 Meters --- Latitude= 46°44'33" N, Longitude= 91°36'5" W

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dhrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

#### Zoom To Geographic

Enter the geographic position where you wish to center the map and the width of the map that you wish to show, then press the "OK" button. The map will zoom to the extent that you entered. The position shown is the current map center.

Longitude (DMS):  
-91 36 18.00000

Latitude (DMS):  
46 44 45.00027

Select the zoom map width:  
10 kilometers

OK

Back to main Find Locations page

No AQI layer selected

Bois Brule River

Scale: 1:3,256 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dhrmaps.wisconsin.gov/>

WTM Coordinate: X= 397477, Y= 698050 Meters --- Latitude= 46°44'41.1" N, Longitude= 91°36'14.4" W

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## Chiwaukee Prairie Stateline

AQS Site ID: 55-059-0019  
Location: 11838 First Court Chiwaukee  
 Prairie Nature Reserve, Pleasant  
 Prairie  
County: Kenosha  
GPS coordinates: 42.504,  
 -87.809  
Date Established: 09/02/1987



CBSA: Chicago-Naperville-Joliet, IL-IN-WI  
CSA: Chicago-Naperville-Michigan City, IL-IN-WI  
UA: Kenosha, WI  
AQCR: Southeastern Wisconsin Intra-State

Site Approval Status: Site and monitor meet all design criteria for the monitoring network

### Locational Setting

This site is located in the Chiwaukee Prairie, a rural area near the Wisconsin-Illinois border. The sample inlet is 5 meters above ground level and 24 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G. This site also has a rain gauge as part of a special project with the National Weather Service.

### Monitoring Objective: Regional Transport

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and PM<sub>2.5</sub>, and to provide pollutant levels for daily air quality index reporting.

### Monitors:

| Monitor  | Monitor Equipment                             | Designation                            | Analysis Method                                      | Sampling Frequency | Monitor Est                     |
|--|---|--|--|--------------------|---------------------------------|
| Ozone  | API Ozone                                     | SLAMS                                  | UV Photometry  | continuous         | 09/02/1987                      |
| PM <sub>2.5</sub> Total Atmospheric<br>(PM <sub>2.5</sub> in 2010) | R&P TEOM/FDMS<br><br>(FEM testing in 2010-11) | SLAMS<br><br>(Special Purpose-Testing) | Tapered element oscillating microbalance gravimetric | continuous         | 10/01/2002<br><br>(Summer 2010) |
| PM <sub>2.5</sub>  | R&P 2025 FRM                                  | Interstate Transport                   | Gravimetric  | 1/3                | 04/04/1997                      |
| Wind Speed/Direction.<br>Temperature                               | Met-One Meteorological                        | Other                                  | Mechanical   | continuous         | 05/23/1988                      |
| Precipitation  |   | National Weather Service               | Mechanical   | Continuous         |                                 |

## 2011 Wisconsin Air Monitoring Network Plan

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A. The National Weather Service is responsible for all quality control and quality assurance associated with the precipitation monitor.

### Area of Representativeness:

This site represents population exposure on a regional, interstate transport scale for ozone and PM2.5.

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**Columbus**

AQS Site ID: 55-021-0015

Location: Wendt Road, Columbus  
Township

County: Columbia

GPS coordinates: 43.314,  
-89.108

Date Established: 8/11/88

CBSA: Madison, WI

CSA: Madison-Baraboo, WI

UA: Not in an urban area

AQCR: Southern Wisconsin



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting

This site is located in rural Columbia County on Wendt Road. The sample inlet is 5 meters above ground level and 10 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G. This site also has a rain gauge as part of a special project with the National Weather Service.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| <b>Monitor</b>                           | <b>Monitor Equipment</b> | <b>Designation</b> | <b>Analysis Method</b> | <b>Sampling Frequency</b> | <b>Monitor Est</b> |
|--|--------------------------|--------------------|------------------------|---------------------------|--------------------|
| Ozone                                    | API Ozone                | SLAMS              | UV Photometry          | continuous                | 08/10/1988         |
| Wind speed/<br>direction.<br>Temperature | Met One                  | Other              | Mechanical             | continuous                | 08/10/1988         |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness: Regional

This site represents population exposure on a rural scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnr.maps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Columbia

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

COLUMBUS

No AQI layer selected

Scale: 1:52,955 Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 594952, Y= 313542 Meters --- Latitude= 43°17'27" N, Longitude= 89°4'34" W

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**Devils Lake State Park**

AQS Site ID: 55-111-0007  
Location: E12886 Tower Road,  
 Baraboo  
County: Sauk  
GPS coordinates: 43.435,  
 -89.679  
Date Established: 05/11/1995  
  
CBSA: Baraboo, WI  
CSA: Madison-Baraboo, WI  
UA: Not in an urban area  
AQCR: Southern Wisconsin



Site Approval Status: Site and monitors meet all design criteria for the monitoring network

Locational Setting:

This site is located at Devils Lake State Park. The sample inlet is 5 meters above ground level and 200 feet from the nearest rural road and 1,380 meters from the nearest state road. This site is also part of the Mercury Deposition Network. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: General Background

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and PM2.5, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                                     | Monitor Equipment           | Designation                                   | Analysis Method                                      | Sampling Frequency    | Monitor Est. |
|---|-----------------------------|---|--|-----------------------|--------------|
| Ozone                                       | API Ozone                   | SLAMS   | UV Photometry  | continuous            | 05/11/1995   |
| PM2.5                                       | R&P FRM2025                 | SLAMS   | Gravimetric  | 1/6 collocated        | 05/09/2003   |
| PM2.5 Total Atmospheric (PM2.5)             | R&P TEOM/FDMS (FEM-like)    | Regional Background (Special Purpose-Testing) | Tapered element oscillating microbalance gravimetric | continuous collocated | 11/03/2003   |
| Wind speed/direction. Temperature, Humidity | Qualimetrics Meteorological | Other   | Mechanical   | continuous            | 07/03/1996   |

Atmospheric Deposition Network  
 Mercury Deposition Network

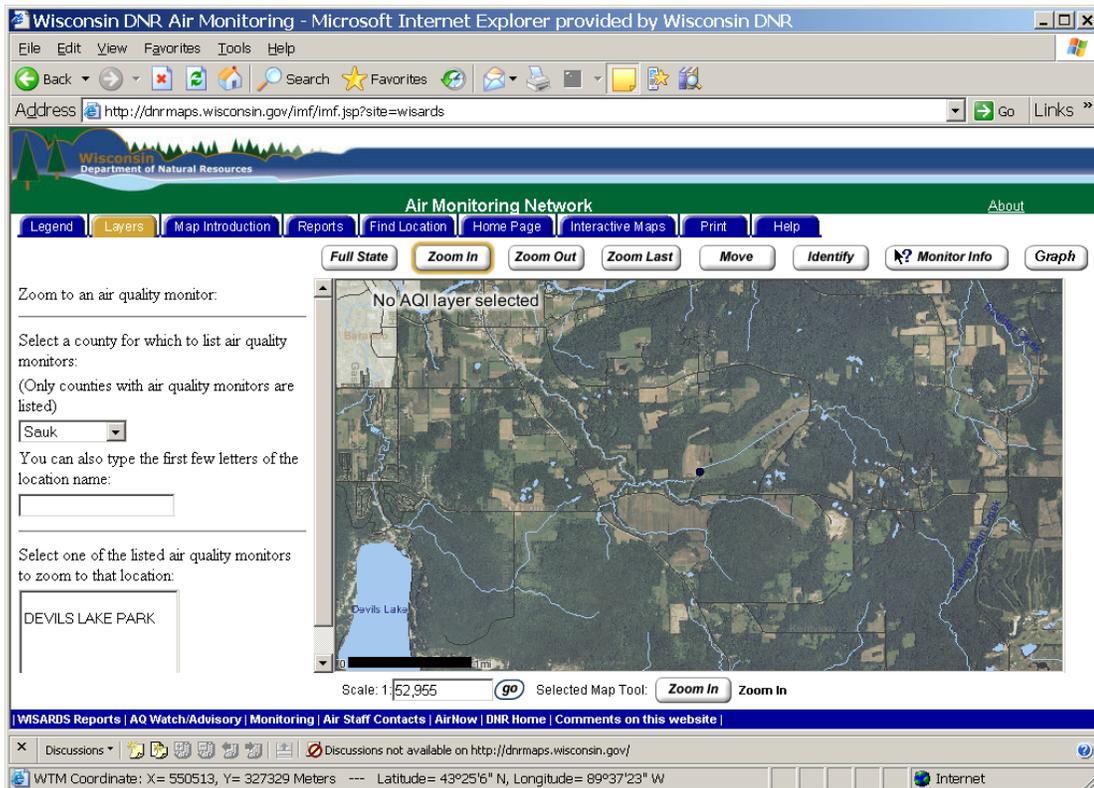
Quality Assurance Status:

## 2011 Wisconsin Air Monitoring Network Plan

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

### Area of Representativeness:

This site represents population exposure on a regional background scale for PM<sub>2.5</sub> and ozone.



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## Eau Claire School District Administration Building

AQS Site ID: 55-035-0100  
Location: 500 Main Street  
County: Eau Claire  
GPS coordinates: 44.812  
 -91.496  
Date Established: 03/17/2009

CBSA: Eau Claire, WI  
CSA: Eau Claire-Menomonie, WI  
UA: Eau Claire, WI  
AQCR: Southeast Minnesota – La Crosse



Site Approval Status: Site and monitor meet all design criteria for the monitoring network. The site is owned and operated by the Eau Claire Health Department through a cooperative agreement with DNR.

Locational Setting:

This site is located on rooftop of flat roofed building in middle of roof away from any parapets. The sample inlet is 15 meters above ground level and 43 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.



Monitoring Objective: Regional transport, Population Exposure

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of PM2.5.

Monitors:

| Monitor | Monitor Equipment | Designation     | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|-------------------|-----------------|-----------------|--------------------|--------------|
| PM2.5   | R&P FRM 2025      | Special Purpose | Gravimetric     | 1/6                | 03/17/2009   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a regional scale for PM2.5.

**Note:** This site location will be re-evaluated if the Somerset site is relocated to the Eau Claire area.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Windows Internet Explorer provided by Wisconsin DNR

http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify **Monitor Info** Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors (Only counties with air quality monitors are listed):  
Eau Claire

You can also type the first few letters of the location:

Select one of the listed air quality monitors to zoom location:  
EAU CLAIRE SCHOOL DISTRICT ADMINISTRA

No AQI layer selected

Dells Pond

Chippewa River

Scale: 1:30,095 go Selected Map Tool: **Zoom In** Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website

http://dnr.wi.gov/ Internet 100%

**Fond du Lac**

AQS Site ID: 55-039-0006  
Location: N3996 Kelly Road, Town of Byron  
County: Fond du Lac  
GPS coordinates: 43.687, -88.421  
Date Established: 04/22/1994  
  
CBSA: Fond du Lac, WI  
CSA: Fond du Lac – Beaver Dam, WI  
UA: Not in an urban area  
AQCR: Lake Michigan Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located in a farm field in the rural town of Byron. The sample inlet is 6 meters above ground level and 107 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | Monitor Est |
|---------|-------------------|-------------|-----------------|--------------------|-------------|
| Ozone   | API Ozone         | SLAMS       | UV Photometry   | continuous         | 04/22/1994  |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness:

This site represents population exposure on a regional scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

File Edit View Favorites Tools Help

Address <http://dhrmaps.wisconsin.gov/imf/imf.jsp?site=wisards> Go Links >>

Wisconsin Department of Natural Resources

**Air Monitoring Network** About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify **Monitor Info** Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Fond du Lac

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

FOND DU LAC

No AQI layer selected

Scale: 1:30,477 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dhrmaps.wisconsin.gov/>

Internet

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**Grafton**

AQS Site ID: 55-089-0008  
Location: Hwy's 57 and I43, Grafton  
County: Ozaukee  
GPS coordinates: 43.343,  
 -87.920  
Date Established: 06/05/1991

CBSA: Milwaukee-Waukesha-  
 West Allis, WI  
CSA: Milwaukee-Racine-  
 Waukesha, WI  
UA: Not in an urban area  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located just off the Highway I-43, next to the WE Energies landfill. The sample inlet is 5 meters above ground level and 64 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G. This site also has a rain gauge as part of a special project with the National Weather Service.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                              | Monitor Equipment         | Designation                    | Analysis Method | Sampling Frequency | Monitor Est |
|--------------------------------------|---------------------------|--------------------------------|-----------------|--------------------|-------------|
| Ozone                                | API Ozone                 | SLAMS                          | UV Photometry   | continuous         | 06/05/1991  |
| Wind speed/direction.<br>Temperature | Met One<br>Meteorological | Other                          | Mechanical      | continuous         | 06/05/1991  |
| Precipitation                        |                           | National<br>Weather<br>Service | Mechanical      | continuous         |             |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A. The National Weather Service is responsible for all quality control and quality assurance associated with the precipitation monitor.

Area of Representativeness:

This site represents population exposure on a rural scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

The screenshot shows a web browser window titled "Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR". The address bar contains the URL "http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards". The page features a navigation menu with tabs for "Legend", "Layers", "Map Introduction", "Reports", "Find Location", "Home Page", "Interactive Maps", "Print", and "Help". Below the menu are buttons for "Full State", "Zoom In", "Zoom Out", "Zoom Last", "Move", "Identify", "Monitor Info", and "Graph".

On the left side, there are instructions and input fields:

- "Zoom to an air quality monitor:"
- "Select a county for which to list air quality monitors: (Only counties with air quality monitors are listed)" with a dropdown menu showing "Ozaukee".
- "You can also type the first few letters of the location name:" with an empty text input field.
- "Select one of the listed air quality monitors to zoom to that location:" with a list box containing "GRAFTON" and "HARRINGTON BEACH PARK".

The main map area displays an aerial view with a blue line representing a river. A text overlay on the map reads "No AQI layer selected". Below the map, the scale is "1:30,477" and the "Selected Map Tool" is "Zoom In".

At the bottom, a navigation bar includes links for "WISARDS Reports", "AQ Watch/Advisory", "Monitoring", "Air Staff Contacts", "AirNow", "DNR Home", and "Comments on this website". The browser's status bar shows "Discussions not available on http://dnrmaps.wisconsin.gov/" and the "Internet" logo.

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**Green Bay East High School**

AQS Site ID: 55-009-0005  
Location: 1415 E. Walnut St. Green Bay  
County: Brown  
GPS coordinates: 44.516,  
 -87.993  
Date Established: 07/24/1980

CBSA: Green Bay, WI  
CSA:  
UA: Green Bay, WI  
AQCR: Lake Michigan Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located inside the Green Bay East High School. The sample inlet is 11 meters above ground level and 75 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.



Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of PM2.5 and SO2, and to provide pollutant levels for daily air quality index reporting. Continuous TEOM PM2.5 began in December 2004 to measure PM2.5 continuously in the Fox Valley/NE Wisconsin area for AIRNOW and AQS data submittals.

Monitors:

| Monitor        | Monitor Equipment   | Designation                          | Analysis Method                                      | Sampling Frequency           | Monitor Est              |
|----------------|---------------------|--------------------------------------|--|------------------------------|--------------------------|
| Sulfur dioxide | API SO2             | SLAMS                                | UV fluorescence                                      | continuous                   | 07/24/1980               |
| PM2.5          | R&P FRM 2025        | SLAMS collocated                     | Gravimetric  | Daily or 1/6 Collocated 1/12 | 01/01/1999<br>04/01/2004 |
| PM2.5 FEM      | R&P TEOM/FDMS (FEM) | Community Oriented (Special Purpose) | Tapered element oscillating microbalance gravimetric | continuous                   | 12/2004<br>(2/2/2010)    |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness: Population Exposure

# 2011 Wisconsin Air Monitoring Network Plan

This site represents population exposure on a neighborhood scale for SO<sub>2</sub> and PM<sub>2.5</sub>.

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

**Air Monitoring Network**

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed.)

Brown

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

- GREEN BAY EAST HIGH
- GREEN BAY UW
- GREEN BAY YOUNKERS

No AQI layer selected

Scale: 1:30,424 Selected Map Tool: Zoom Out Zoom Out

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website

Discussions not available on <http://dnrmaps.wisconsin.gov/>

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**Green Bay UW**

AQS Site ID: 55-009-0026  
Location University of Wisconsin property,  
 Green Bay  
County: Brown  
GPS coordinates: 44.53,  
 -87.908  
Date Established: 04/07/1994  
  
CBSA: Green Bay, WI  
CSA:  
UA: Green Bay, WI  
AQCR: Lake Michigan Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located behind the University of Wisconsin in Green Bay. The sample inlet is 5 meters above ground level and 600 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | Monitor Est |
|---------|-------------------|-------------|-----------------|--------------------|-------------|
| Ozone   | API Ozone         | SLAMS       | UV Photometry   | continuous         | 04/07/1994  |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58 Appendix A.

Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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## Harrington Beach

AQS Site ID: 55-089-0009  
Location: Harrington Beach State Park  
 531 Hwy D  
County: Ozaukee  
GPS coordinates: 43.498,  
 -87.81  
Date Established: 06/08/1994

CBSA: Milwaukee-Waukesha-West  
 Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Not in an urban area  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

### Locational Setting:

This site is located at the Harrington Beach State Park. The sample inlet is 3 and 5 meters above ground level and 30 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

### Monitoring Objective: Highest Concentration and Population Exposure

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and fine particles, and to provide pollutant levels for daily air quality index reporting.

### Monitors:

| Monitor                           | Monitor Equipment      | Designation           | Analysis Method                                      | Sampling Frequency | Monitor Est |
|-----------------------------------|------------------------|-----------------------|--|--------------------|-------------|
| Ozone                             | API Ozone              | PAMS                  | UV Photometry  | continuous         | 06/08/1994  |
| PM2.5 Total Atmospheric           | R&P TEOM/FDMS          | SLAMS Urban Transport | Tapered element oscillating microbalance gravimetric | continuous         | 04/29/2004  |
| PM2.5                             | R&P 2025 FRM           | Regional              | Gravimetric  | 1/6                | 06/23/2003  |
| Wind speed/direction. Temperature | Met-One Meteorological | Other                 | Mechanical   | continuous         | 06/08/1994  |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

# 2011 Wisconsin Air Monitoring Network Plan

## Area of Representativeness: Regional

This site represents population exposure on a regional and urban transport scale for PM<sub>2.5</sub> & ozone.

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

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Address <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards> Go Links »

Wisconsin Department of Natural Resources

**Air Monitoring Network** About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In **Zoom Out** Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)  
Ozaukee

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

GRAFTON  
HARRINGTON BEACH PARK

No AQI layer selected

Lake Michigan

Scale: 1:30,424 go Selected Map Tool: Zoom Out Zoom Out

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

Internet

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## 2011 Wisconsin Air Monitoring Network Plan

### Harshaw Farms

AQS Site ID: 55-085-0004  
Location: 4398 Grace Lane, Harshaw  
County: Oneida  
GPS coordinates: 45.678,  
-89.632  
Date Established: 6/16/94

CBSA: None  
CSA:  
UA: Not in an urban area  
AQCR: North Central Wisconsin  
Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

#### Locational Setting:

This site is located at the Harshaw Experimental Farms, for the Aspen Free-Air Carbon Dioxide Enrichment (FACE) and ozone plant Study, funded by US Forest Service. The sample inlet is 5 meters above ground level and 27 feet from Grace Lane, a rural road and 750 from the next rural road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

#### Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

#### Monitors:

| Monitor | Monitor Equipment | Designation     | Analysis Method | Sampling Frequency | Monitor Est |
|---------|-------------------|-----------------|-----------------|--------------------|-------------|
| Ozone   | API Ozone         | Special Purpose | UV Photometry   | continuous         | 06/16/1994  |

#### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

#### Area of Representativeness:

This site represents population exposure as a rural background scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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**Horicon Wildlife Area (New Site in 2009)**

AQS Site ID: 55-027-0001  
Location: 1210 N Palmatory St  
County: Dodge  
GPS coordinates: 43.466  
 -88.621  
Date Established: 12/18/2009

CBSA: Beaver Dam, WI  
CSA: Fond du Lac – Beaver Dam, WI  
UA: Not in an urban area  
AQCR: Southern Wisconsin



Locational Setting:

The sample inlet is 3.85 meters above ground level and 100 meters from a rural road, Palmatory Drive.

Quality Assurance Status: The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to meet NCore multi pollutant network objectives, to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor   | Monitor Equipment      | Designation             | Analysis Method                                | Sampling Frequency | Monitor Est |
|---|------------------------|-------------------------|--|--------------------|-------------|
| Ozone   | API Ozone              | SLAMS /NCore            | UV Photometry                                  | continuous         | 12/18/2009  |
| PM2.5   | R&P FRM2025            | SLAMS/NCore             | Gravimetric                                    | 1/6                | 12/18/2009  |
| PM2.5 FEM   | Met-One BAM – dual     | Urban Transport / Ncore | Beta Attenuation                               | continuous         | 02/03/2010  |
| Fine Particle Species   | Met-One Speciation     | Regional                | Gravimetric                                    | 1/3                | 12/18/2009  |
| Toxic metals  | High volume PM10       | NATTS                   | ICP-MS   | 1/6                | 12/21/2009  |
| Polyaromatic hydrocarbons   | PUF Sampler            | NATTS                   | Gas chromatography – mass spectrometry (GC/MS) | 1/6?               | 12/18/2009  |
| Wind speed/direction. Temperature, Barometric Pressure, Relative Humidity | Met One Meteorological | Other                   | Mechanical                                     | continuous         | 01/20/2010  |

## 2011 Wisconsin Air Monitoring Network Plan

|                                 |                                    |                          |                         |                        |                  |
|---------------------------------|------------------------------------|--------------------------|-------------------------|------------------------|------------------|
| Sulfur dioxide                  | SO <sub>2</sub> , High Sensitivity | NCore level 2 site       | UV fluorescence         | continuous             | 01/26/2010       |
| NO <sub>y</sub>                 | NO <sub>y</sub> High Sensitivity   | NCore level 2 site       | UV fluorescence         | continuous             | 01/28/2010       |
| Carbon Monoxide                 | CO High Sensitivity                | NCore level 2 site       | UV fluorescence         | continuous             | 01/25/2010       |
| Volatile organics and carbonyls | Canister and Cartridge             | NATTS                    | GC-MS                   | 1/6                    | 12/21/2009       |
| Mercury                         | Tekran speciated mercury           | State Toxics             | Tekran speciation units | continuous – 5 minutes | To be determined |
| Precipitation                   |                                    | National Weather Service | Mechanical, heated      | continuous             |                  |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A. The National Weather Service is responsible for all quality control and quality assurance associated with the precipitation monitor.

### Area of Representativeness:

This site represents population exposure on a regional and urban transport scale for PM<sub>2.5</sub> & ozone. This is a NCore rural background site.

### Comments: This site replaces the Mayville site

**Jefferson**

AQS Site ID: 55-055-0002  
Location: Jefferson High School, Linden Drive  
County: Jefferson  
GPS coordinates: 43.00208,  
 -88.81869  
Date Established: 4/6/1988

CBSA: Watertown-Fort Atkinson, WI  
CSA:  
UA: Not in an urban area  
AQCR: Southern Wisconsin



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located next to the Jefferson High School sports field. The sample inlet is 5 meters above ground level and 10 meters from nearest road.

Quality Assurance Status:

The site meets the requirement of 40 CFR 58, Appendices C, D, E and G. This site also has a rain gauge as part of a special project with the National Weather Service.

Monitoring Objective: Population Exposure

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor       | Monitor Equipment | Designation              | Analysis Method | Frequency of Sampling | Monitor Est. |
|---------------|-------------------|--------------------------|-----------------|-----------------------|--------------|
| Ozone         | API Ozone         | SLAMS                    | UV Photometry   | continuous            | 04/15/1988   |
| Precipitation |                   | National Weather Service | Mechanical      | Continuous            |              |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A. The National Weather Service is responsible for all quality control and quality assurance associated with the precipitation monitor.

Area of Representativeness: Regional

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

Air Monitoring Network

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Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Jefferson

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

JEFFERSON

No AQI layer selected

Scale: 1:30,000 Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | Air Now | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

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## 2011 Wisconsin Air Monitoring Network Plan

### Kewaunee

AQS Site ID: 55-061-0002  
Location: RR#1 Hwy 42, Kewaunee  
County: Kewaunee  
GPS coordinates: 44.442,  
-87.506  
Date Established: 04/06/1994  
  
CBSA: Green Bay, WI  
CSA:  
UA: Not in an urban area  
AQCR: Lake Michigan Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

#### Locational Setting:

This site is located on a bluff over Lake Michigan next to Jumbo's Drive Inn. The sample inlet is 6 meters above ground level and 83 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

#### Monitoring Objective: Population Exposure

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

#### Monitors:

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|-------------------|-------------|-----------------|--------------------|--------------|
| Ozone   | API Ozone         | SLAMS       | UV Photometry   | continuous         | 04/15/1994   |

#### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

#### Area of Representativeness: Urban

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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Wisconsin Department of Natural Resources

### Air Monitoring Network

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Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Kewaunee

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

KEWAUNEE

No AQI layer selected

Lake Michigan

Scale: 1:30,424 Selected Map Tool: Zoom Out Zoom Out

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | Air Now | DNR Home | Comments on this website

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 716147, Y= 442452 Meters --- Latitude= 44°25'44" N, Longitude= 87°32'8" W

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**Kohler Company**

AQS Site ID: 55-117-0008  
Location: 444 Highland Dr. fence line  
County: Sheboygan  
GPS coordinates: 43.74395  
 -87.7763  
Date Established: 12/15/2009

CBSA: Sheboygan, WI  
CSA:  
UA: Sheboygan, WI  
AQCR: Lake Michigan Intra-State



Site Approval Status: The site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This source-oriented site is located at the Kohler Company fence line. The sample inlet is 2.4 meters above ground level and 213 meters from nearest road. This site monitors for TSP-lead and the associated meteorology parameters.

It meets the requirements of 40 CFR 58, Appendices C, D, E and G.

Monitors:

| <b>Monitor</b>                             | <b>Monitor Equipment</b>           | <b>Designation</b> | <b>Analysis Method</b> | <b>Sampling Frequency</b> | <b>Monitor Est.</b> |
|--|------------------------------------|--------------------|------------------------|---------------------------|---------------------|
| Lead, average temp and barometric pressure | TSP with meteorological attachment | SLAMS              | ICP-MS                 | 1/6 collocated            | 12/15/2009          |

Monitoring Objective: Source Oriented

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness: Middle Scale

# 2011 Wisconsin Air Monitoring Network Plan

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Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Sheboygan

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

KOHLER  
SHEBOYGAN KOHLER ANDRE

No AQI layer selected

Scale: 1:30,424 go Selected Map Tool: Zoom Out Zoom Out

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/> Internet

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**La Crosse DOT**

AQS Site ID: 55-063-0012  
Location: 3550 Mormon Coulee Rd  
County: La Crosse  
GPS coordinates: 43.778  
 -91.225  
Date Established: 10/13/2005



CBSA: La Crosse, WI-MN  
CSA:  
UA: La Crosse, WI-MN  
AQCR: Southeast Minnesota-  
 LaCrosse (Western Wisconsin)

Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located on a Wisconsin Department of Transportation lot near an apartment complex. The sample inlet is 6 - 7 meters above ground level and 113 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and fine particles, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                         | Monitor Equipment           | Designation                       | Analysis Method                                      | Sampling Frequency | Monitor Est.               |
|---------------------------------|-----------------------------|-----------------------------------|--|--------------------|----------------------------|
| Ozone                           | API Ozone                   | SLAMS                             | UV Photometry  | continuous         | 02/27/2008                 |
| PM2.5                           | R& P 2025 FRM               | SLAMS                             | gravimetric  | 1/12               | 12/07/2005                 |
| PM2.5 Total Atmospheric (PM2.5) | R&P TEOM/FDMS (FEM-like)    | SLAMS (Special Purpose – Testing) | Tapered element oscillating microbalance gravimetric | continuous         | 02/13/2008<br>(02/24/2010) |
| Wind Speed/direction            | Qualimetrics Meteorological | Other                             | Mechanical   | Continuous         | 04/08/2008                 |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone and fine

# 2011 Wisconsin Air Monitoring Network Plan

particles.

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**Lake DuBay**

AQS Site ID: 55-073-0012  
Location: 1780 Bergen Road, Bergen Township  
County: Marathon  
GPS coordinates: 44.707, -89.769  
Date Established: 09/25/1991

CBSA: Wausau, WI  
CSA: Wausau-Merrill, WI  
UA: Not in an urban area  
AQCR: North Central Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located near Lake DuBay in Marathon County. The sample inlet is 6 meters above ground level and 61 feet from nearest road. This is an Atmospheric Deposition Monitoring Site, National Trends Network. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                                  | Monitor Equipment              | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|--|--------------------------------|-------------|-----------------|--------------------|--------------|
| Ozone                                    | API Ozone                      | SLAMS       | UV Photometry   | continuous         | 09/25/1991   |
| Wind speed/<br>direction.<br>Temperature | Qualimetrics<br>Meteorological | Other       | Mechanical      | continuous         | 10/08/1991   |

Atmospheric Deposition Network  
 National Trends Network  
 Mercury Deposition Network

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness:

This site represents population exposure on a rural background scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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### Air Monitoring Network

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Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Marathon

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

LAKE DUBAY

No AQI layer selected

Scale: 1:30,955 Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dhrmaps.wisconsin.gov/>

WTM Coordinate: X= 535439, Y= 466166 Meters --- Latitude= 44°40'7" N, Longitude= 89°48'19" W

Internet

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**Lake Geneva**

AQS Site ID: 55-127-0005  
Location: Lake Geneva NADP Site, RR4 Elgin Club Rd.  
County: Walworth  
GPS coordinates: 42.580, -88.499  
Date Established: 07/10/1987



CBSA: Whitewater, WI  
CSA:  
UA: Not in an urban area  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located on rural private property on the outskirts of the City of Lake Geneva. The sample inlet is 6 meters above ground level and 120 feet from nearest road. This is an Atmospheric Deposition monitoring site, National Trends Network, and Mercury Deposition Network site. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                           | Monitor Equipment      | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|-----------------------------------|------------------------|-------------|-----------------|--------------------|--------------|
| Ozone                             | API Ozone              | SLAMS       | UV Photometry   | continuous         | 07/10/1987   |
| Wind speed/direction. temperature | Met One Meteorological | other       | Mechanical      | continuous         | 07/10/1987   |

NADP Site

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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Wisconsin Department of Natural Resources

### Air Monitoring Network

About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Walworth

You can also type the first few letters of the location name:

LAKE GENEVA

Select one of the listed air quality monitors to zoom to that location:

LAKE GENEVA

No AQI layer selected

Lake Como

Lake Geneva

Scale: 1:30,955 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 642498, Y= 233952 Meters --- Latitude= 42°34'6" N, Longitude= 88°30'27" W Internet

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**Madison East**

AQS Site ID: 55-025-0041  
Location: 2302 N Hoard St., Madison  
County: Dane  
GPS coordinates: 43.100,  
 -89.357  
Date Established: 4/16/1992

CBSA: Madison, WI  
CSA: Madison – Baraboo, WI  
UA: Madison, WI  
AQCR: Southern Wisconsin



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located next to the Madison East High School Sports Field. The sample inlet is 5 meters above ground level and 49 feet from service road and 152 meters from nearest public road (49 meters from Hoard St.). The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and PM2.5, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                                  | Monitor Equipment           | Designation                              | Analysis Method                                      | Sampling Frequency | Monitor Est.                   |
|--|-----------------------------|--|--|--------------------|--------------------------------|
| Ozone                                    | API Ozone                   | SLAMS                                    | UV Photometry  | continuous         | 04/15/1992                     |
| PM2.5<br>(FEM)                           | R&P<br>TEOM/FDMS            | SLAMS<br><br>(Special Purpose – Testing) | Tapered element oscillating microbalance gravimetric | continuous         | 06/07/2006<br><br>(01/08/2010) |
| PM2.5                                    | R&P 2025                    | Special Purpose                          | Gravimetric  | 1/3                | 04/02/2010                     |
| Wind Speed/Wind Direction<br>Temperature | Qualimetrics Meteorological | Other                                    | Mechanical   | continuous         | 02/01/2008                     |

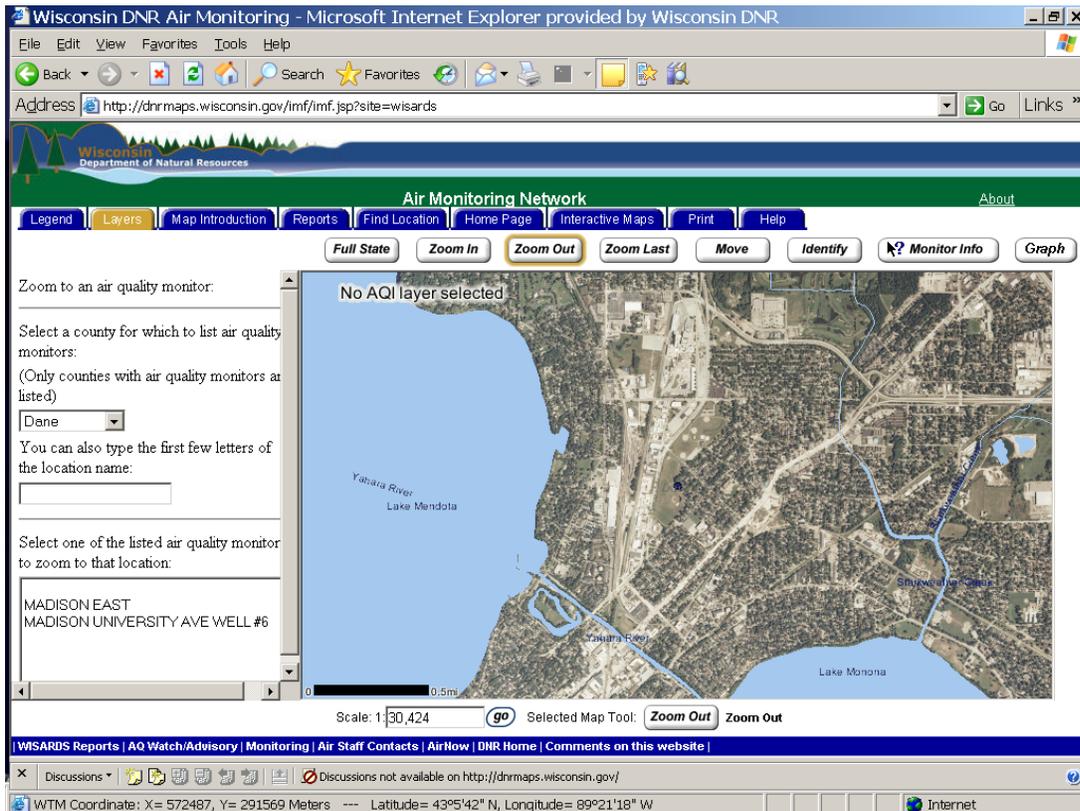
Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

# 2011 Wisconsin Air Monitoring Network Plan

## Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone and PM2.5.



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**Madison - University Avenue**

AQS Site ID: 55-025-0047  
Location: 2757 University Avenue,  
 Madison  
County: Dane  
GPS coordinates: 43.073,  
 -89.435  
Date Established: 01/01/1999  
  
CBSA: Madison, WI  
CSA: Madison – Baraboo, WI  
UA: Madison, WI  
AQCR: Southern Wisconsin



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located on top a City of Madison building. The sampler inlet is 12 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS and to detect elevated pollutant levels of PM2.5 in a high population, high vehicle traffic area.

Monitors:

| Monitor | Monitor Equipment      | Designation                     | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|------------------------|---------------------------------|-----------------|--------------------|--------------|
| PM2.5   | R&P FRM2025            | Core community Oriented         | Gravimetric     | Daily              | 01/01/1999   |
| PM10    | Tisch High Volume PM10 | SLAMS – Core community Oriented | Gravimetric     | 1/3                | 01/01/2008   |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a neighborhood scale for fine particles.

# 2011 Wisconsin Air Monitoring Network Plan

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Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

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Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Dane

You can also type the first few letters of the location name:

Select one of the listed air quality monitor to zoom to that location:

MADISON EAST  
MADISON UNIVERSITY AVE WELL #6

No AQI layer selected

Lake Mendota

Scale: 1:30,424 Selected Map Tool: Zoom Out Zoom Out

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | Air Now | DNR Home | Comments on this website

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

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**Manitowoc Woodland Dunes**

AQS Site ID: 55-071-0007  
Location: 2315 Goodwin Road ,  
 Two Rivers  
County: Manitowoc  
GPS coordinates: 44.138,  
 -87.616  
Date Established: 04/05/1994  
  
CBSA: Manitowoc, WI  
CSA:  
UA: Not in an urban area  
AQCR: Lake Michigan Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting:

This site is located at the Woodland Dunes Nature Center in Two Rivers. The sample inlet is 6 meters above ground level and 20 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, NOY, NO2, and PM2.5, and to provide pollutant levels for daily air quality index reporting. High Sensitivity NOY and NO2 monitors only operate from June-August.

Monitors:

| Monitor                               | Monitor Equipment                | Designation     | Analysis Method                                      | Sampling Frequency         | Monitor Est. |
|---------------------------------------|----------------------------------|-----------------|--|----------------------------|--------------|
| Nitrogen Dioxide                      | API NO2                          | PAMS            | UV fluorescence                                      | continuous - June - August | 04/28/1995   |
| PM2.5                                 | R&P FRM 2025                     | SLAMS           | Gravimetric  | 1/3                        | 01/01/1999   |
| PM2.5 Total Atmospheric               | R&P TEOM/FDMS                    | Urban Transport | Tapered element oscillating microbalance gravimetric | continuous                 | 04/15/1994   |
| Ozone                                 | API Ozone                        | PAMS            | UV Photometry  | continuous                 | 04/15/1994   |
| Wind Speed and Direction. Temperature | Meteorological Qualimetrics      | PAMS            | Mechanical   | continuous                 | 05/10/1995   |
| NOy                                   | TECO 42 CTL High Sensitivity NOY | PAMS            | UV fluorescence                                      | continuous - June - August | 06/01/2004   |

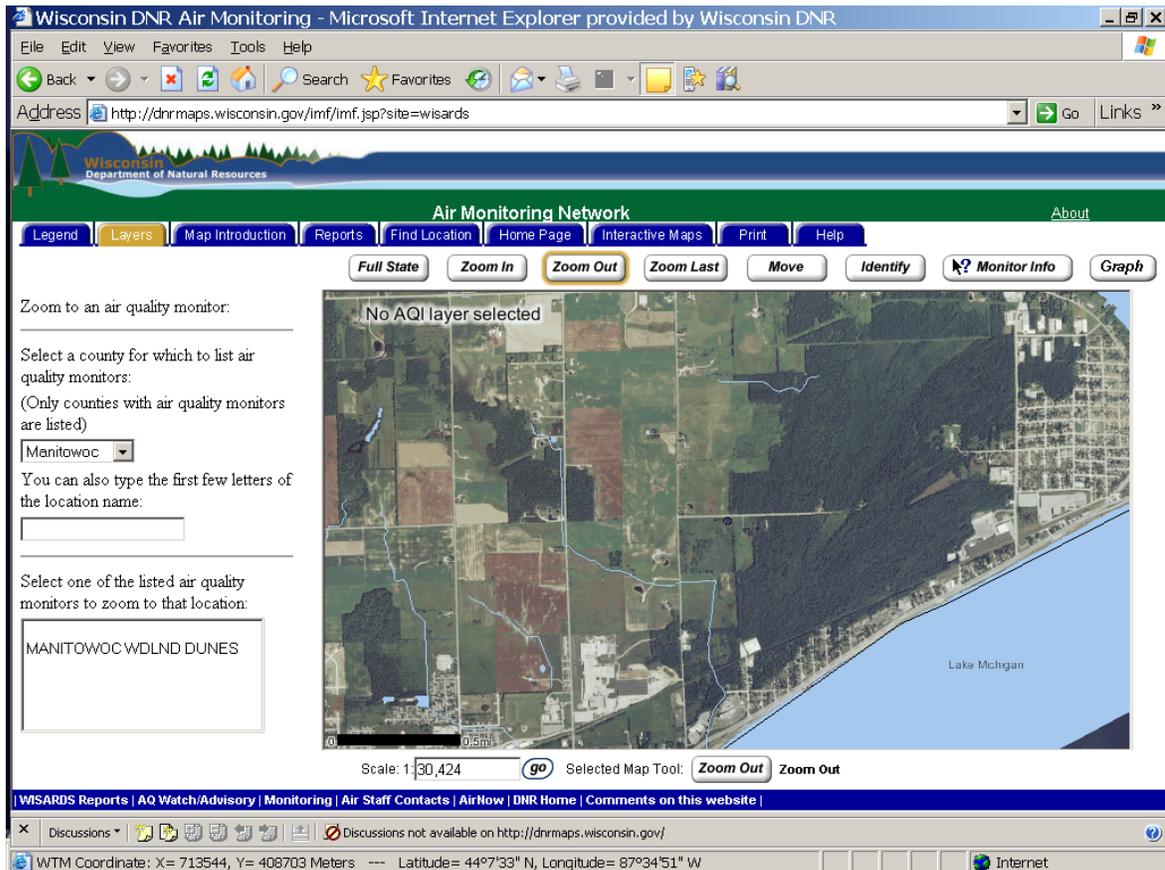
# 2011 Wisconsin Air Monitoring Network Plan

## Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

## Area of Representativeness:

This site represents population exposure on an urban transport, regional scale for ozone.



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**Mayville - Site Terminated**

AQS Site ID: 55-027-0007  
Location: N6705 Madison Road, Town of Hubbard  
County: Dodge  
GPS coordinates: 43.435, -88.527  
Date Established: 12/31/1998

CBSA: Beaver Dam, WI  
CSA: Fond du Lac – Beaver Dam, WI  
UA: Not in an urban area  
AQCR: Southern Wisconsin



Site Approval Status: This NCore site was moved to Horicon in December 2009.

Locational Setting:

Monitoring Objective:

Monitors:

| Monitor   | Monitor Equipment           | Designation                        | Analysis Method                                      | Sampling Frequency |
|---|-----------------------------|------------------------------------|--|--------------------|
| Ozone   | API Ozone                   | SLAMS                              | UV Photometry  | Discontinued       |
| PM2.5   | R&P FRM2025                 | SLAMS                              | Gravimetric  | Discontinued       |
| PM2.5 Total Atmospheric   | R&P TEOM/FDMS               | Urban Transport                    | Tapered element oscillating microbalance gravimetric | Discontinued       |
| PM2.5 Species   | Met-One Speciation          | Regional                           | Gravimetric  | Discontinued       |
| PM10  | R&P TEOM PM10               | Urban Transport                    | oscillating microbalance gravimetric                 | Discontinued       |
| Wind speed/direction. Temperature, Barometric Pressure, Relative Humidity | Qualimetrics Meteorological | SLAMS                              | Mechanical   | Discontinued       |
| CO, SO2, NOy  | High Sensitivity            | Pre-Cursor NATTS N-re level 2 site | UV fluorescence                                      | Discontinued       |

Quality Assurance Status:

# 2011 Wisconsin Air Monitoring Network Plan

## Area of Representativeness:

Wisconsin DNR Air Monitoring - Windows Internet Explorer provided by Wisconsin DNR

http://dnr.maps.wisconsin.gov/imf/imf.jsp?site=wisards

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Dodge

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

HORICON WILDLIFE AREA  
MAYVILLE

No AQI layer selected

Scale: 1:30,095 Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

http://www.epa.gov/airnow/

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**Milwaukee – College Ave Park and Ride – New Site in 2009**

AQS Site ID: 55-079-0058  
Location: 1550 W College Ave  
County: Milwaukee  
GPS coordinates: 42.93057  
 -87.9321  
Date Established: 11/01/2009

CBSA: Milwaukee-Waukesha-  
 West Allis, WI  
CSA: Milwaukee-Racine-  
 Waukesha, WI  
UA: Milwaukee, WI

AQCR: Southeastern Wisconsin  
 Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network.

Locational Setting: This site is located near the I-94 exit ramp at College Avenue in the Park and Ride area. Sample inlets are 2.7 meters above the ground. The trailer is 35 meters from nearest road. Given its proximity to a major interstate, this site is influenced by transportation pollution sources. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Regional Transport and Mobile Sources

Monitors:

| Monitor                    | Monitor Equipment | Designation                           | Analysis Method  | Sampling Frequency        | Monitor Est. |
|----------------------------|-------------------|---------------------------------------|--|---------------------------|--------------|
| PM2.5                      | R&P<br>FRM2025    | Core community<br>Oriented            | Gravimetric  | 1/6                       | 11/03/2009   |
| PM10                       | Tisch PM10        | SLAMS – Core<br>community<br>Oriented | Gravimetric  | 1/3<br>1/12<br>Collocated | 11/03/2009   |
| PM2.5 Total<br>Atmospheric | R&P<br>TEOM/FDMS  | SLAMS                                 | Tapered<br>element<br>oscillating<br>microbalance<br>gravimetric | continuous                | 03/23/2010   |

Quality Assurance Status: All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

# 2011 Wisconsin Air Monitoring Network Plan

This site represents population exposure on Urban Transport.

**Milwaukee Fire Department - Wells Street – Site Terminated.**

AQS Site ID: 55-079-0099  
Location: 711 E. Wells St. Milwaukee  
County: Milwaukee  
GPS coordinates: 43.039, -87.920  
Date Established: 12/31/1980



CBSA: Milwaukee-Waukesha-West Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR Southeastern Wisconsin Intra-State

Site Approval Status: Site and monitors were discontinued in December 2009 as a result of construction completion of the Marquette Highway Interchange.

Locational Setting:

Monitoring Objective:

Monitors: None

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|-------------------|-------------|-----------------|--------------------|--------------|
| PM2.5   | R&P<br>FRM2025    | SLAMS       | Gravimetric     | Discontinued       |              |

Quality Assurance Status:

Area of Representativeness:

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**Milwaukee - Havenwoods**

AQS Site ID: 55-079-0052  
Location: Havenwoods Environmental Center,  
 State Forest  
County: Milwaukee  
GPS coordinates: 43.128,  
 -87.970  
Date Established: 11/06/2006

CBSA: Milwaukee-Waukesha-West Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located at the Havenwoods State Forest. The meteorological sensors are 143 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objective is to provide meteorological data for educational purposes at the environmental center.

Monitors:

| <b>Monitor</b>                    | <b>Monitor Equipment</b> | <b>Designation</b> | <b>Analysis Method</b> | <b>Sampling Frequency</b> | <b>Monitor Est.</b> |
|-----------------------------------|--------------------------|--------------------|------------------------|---------------------------|---------------------|
| Wind speed/direction, Temperature | Met-One Meteorological   | Special Purpose    | Sonic                  | continuous                | 11/06/2006          |

Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness:

N/A

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## Milwaukee – I94 and South Layton (FAA) - Site Terminated

AQS Site ID: 55-079-0059  
Location: 4942 S 16TH ST  
County: Milwaukee  
GPS coordinates: 42.955,  
-87.934  
Date Established: 03/16/1988



CBSA: Milwaukee-Waukesha-West Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State

Site Approval Status: The site was removed in late 2009 as a result of highway construction. Milwaukee – College Avenue Park and Ride replaces this site.

Locational Setting:

Monitoring Objective:

Monitors: None

Quality Assurance Status:

Area of Representativeness:

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**Milwaukee - Virginia Street Fire Department – Site Terminated**

AQS Site ID: 55-079-0043  
Location: 100 W Virginia St., Milwaukee  
County: Milwaukee  
GPS coordinates: 43.026,  
 -87.9111  
Date Established: 01/21/1999



CBSA: Milwaukee-Waukesha-West Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State

Site Approval Status: This site was discontinued in December 2009 following completion of the Marquette highway interchange construction.

Locational Setting:

Monitoring Objective:

Monitors: None

| Monitor | Monitor Equipment | Designation | Analysis Method | Sampling Frequency |
|---------|-------------------|-------------|-----------------|--------------------|
| PM2.5   | R&P 2025 FRM      | SPM         | Gravimetric     | Discontinued       |

Quality Assurance Status:  
Area of Representativeness:

[Return to Table of Contents](#)

**Milwaukee - Sixteenth St. Health Center**

AQS Site ID: 55-079-0010  
Location: Health Center, 1337 So. 16th St.  
County: Milwaukee  
GPS coordinates: 43.016,  
 -87.933  
Date Established: 04/15/03

CBSA: Milwaukee-Waukesha-West Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located inside the Health Center Building on 16th and Greenfield. Sample inlets are 10 meters above ground level and 15 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure, Environmental Justice site

Monitoring site was requested by Health Care Center for Ozone Monitor to Study effects of ozone on Asthmatic Patients (children) in Area. Metals are also monitored with PM10. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                           | Monitor Equipment      | Designation    | Analysis Method     | Sampling Frequency | Monitor Est.     |
|-----------------------------------|------------------------|----------------|---------------------|--------------------|------------------|
| Ozone                             | API Ozone              | SLAMS          | UV Photometry       | continuous         | 06/24/2003       |
| Wind Speed/direction. Temperature | Met One Meteorological | SLAMS          | Mechanical          | continuous         | 06/24/2003       |
| PM2.5                             | R&P 2025 FRM           | Core community | gravimetric         | 1/3                | 01/01/1991       |
| PM10                              | Tisch PM10             | SLAMS          | Gravimetric         | 1/6                | 04/04/1997       |
| Toxic metals                      | Tisch PM10             | State Toxics   | ICP-MS              | 1/6                | 07/17/2007       |
| VOCs and Carbonyls                | Canister and Cartridge | State Toxics   | GC-MS               | 1/6                | 02/01/2000       |
| Mercury                           | Tekran                 | State Toxics   | Atomic Fluorescence | Intermittent       | To Be Determined |

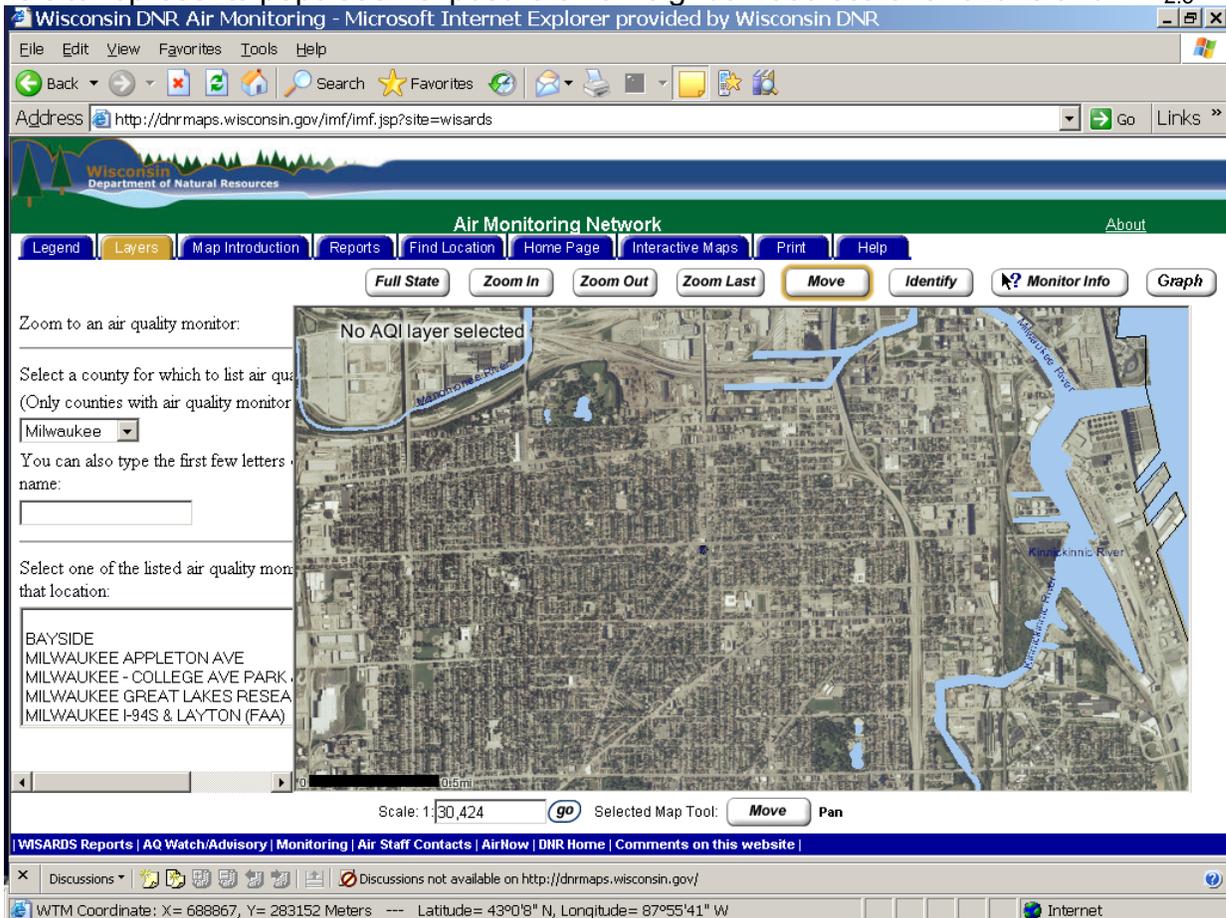
Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58,

Appendix A

Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone and PM<sub>2.5</sub>.



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## Milwaukee Southeast Region Headquarters (SER HQ)

AQS Site ID: 55-079-0026  
Location: DNR Southeast Region  
 Headquarters  
 3<sup>rd</sup> and North,  
County: Milwaukee  
GPS coordinates: 43.061,  
 -87.912  
Date Established: 6/1/1999

CBSA: Milwaukee-Waukesha-West  
 Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

### Locational Setting:

This site is located in the secured lot at the DNR Southeast Region headquarters building. Sample inlets are located 4 – 10 meters above ground level and 39 meters from nearest road. Standard NOX operates all year, High Sensitivity NOY began in 2001 operates only Jun-August. This is a PAMS site. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure, Maximum Precursor Emissions,  
 The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.  
 Monitors:

| Monitor                 | Monitor Equipment       | Designation        | Analysis Method                                      | Sampling Frequency         | Monitor Est.                     |
|-------------------------|-------------------------|--------------------|--|----------------------------|----------------------------------|
| Ozone                   | API Ozone               | PAMS               | UV Photometry  | continuous                 | 06/01/1999                       |
| Nitrogen Dioxide        | API NOX                 | PAMS               | UV fluorescence                                      | continuous                 | 06/24/1999                       |
| NOy                     | API NOY                 | PAMS               | UV fluorescence                                      | continuous – June - August | 05/01/2004                       |
| PM2.5, PM10, PM Coarse  | MetOne Dual BAM         | Urban              | Beta Attenuation                                     | continuous                 | To Be Determined                 |
| PM2.5 Total Atmospheric | R&P TEOM/FDMS           | Urban              | Tapered element oscillating microbalance gravimetric | continuous                 | 10/25/1999<br>To Be Discontinued |
| PM2.5                   | R&P 2025 FRM collocated | Community Oriented | Gravimetric  | 1/3 (Discontinued)<br>1/12 | 01/01/1999<br>04/01/2004         |

## 2011 Wisconsin Air Monitoring Network Plan

|                                     |                         |       |             |                           |            |
|-------------------------------------|-------------------------|-------|-------------|---------------------------|------------|
| Volatiles & Carbonyls               | Canisters & Cartridges  | PAMS  | GC-MS       | June-August               | 06/01/1999 |
| Wind speed/direction<br>Temperature | Met One<br>Metrological | Other | Mechanical  | continuous                | 06/11/2002 |
| Volatiles                           | Auto-Gas-Chromatograph  | PAMS  | GC-FID      | continuous<br>June-August | 06/01/1999 |
| PM2.5 Species                       | Met-One<br>Speciation   | Urban | Gravimetric | 1/3                       | 12/13/2000 |

**Quality Assurance Status:** All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

**Area of Representativeness:** This site represents population exposure on a neighborhood scale for ozone, CORE community Oriented, Urban for PM2.5.

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**Milwaukee - UWM North (Site pending shut-down)**

AQS Site ID: 55-079-0041  
Location: UWM North Campus, 2114 E Kenwood Blvd., Milwaukee  
County: Milwaukee  
GPS coordinates: 43.075,  
 -87.884  
Date Established: 10/1/1972

CBSA: Milwaukee-Waukesha-West Allis, WI  
CSA: Milwaukee-Racine-Waukesha, WI  
UA: Milwaukee, WI  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located inside the day care center at the University of Wisconsin, Milwaukee. This is also a Mercury Deposition Network site. The sample inlet is 7 meters above ground level and 76 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                             | Monitor Equipment      | Designation  | Analysis Method                             | Sampling Frequency                  | Monitor Est. |
|-------------------------------------|------------------------|--------------|---|-------------------------------------|--------------|
| Ozone                               | API Ozone              | PAMS         | UV Photometry                               | <i>Discontinued in October 2009</i> | 07/01/1973   |
| Mercury                             | Tekran                 | State Toxics | Cold vapor atomic fluorescence spectrometry | continuous                          | 01/29/2009   |
| Wind speed/direction<br>Temperature | Met One Meteorological | SPM          | Mechanical..                                | continuous                          | 01/01/1974   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin DNR Department of Natural Resources

Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list: (Only counties with air quality m...)

Milwaukee

You can also type the first few le... name:

Select one of the listed air quality that location:

BAYSIDE  
MILWAUKEE APPLETON AVE  
MILWAUKEE - COLLEGE AVE P...  
MILWAUKEE GREAT LAKES R...  
MILWAUKEE I-94S & LAYTON (

No AQI layer selected

Lake Michigan

Scale: 1:30,424 Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 691014, Y= 290255 Meters --- Latitude= 43°3'57" N, Longitude= 87°53'59" W

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**Newport State Park**

AQS Site ID: 55-029-0004  
Location: Newport State Park Ellison Bay  
County: Door  
GPS coordinates: 45.237  
 -86.993  
Date Established: 04/15/1989

CBSA: None  
CSA:  
UA: Not in an urban area  
AQCR: Lake Michigan Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located inside the Newport State Park. The sample inlet is 8 meters above ground level and 400 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                                  | Monitor Equipment              | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|--|--------------------------------|-------------|-----------------|--------------------|--------------|
| Ozone                                    | API Ozone                      | SLAMS       | UV Photometry   | continuous         | 04/15/1989   |
| Wind speed/<br>direction.<br>Temperature | Qualimetrics<br>Meteorological | Other       | Mechanical      | continuous         | 04/15/1989   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a regional scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

File Edit View Favorites Tools Help

Address <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards> Go Links »

Wisconsin Department of Natural Resources

**Air Monitoring Network** About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify **Monitor Info** Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Door

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

NEWPORT PARK

No AQI layer selected

Lake Michigan

Scale: 1:30,712 go Selected Map Tool: **Zoom In** Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 752230, Y= 531162 Meters --- Latitude= 45°12'56" N, Longitude= 87°2'33" W Internet

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**Perkinstown**

AQS Site ID: 55-119-8001  
Location: 1 mile east of Perkinstown on state Hwy M  
County: Taylor  
GPS coordinates: 45.203  
 -90.600  
Date Established: 05/03/2003



CBSA: None – Rural site  
AQCR: Northwest Wisconsin Duluth, Minnesota Interstate

Site Approval Status Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located on private property 1 mile east of the town of Perkinstown . The PM2.5 Speciation site (1/6) was est. in Dec. 2001, with continuous PM2.5 with FDMS in Nov. 2003 to fill a gap in north-central WI for regional PM2.5 mapping effort. The sample inlet is 3 meters above ground level and 100 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

This is also a CASTnet monitoring site with the US EPA as the sponsoring agency as well as a National Atmospheric Deposition and National Trends Network.

Monitoring Objective: General Background, Population Exposure

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of PM2.5 and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                 | Monitor Equipment  | Designation               | Analysis Method                                      | Sampling Frequency | Monitor Est. |
|-------------------------|--------------------|---------------------------|--|--------------------|--------------|
| PM2.5                   | R&P FRM2025        | SLAMS                     | Gravimetric  | 1/6                | 05/03/2003   |
| PM2.5 Total Atmospheric | R&P TEOM/FDMS      | SLAMS Regional background | Tapered element oscillating microbalance gravimetric | continuous         | 11/21/2003   |
| PM2.5 Species           | Met-One Speciation | SPM Regional background   | Gravimetric  | 1/6                | 12/01/2001   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a regional scale for PM2.5.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Taylor

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

PERKINSTOWN

No AQI layer selected

Map showing various lakes and geographical features. Scale: 1:30,712. Selected Map Tool: Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 475386, Y= 525098 Meters --- Latitude= 45°11'53" N, Longitude= 90°34'5" W

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## Popple River

AQS Site ID: 55-037-0001  
Location: Highway 101, Florence  
County: Florence  
GPS coordinates: 45.795  
 -88.400  
Date Established: 05/08/1987

CBSA: Iron Mountain, MI-WI  
AQCR North Central Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

### Locational Setting:

This site is located at the fire site #565 on highway 101 in Florence. The sample inlet is 5 meters above ground level and 215 feet from nearest road. This is an Atmospheric Deposition Monitoring Site, National Trends Network and Mercury Deposition Network. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

### Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

### Monitors:

| Monitor                                  | Monitor Equipment              | Designation | Analysis Method | Sampling Frequency | Monitor Est, |
|--|--------------------------------|-------------|-----------------|--------------------|--------------|
| Ozone                                    | API Ozone                      | SLAMS       | UV Photometry   | continuous         | 05/25/1987   |
| Wind speed/<br>direction.<br>Temperature | Qualimetrics<br>Meteorological | Other       | Mechanical      | continuous         | 05/12/1987   |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

### Area of Representativeness:

This site represents population exposure on a background scale for ozone

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

File Edit View Favorites Tools Help

Address <http://dnr.maps.wisconsin.gov/imf/imf.jsp?site=wisards> Go Links »

Wisconsin Department of Natural Resources

### Air Monitoring Network

About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)  
Florence

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:  
POPPLERIVER

No AQI layer selected

Scale: 1:30,712 go Selected Map Tool: Zoom In Zoom In

WisARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dnrmaps.wisconsin.gov/>

Internet

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**Potawatomi (Tribal Site)**

AQS Site ID: 55-041-0007  
Location: Fire Tower Road  
County: Forest  
GPS coordinates: 45.563  
 -88.808  
Date Established: 01/15/2004

CBSA: None  
CSA:  
UA: Not in an urban area  
AQCR: North Central Wisconsin Intra-State



Site Approval Status: Site and monitor meets all design criteria for the monitoring network.

Locational Setting:

This site is located on the Forest County Potawatomi reservation. The sample inlet is 6 meters above ground level and 215 feet from nearest road. This site monitors Atmospheric Deposition, National Trends Network and Mercury Deposition. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: General Background

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor  | Monitor Equipment | Designation         | Analysis Method  | Sampling Frequency                | Monitor Est.             |
|--|-------------------|---------------------|------------------|-----------------------------------|--------------------------|
| Ozone  | API Ozone         | Tribal              | UV Photometry    | continuous                        | 01/07/2004               |
| Sulfur Dioxide   | API SO2           | Tribal              | UV Photometry    | continuous                        | 01/07/2004               |
| PM2.5  | R&P 2025          | Regional Background | Gravimetric      | 1/6 collocated (may be shut down) | 02/01/2004<br>10/01/2005 |
| PM2.5  | MetOne BAM        | Tribal              | Beta Attenuation | continuous                        | Estimated fall 2010      |
| Nitrogen Dioxide   | API NOX           | Tribal              | UV Photometry    | continuous                        | 02/23/2010               |
| Wind Speed,/direction, Temperature, Solar Radiation, Relative Humidity | Met One           | Tribal              | Mechanical       | continuous                        | 05/07/2008               |

## 2011 Wisconsin Air Monitoring Network Plan

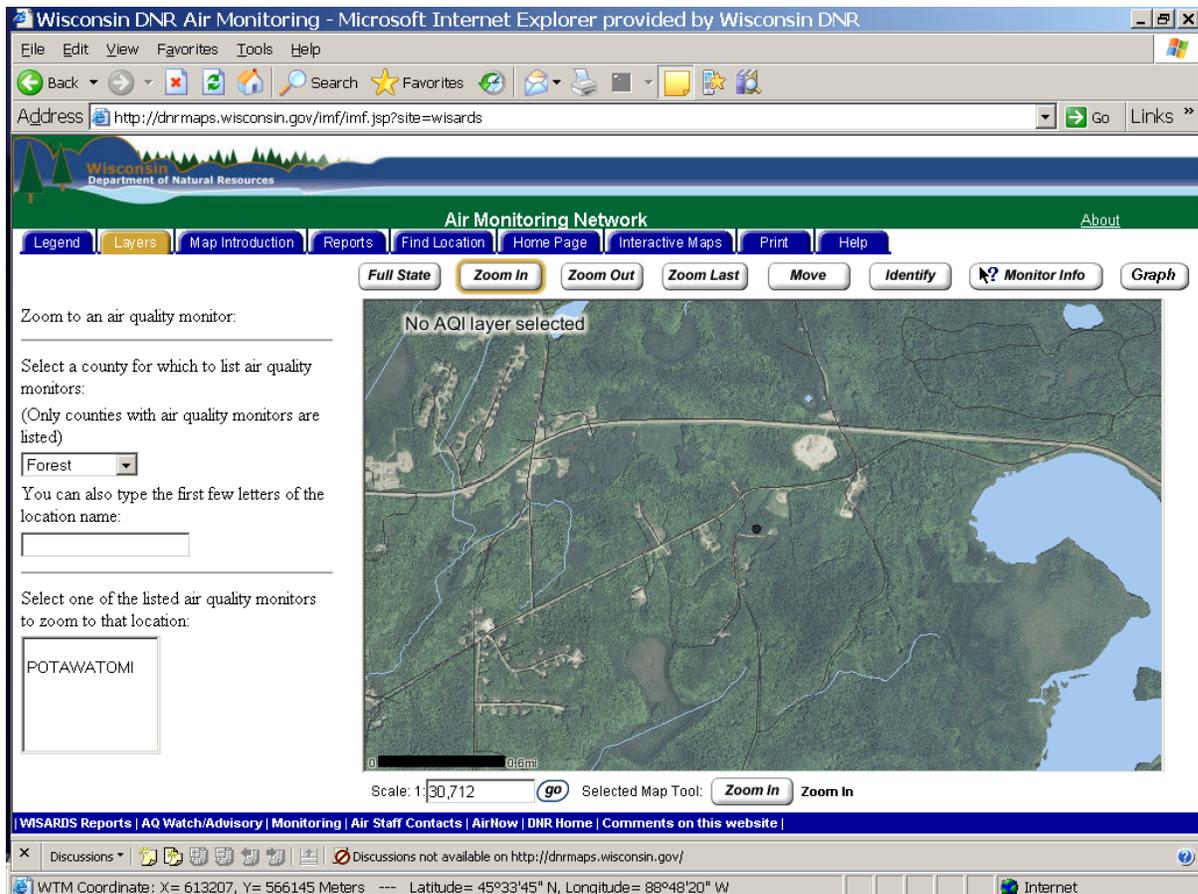
|              |             |                       |                                |            |            |
|--------------|-------------|-----------------------|--------------------------------|------------|------------|
| PM10         | Tisch PM10  | State Toxics - Tribal | Gravimetric                    | 1/6        | 06/07/2002 |
| Toxic Metals | Tisch PM10- | State Toxics - Tribal | ICP-MS                         | 1/6        | 01/01/2007 |
| Mercury      | Tekran      | State Toxics - Tribal | Cold Vapor Atomic Fluorescence | Continuous | 01/01/2007 |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

### Area of Representativeness:

This site represents population exposure on a regional background scale for ozone and PM2.5.



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**Potosi**

AQS Site ID: 55-043-0009  
Location: 128 Hwy 61, Tennyson  
County: Grant  
GPS coordinates: 42.692  
 -90.686  
Date Established: 01/06/1999

CBSA: None – Rural site  
CSA:  
UA: Not in an urban area  
AQCR: Southwestern Wisconsin Metropolitan  
 Dubuque, Iowa Interstate



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located in Tennyson at the Potosi High School grounds. The sample inlet is 3 meters above ground level and 900 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Regional transport, Population Exposure

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of PM2.5.

Monitors:

| Monitor | Monitor Equipment | Designation                | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|-------------------|----------------------------|-----------------|--------------------|--------------|
| PM2.5   | R&P FRM 2025      | SLAMS interstate transport | Gravimetric     | 1/3                | 01/06/1999   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a regional scale for PM2.5.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

File Edit View Favorites Tools Help

Address <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards> Go Links

Wisconsin Department of Natural Resources

### Air Monitoring Network

About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Grant

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

POTOSI

No AQI layer selected

Scale: 1:30,424 go Selected Map Tool: Move Pan

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

Internet

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## 2011 Wisconsin Air Monitoring Network Plan

### Racine

AQS Site ID: 55-101-0017  
Location 1519 Washington Ave  
County: Racine  
GPS coordinates: 42.713  
 -87.798  
 Date Established: 08/01/1977



CBSA: Racine, WI  
CSA: Milwaukee-Racine-Waukesha  
UA: Racine, WI  
AQCR: Southeastern Wisconsin Intra-State

Site Approval Status Site and monitor meet all design criteria for the monitoring network



#### Locational Setting:

This site is located inside a local business. The sample inlet is 11 meters above ground level and 48 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

#### Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

#### Monitors:

| Monitor                           | Monitor Equipment      | Designation | Analysis Method | Frequency of Sampling | Monitor Est. |
|-----------------------------------|------------------------|-------------|-----------------|-----------------------|--------------|
| Ozone                             | API Ozone              | SLAMS       | UV Photometry   | continuous            | 08/26/1977   |
| Wind speed/direction. Temperature | Met One Meteorological | SLAMS       | Mechanical      | continuous            | 09/01/1977   |

#### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

#### Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

File Edit View Favorites Tools Help

Address <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards> Go Links »

Wisconsin Department of Natural Resources

### Air Monitoring Network

About

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)

Racine

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

RACINE

No AQI layer selected

Racine River

Lake Michigan

Scale: 1:30,424 go Selected Map Tool: Move Pan

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dnrmaps.wisconsin.gov/>

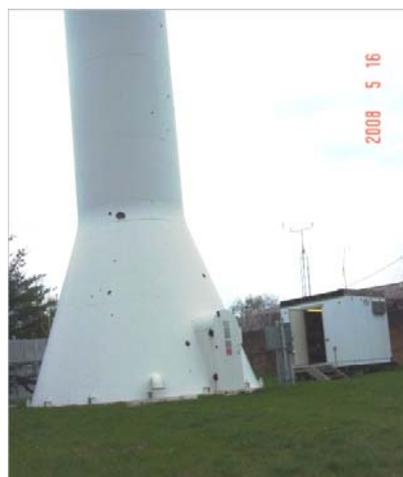
WTM Coordinate: X= 700004, Y= 250636 Meters --- Latitude= 42°42'26" N, Longitude= 87°48'7" W Internet

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## Rhineland Tower

AQS Site ID: 55-085-0996  
Location: Lake and High Streets,  
County: Oneida  
GPS coordinates: 45.645  
 -89.412  
Date Established: 04/13/1981

CBSA: None  
CSA:  
UA: Not in an urban area  
AQCR: North Central Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

### Locational Setting:

This site is located next to the Rhineland Water Tower on Lake & High Streets. The sample inlet is 6 meters above ground level and XXX meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

### Monitoring Objective: Source Oriented

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of SO<sub>2</sub>, is a SIP requirement and to provide pollutant levels for daily air quality index reporting.

### Monitors:

| Monitor               | Monitor Equipment           | Designation | Analysis Method | Sampling Frequency                   | Monitor Est. |
|-----------------------|-----------------------------|-------------|-----------------|--------------------------------------|--------------|
| Sulfur Dioxide        | API SO <sub>2</sub>         | SLAMS       | UV fluorescence | continuous (5 minute values pending) | 04/14/1981   |
| Wind Direction/ Speed | Qualimetrics Meteorological | SLAMS       | Mechanical.     | continuous                           | 01/01/1983   |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

### Area of Representativeness:

This site represents population exposure on a neighborhood scale for SO<sub>2</sub>.

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)  
Oneida

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:

- HARSHAW FARM
- RHINELANDER TOWER

No AQI layer selected

Thunder Lake  
Bass Lake  
Boom Lake  
Rhinelander Flowage  
Wisconsin River

Scale: 1:30,424 Selected Map Tool: Move Pan

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dnrmaps.wisconsin.gov/>

WTM Coordinate: X= 558750, Y= 569705 Meters --- Latitude= 45°35'59" N, Longitude= 89°30'11" W

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## Sheboygan Kohler-Andre State Park

AQS Site ID: 55-117-0006  
Location: Nature Center of Kohler-Andre State Park  
County: Sheboygan  
GPS coordinates: 43.666, -87.716  
Date Established: 06/26/1997



CBSA: Sheboygan, WI  
CSA:  
UA: Sheboygan, WI  
AQCR: Lake Michigan Intra-State



Site Approval Status:  
 Site and monitor meet all design criteria for the monitoring network

### Locational Setting:

This site is located inside the nature center along the shore of Lake Michigan at the Kohler-Andre State Park. The sample inlet is 7 meters above ground level and 1580 meters from nearest service road and 2450 meters from nearest public road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

### Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

### Monitors:

| Monitor                                  | Monitor Equipment      | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|--|------------------------|-------------|-----------------|--------------------|--------------|
| Ozone                                    | API Ozone              | SLAMS       | UV Photometry   | continuous         | 06/26/1997   |
| Wind Direction/<br>speed,<br>Temperature | Meteorological Met-One | Other       | Mechanical      | continuous         | 04/14/2001   |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

### Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

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**Slinger**

AQS Site ID: 55-131-0009  
Location HWY 60 & Scenic Rd., Polk Township  
County: Washington  
GPS coordinates: 43.327, -88.220  
Date Established: 06/06/1991  
  
CBSA: Milwaukee-Waukesha-West Allis, WI  
AQCR: Southeastern Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located next to a soccer field in rural Slinger. The sample inlet is 5 meters above ground level and 34 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| <b>Monitor</b>                    | <b>Monitor Equipment</b> | <b>Designation</b> | <b>Analysis Method</b> | <b>Sampling Frequency</b> | <b>Monitor Est.</b> |
|-----------------------------------|--------------------------|--------------------|------------------------|---------------------------|---------------------|
| Ozone                             | API Ozone                | SLAMS              | UV Photometry          | continuous                | 06/06/1991          |
| Wind speed/direction. Temperature | Met One Meteorological   | SLAMS              | Mechanical             | continuous                | 06/18/1991          |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a rural scale for ozone.

# 2011 Wisconsin Air Monitoring Network Plan

The screenshot shows a Microsoft Internet Explorer browser window displaying the Wisconsin DNR Air Monitoring Network. The browser's address bar shows the URL: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>. The page header includes the Wisconsin Department of Natural Resources logo and the title "Air Monitoring Network". A navigation menu contains links for Legend, Layers, Map Introduction, Reports, Find Location, Home Page, Interactive Maps, Print, and Help. Below the menu are several interactive buttons: Full State, Zoom In, Zoom Out, Zoom Last, Move, Identify, Monitor Info, and Graph. The main content area features a search interface with the text "Zoom to an air quality monitor:" and "Select a county for which to list air quality monitors: (Only counties with air quality monitors are listed)". A dropdown menu is set to "Washington". Below this, there is a text input field for location names and a list of air quality monitors, with "SLINGER" selected. To the right of the search area is a satellite map of a rural area with a scale of 1:30,424 and a "go" button. The map displays a "No AQI layer selected" message. At the bottom of the page, there is a footer with navigation links: WISARDS Reports, AQ Watch/Advisory, Monitoring, Air Staff Contacts, AirNow, DNR Home, and Comments on this website. The browser's status bar at the bottom indicates "Discussions not available on http://dnrmaps.wisconsin.gov/" and "Internet".

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**Somerset**

AQS Site ID: 551091002  
Location: Highway 64 Somerset Town Hall  
County: Saint Croix  
GPS coordinates: 45.1244  
 -92.6625  
Date Established: 04/15/1984



CBSA: Minneapolis-St. Paul-Bloomington, MN, WI  
AQCR: Southeast Minnesota-LaCrosse

Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located in a field at the Somerset Town Hall. The sample inlet is 5 meters above ground level and 16 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Interstate Transport, Population Exposure

Monitors:

| Monitor                          | Monitor Equipment           | Designation | Analysis Method                                      | Sampling Frequency | Monitor Est. |
|----------------------------------|-----------------------------|-------------|--|--------------------|--------------|
| Ozone                            | API Ozone                   | SLAMS       | UV Photometry  | continuous         | 04/18/1984   |
| PM2.5                            | R& P 2025 FRM               | Regional    | gravimetric  | 1/3                | 01/01/1999   |
| PM2.5 Total Atmospheric          | R&P TEOM/FDMS (FEM-like)    | SLAMS       | Tapered element oscillating microbalance gravimetric | continuous         | 09/10/2004   |
| Wind Direction/Speed Temperature | Qualimetrics Meteorological | SLAMS       | Mechanical   | continuous         | 01/01/1984   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness: Regional

**Note:** This site may be moved to Eau Claire if the proposed ozone monitoring rules become effective.

# 2011 Wisconsin Air Monitoring Network Plan

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## Spoooner

AQS Site ID: None  
Location: Spooner Agricultural Research Station, Highway 70  
County: Washburn  
GPS coordinates: 45.822  
-91.874  
Date Established: 06/03/1980  
  
CBSA: None  
AQCR: North Central Wisconsin Intra-State



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site monitors National Atmospheric Deposition Program, National Trends Network..

Monitoring Objective:

National Atmospheric Deposition Program, National Trends Network

Monitors: Wet Deposition

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with specifications of NADP.

Area of Representativeness: Regional background

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnr.maps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin DNR Department of Natural Resources

**Air Monitoring Network** [About](#)

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify Monitor Info Graph

**Zoom To Geographic**

Enter the geographic position where you wish to center the map and the width of the map that you wish to show, then press the "Ok" button. The map will zoom to the extent that you entered. The position shown is the current map center.

Longitude (DMS):  
-91 52 26.00011

Latitude (DMS):  
45 49 19.00005

Select the zoom map width:  
10 kilometers

OK

[Back to main Find Locations page](#)

Apr 20, 2010 4:00:00 PM OZONE and PM25

Scale: 1:30,054 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions Discussions not available on <http://dnrmaps.wisconsin.gov/>

Done Internet

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## Superior Sewage Treatment Plant

AQS Site ID: 55-031-0019  
Location: Sewage Treatment Plant Avenue E  
County: Douglas  
GPS coordinates: 46.726  
 -92.071  
Date Established: 10/02/1980

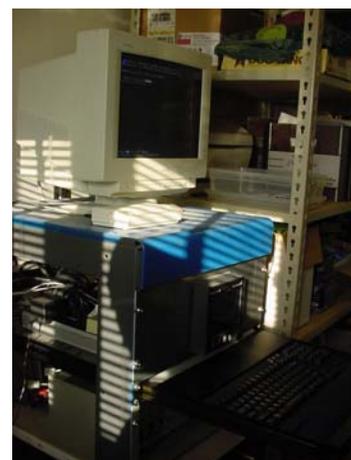
CBSA: Duluth, MN-WI  
AQCR: Northwest Wisconsin-Duluth,  
 Minnesota Interstate



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

### Locational Setting:

This site is located in a field at the Sewage Treatment Plant along the St. Louis River waterfront. Meteorology is measured at 17 meters above ground level. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.



### Monitoring Objective:

This site supports permit-required monitoring for particles for multiple sites in the waterfront area.

### Monitors:

| Monitor                          | Monitor Equipment           | Designation     | Analysis Method | Sampling Frequency | Monitor Est. |
|----------------------------------|-----------------------------|-----------------|-----------------|--------------------|--------------|
| Wind Direction/Speed Temperature | Qualimetrics Meteorological | Special Purpose | Mechanical      | continuous         | 01/01/1980   |

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

Area of Representativeness: NA

# 2011 Wisconsin Air Monitoring Network Plan

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## Suring

AQS Site ID: None  
Location: 10360 Big Eddie Ln  
County: Oconto  
GPS coordinates: 45.053  
-88.372  
Date Established: 1/23/85

CBSA: none  
AQCR: Lake Michigan Intra-state



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

### Locational Setting:

This site monitors National Atmospheric Deposition. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

### Monitoring Objective:

The purpose of the network is to collect data on the chemistry of precipitation for monitoring of geographical and temporal long-term trends.

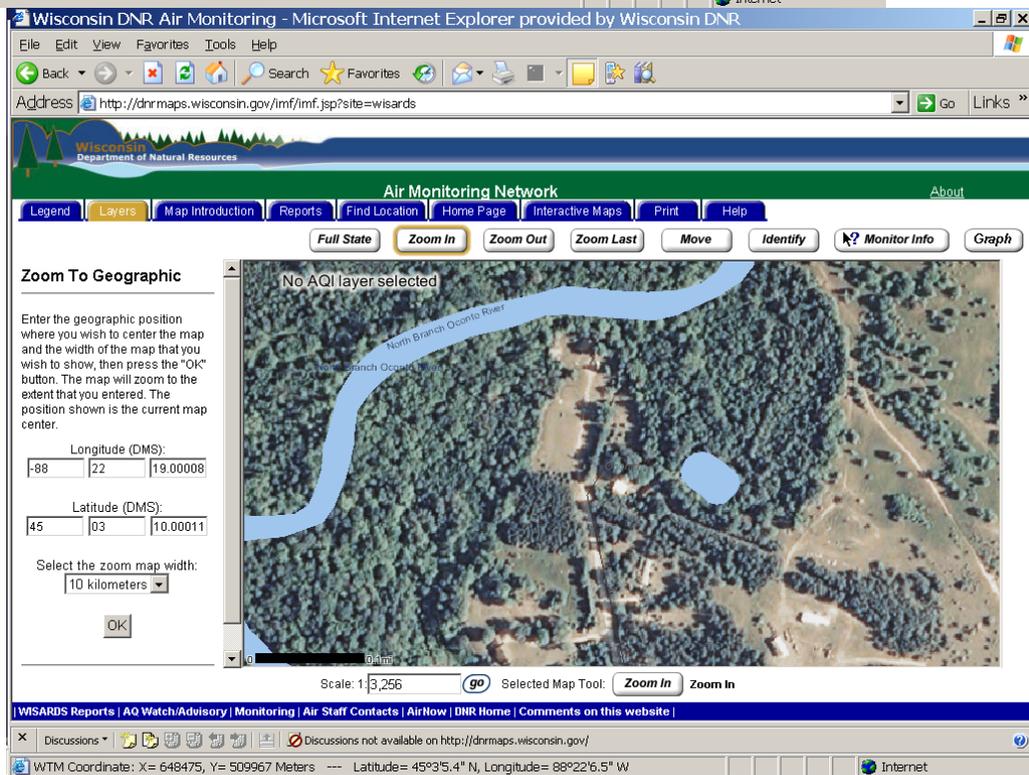
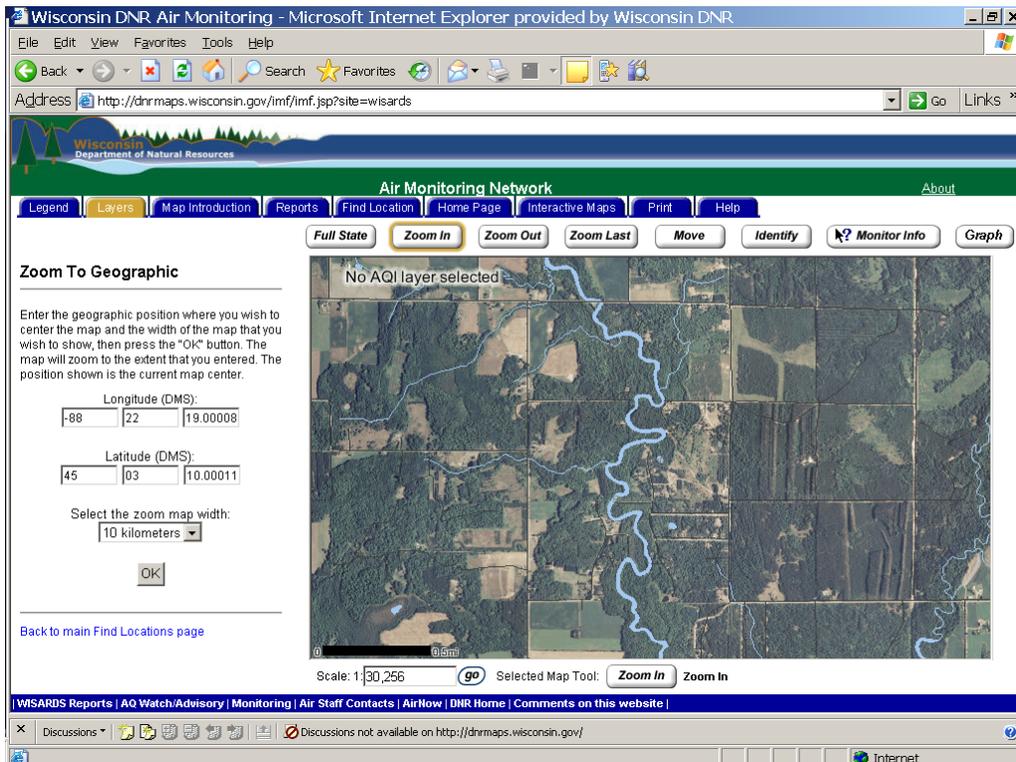
Monitors: Wet Deposition

### Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness: Regional background

# 2011 Wisconsin Air Monitoring Network Plan



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**Trout Lake**

AQS Site ID: 55-125-0001  
Location: Trout Lake Forestry Hdqrs. Boulder Junction County Hwy M  
County: Vilas  
GPS coordinates: 46.048  
 -89.653  
Date Established: 12/16/1992

CBSA: None – Rural Site  
AQCR: North Central Wisconsin Intra-State

Site Approval Status: Site and monitor does not meet all design criteria for the monitoring network due to probe height above 60 feet

Locational Setting:

This site is located in a field at the DNR Forestry Site on County M, Boulder Junction. The sample inlet from 4 - 18.3 meters above ground level and 122 meters from nearest road. This site monitors Atmospheric Deposition, National Trends Network and Mercury Deposition. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor | Monitor Equipment | Designation         | Analysis Method | Sampling Frequency | Monitor Est. |
|---------|-------------------|---------------------|-----------------|--------------------|--------------|
| Ozone   | API Ozone         | SLAMS               | UV Photometry   | continuous         | 12/16/1992   |
| PM2.5   | R&P 2025          | Regional Background | Gravimetric     | 1/6                | 01/01/1999   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness:

This site represents population exposure on a regional background scale for ozone and PM2.5.



# 2011 Wisconsin Air Monitoring Network Plan

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**Waukesha - Cleveland Avenue**

AQS Site ID: 55-133-0027  
Location: 1310 Cleveland Ave.  
 Waukesha  
County: Waukesha  
GPS coordinates: 43.020  
 -88.215  
Date Established: 01/31/1989

CBSA: Milwaukee-Waukesha-  
 West Allis, WI  
AQCR: Southeastern Wisconsin  
 Intra-State



Site Approval Status: Site and monitors meet all design criteria for the monitoring network.

Locational Setting:

This site is located in a fenced-in area on a city lot in Waukesha County. The sample inlet is 3 - 5.4 meters above ground level and 6 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.



Monitoring Objective:

The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and PM2.5 and to provide pollutant levels for daily air quality index reporting.

Monitors:

| Monitor                           | Monitor Equipment      | Designation | Analysis Method                                      | Sampling Frequency | Monitor Est. |
|-----------------------------------|------------------------|-------------|--|--------------------|--------------|
| Ozone                             | API Ozone              | SLAMS       | UV Photometry  | continuous         | 04/27/2004   |
| PM2.5 Total Atmospheric           | R&P TEOM/FDMS          | SLAMS       | Tapered element oscillating microbalance gravimetric | continuous         | 03/01/2004   |
| PM2.5                             | R&P 2025 FRM           | SLAMS       | Gravimetric  | 1/3                | 01/01/1999   |
| PM2.5 Species                     | Met One Speciation     | SLAMS       | Gravimetric  | 1/6                | 01/01/1998   |
| Wind speed/direction. Temperature | Met One Meteorological | SLAMS       | Mechanical   | continuous         | 03/17/2004   |

## 2011 Wisconsin Air Monitoring Network Plan

### Quality Assurance Status:

All quality assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A.

### Area of Representativeness:

This site represents population exposure on a neighborhood scale for ozone and fine particles.

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State Zoom In Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor

No AQI layer selected

Select a county for which to list quality monitors:  
(Only counties with air quality are listed)

Waukesha

You can also type the first few characters of the location name:

Select one of the listed air quality monitors to zoom to that location:

WAUKESHA - CARROLL CO  
WAUKESHA - CLEVELAND

Scale: 1:30,424 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website

Discussions not available on <http://dnrmaps.wisconsin.gov/>

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**Wildcat Mountain State Park**

AQS Site ID: 55-123-0008  
Location: Wildcat Mountain State Park , Hwy 33, Ontario  
County: Vernon  
GPS coordinates: 43.70222  
 -90.5683  
Date Established: 3/20/1990  
  
CBSA: None – Rural Site  
AQCR: Southeast Minnesota-La Crosse



Site Approval Status: Site and monitor meet all design criteria for the monitoring network

Locational Setting:

This site is located in a field at Wildcat Mountain State Park. The sample inlet is 6 meters above ground level and 800 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: Population Exposure

Monitors:

| Monitor                                  | Monitor Equipment              | Designation | Analysis Method | Sampling Frequency | Monitor Est. |
|--|--------------------------------|-------------|-----------------|--------------------|--------------|
| Ozone                                    | API Ozone                      | SLAMS       | UV Photometry   | continuous         | 03/19/1990   |
| Wind speed/<br>direction,<br>Temperature | Qualimetrics<br>Meteorological | SLAMS       | Mechanical      | continuous         | 03/19/1990   |

Quality Assurance Status:

All Quality Assurance procedures have been implemented in accordance with 40 CFR 58, Appendix A

Area of Representativeness: Regional

# 2011 Wisconsin Air Monitoring Network Plan

Wisconsin DNR Air Monitoring - Microsoft Internet Explorer provided by Wisconsin DNR

Address: <http://dhrmaps.wisconsin.gov/imf/imf.jsp?site=wisards>

Wisconsin Department of Natural Resources

### Air Monitoring Network

Legend Layers Map Introduction Reports Find Location Home Page Interactive Maps Print Help

Full State **Zoom In** Zoom Out Zoom Last Move Identify Monitor Info Graph

Zoom to an air quality monitor:

Select a county for which to list air quality monitors:  
(Only counties with air quality monitors are listed)  
Vernon

You can also type the first few letters of the location name:

Select one of the listed air quality monitors to zoom to that location:  
WILDCAT MOUNTAIN

No AQI layer selected

Scale: 1:30,424 go Selected Map Tool: Zoom In Zoom In

WISARDS Reports | AQ Watch/Advisory | Monitoring | Air Staff Contacts | AirNow | DNR Home | Comments on this website |

Discussions not available on <http://dhrmaps.wisconsin.gov/>

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**Appendix A: Industrial Particulate Matter Network**

| <b>AQS Site #</b> | <b>Location</b> | <b>Facility</b>         | <b>Type</b>                  |
|-------------------|-----------------|-------------------------|------------------------------|
| 55-031-0035       | Superior        | Cenex Harvest States    | TSP                          |
| 55-031-0036       | Superior        | Cenex Harvest States    | TSP                          |
| 55-031-0011       | Superior        | Midwest Energy          | TSP                          |
| 55-031-0014       | Superior        | Midwest Energy          | TSP                          |
| 55-031-0027       | Superior        | Midwest Energy          | TSP                          |
| 55-031-0038       | Superior        | Midwest Energy          | TSP                          |
| 55-031-0037       | Superior        | Hallet Dock             | TSP                          |
| 55-031-0023       | Superior        | BNSF – Railroad         | TSP                          |
| 55-025-0100       | Madison         | MG&E                    | continuous PM2.5<br>(TEOM)   |
| 55-025-_____      | Madison         | University of WI        | PM10<br>continuous<br>(TEOM) |
| 55-021-0019       | Cambria         | Didion Milling          | TSP                          |
| 55-133-0039       | Waukesha        | Metal Tek International | TSP                          |

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## Appendix B Methods Summaries

**Particulate Matter 10 microns in size, PM10** Samplers operate as either FRM or FEM samplers and are operated according to the requirements set forth in 40 CFR 50 and 40 CFR 53. Filter-based samples are collected with a high-volume sampler followed by weighing in an analytical laboratory. Sample concentration is derived by the difference in weight in a laboratory under standard conditions. The Air Monitoring program operates one continuous monitor that determines an hourly concentration using a beta attenuation monitor.

**Particulate Matter 2.5 microns in size (PM2.5) Federal Reference Method (FRM)** With the exception of continuous samplers, all fine particle samplers operated by the Air Monitoring Section are certified as FRM samplers. All manual samplers are operated per the requirements set forth in 40 CFR 50; Appendix L. Samples are collected on 46.2mm PTFE filters over a 24-hour sampling period. Air flow through the filter is maintained at 16.7 liters per minute. The flow rate must not vary more than +/-5% for five minutes over a 24-hour sample period at actual ambient temperature and pressure. Samples must be retrieved within 177 hours of the end of the sample run and must be kept cool (4 °C or cooler) during transit to meet the thirty day limit for re-weighing. The PTFE filters are to be equilibrated before each weighing for minimum of 24 hours at a controlled atmosphere of 20-23 °C mean temperature and 30-40% mean relative humidity. Filters must be used within thirty days of initial weighing. Filters must be re-weighed within thirty days of the end of the sample run and must be kept at 4 °C or cooler. The gain in weight in relation to the volume of air sampled is calculated in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

**PM2.5 Continuous Sampling (FEM and non-FEM)** Continuous PM2.5 samplers provide rolling 24-hour average sample concentrations for AQI reporting. The most of continuous fine particle samplers operated by the Air Monitoring Program use a TEOM equipped with a sharp cut cyclone and FDMS unit. As a result of EPA's recent approval of TEOM-FDMS units as FEM samplers, the Air Monitoring Program began upgrading the equipment to a FEM or near-FEM configuration as funding permitted. Upgrades include retrofitting or updating the FDMS revision C configuration including a revision C dryer, changing to a very sharp cut cyclone (VSCC), and changing instrument firmware. Data are transmitted by telemetry for entry into the automated central data acquisition system (WISARDS).

**PM2.5 Speciation sampling and analysis** In addition to operating PM2.5 samplers that determine only PM2.5 mass values, WDNR also operates PM2.5 speciation samplers that collect samples that are analyzed to determine the chemical composition of PM2.5. Samples are collected on a set of three filters over a calendar-day 24-hour sampling period. The individual filters are composed of different media in order to collect specific types of toxic pollutants. After collection, the samples are shipped in ice chests to an EPA contract laboratory for analysis. At the laboratory the samples are analyzed, using optical and electron microscopy, thermal optical analysis, ion chromatography and x-ray fluorescence to determine the presence and level of specific toxic compound. Sample results are entered in the AQS data system.

**Sulfur Dioxide** Instruments used to continuously monitor sulfur dioxide levels in the

atmosphere employ the UV fluorescence and UV open path methods. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data system. Calibration of these instruments is done dynamically using certified gas mixtures containing a known concentration of sulfur dioxide gas. This gas is then diluted in a specially designed apparatus to give varying known concentrations of sulfur dioxide. These known concentrations are supplied to the instruments, which are adjusted so that instrument output corresponds with the specific concentrations. Calibration curves are prepared for each instrument and each data point is automatically compared to this curve before entry into the data acquisition system.

**Carbon Monoxide** Continuous monitoring for carbon monoxide is performed by use of the non dispersive infrared correlation method. Data is transmitted by telemetry for entry in an automated central data acquisition System. Calibration of the instrument is performed periodically by using nitrogen, or zero air, to establish the zero baseline and NIST or NIST-traceable gas mixtures of carbon monoxide in air. The span is checked daily using a certified mixture of compressed gas containing approximately 45 parts per million carbon monoxide.

**Ozone** Ozone is monitored using the UV photometry and UV open path methods. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system. Monitors are verified routinely using an ozone transfer standard, which is calibrated using the ultra violet photometry reference method. Calibration curves are prepared for each instrument and each data point is automatically compared to this curve before entry into the data acquisition system.

**Nitrogen Dioxide** The chemiluminescence and UV open path methods are used in monitoring the nitrogen dioxide level in the ambient air. The continuous data output from the instrument is transmitted by telemetry for entry into an automated central data acquisition system. Calibration of these instruments is done dynamically using NIST certified gas mixtures of nitric oxide. Through the use of dilution apparatus, varying concentrations are produced and supplied to the monitors, thus producing a specific calibration curve for each instrument. Each data point is automatically compared to this curve before entry into the data acquisition system.

**Lead** In 2008, US EPA finalized changes to the sampling and analysis methods for the Pb monitoring network. Specifically, US EPA (1) continued using the current Pb-TSP Federal Reference Method (FRM, 40 CFR part 50 Appendix G), (2) finalized a new Federal Reference Method (FRM) for monitoring Pb in PM<sub>10</sub> (Pb-PM<sub>10</sub>) low-volume for limited situations where it will be permitted, (3) lowered the Pb concentration range required during Pb-TSP and Pb-PM<sub>10</sub> candidate Federal Equivalent Method (FEM) comparability testing, and (4) finalized changes to the quality assurance requirements for Pb monitoring.

**Mercury Ambient Air Monitoring** Cold vapor atomic fluorescence spectrometry is used to determine elemental gaseous mercury in ambient air at sub-nanogram per cubic meter levels. The analyzer uses a dual, ultra pure gold absorbent cartridge design that allows alternating desorption and sampling. The dual cartridge design results in continuous mercury sampling of the air stream. The continuous data output from the instrument is transmitted by telemetry for entry into a data acquisition system.

**Mercury and Atmospheric Deposition Monitoring Wet Deposition** Also known as

NADP/MDN and NTN (National Atmospheric Deposition Program/ Mercury Deposition Network and National Trends Network), the objective of the MDN is to develop a national database of weekly concentrations of total mercury in precipitation and the seasonal and annual flux of total mercury in wet deposition. The data are used to develop information on spatial and seasonal trends in mercury deposited to surface waters, forested watersheds, and other sensitive receptors.

Acid precipitation monitoring sites operate on a weekly sampling schedule. Cumulative precipitation events occurring during a seven-day period are collected in one container to represent a one-week sample. An Aerochem precipitation sampler and NN samplers are used to collect the sample. The principle of operation of the samplers is based on the use of a moisture sensor that activates an electrically driven movable container lid covering the “wet” container during dry periods and then is moved to uncover the “wet” container when precipitation occurs. The opening and closing of the lid for each precipitation event is indicated on a data logger providing the time and date of each event. At the end of each weekly sampling period, the sample bag/bottle in the “wet” container is removed and a new sample bag/bottle is installed.

Analysis of precipitation samples for total- and methylmercury is performed by Frontier Geosciences, Inc., Seattle WA. And the data are available on the web site <http://nadp.sws.uiuc.edu/sites/>. The national MDN began a transition network of 13 sites in 1995. Beginning in 1996, MDN became an official network in NADP with 26 sites in operation. Currently, over 85 sites are in operation nationwide.

**Air Toxics** Air toxic pollutants are determined in three categories: metals, volatile organic compound (VOC) and carbonyls. Metal samples are collected on 46.2 mm PTFE filter over a 24-hour period similar to the PM10 monitoring method. The filter is weighed before and after the sample run. The gain in weight in relation to the volume of air sampled is used to calculate the concentration in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The PTFE filter is to be equilibrated before each weighing for a minimum of 24 hours at a 20-23 °C mean temperature and a 30-40 % mean relative humidity. The filter is then delivered to the Wisconsin State Laboratory of Hygiene Division for Environmental Services (DES) for inductively coupled plasma/mass spectrometer analysis to determine the concentration of metals in  $\mu\text{g}/\text{m}^3$ .

VOC samples are collected in a vacuum canister. Ambient air is pulled into the canister over a 24-hour sampling period. Similarly, the sample is shipped to the DES for gas chromatography/mass spectrometer analysis. VOC concentrations determined in the sample are reported in  $\mu\text{g}/\text{m}^3$ .

Carbonyl samples are collected on a DPNH cartridge. An ambient air stream flows through the cartridge at a 1 liter per minute flow rate for a 24-hour sampling period. The cartridge is packed on ice and shipped to the DES for high-pressure liquid chromatography analysis. Carbonyl concentrations determined in the sample are reported in  $\mu\text{g}/\text{m}^3$ .

**Enhanced Ozone Monitoring (EOM) – Photochemical Assessment Monitoring (PAMS)** Twenty-four hour canister and cartridge samples will be collected following the procedures in OP.11.0 of the Wisconsin Air Monitoring Handbook, Operation of

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the Automated Combination Canister and Cartridge Sampler. Three hour canister and cartridge samples will be collected following the procedures in OP.11.1 of the Wisconsin Air Monitoring Handbook, Operation of the Automated Multi-Port Canister and Cartridge Sampler. Copies of both operating procedures are included in the PAMS handbook.

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