Wisconsin Department of Natural Resources/Air Monitoring

Network Plan 2016

June 2015

WISCONSIN
DEPT. OF NATURAL RESOURCES

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 2016 is complete and accurate at the time of submittal to US 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 US EPA Region 5 at that time.

Signature Gail E Good Date 6.16.2015
Chief, Air Monitoring Section

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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

Ms. Gail Good,
c/o Air Monitoring Section, Bureau of Air Management,
P.O. Box 7921,
Madison, WI 53707,

no later than June 11, 2015. 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/topic/airquality/monitor.html or by mail (at no charge) from Ms. Gail Good 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.

Recommended changes to this network will be implemented during the 2015 and 2016 calendar years, contingent upon adequate funding levels.

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.

Acronyms and Abbreviations

AMNet: Atmospheric Mercury Network
AMoN: Ammonia Monitoring Network
AMS: Air Monitoring Section
AQCR: Air Quality Control Region
AQI: Air Quality Index
BAM/AM: Bureau of Air Management
CASTNET: Clean Air Status and Trends Network
CBSA: Core-Based Statistical Area
CMSA: Consolidated Metropolitan Statistical Area
CSA: Combined Statistical Area
DEQ: Division of Environmental Quality
DQA: Data Quality Assessment
DQO: Data Quality Objectives
ETV: Environmental Technology Verification Program
EOM: Enhanced Ozone Monitoring
FEM: Federal Alternate Method
FDMS: Filter Dynamic Measurement System
FRM: Federal Reference Method
LADCO: Lake Michigan Air Directors Consortium
MDN: Mercury Deposition Monitoring Network
MSA: Metropolitan Statistical Area
NAAQS: National Ambient Air Quality Standards
NATTS: National Ambient Toxic Trend Sites
NCore: National Core Monitoring Network
NTN: National Trends Network
PAMS: Photochemical Assessment Monitoring Site
PWEI: Population Weighted Emission Index
QAPP: Quality Assurance Project Plan
R&P: Ruprecht & Pataschnick (now part of Thermo.)
SCC: Sharp Cut Cyclone
SLAMS: State and Local Air Monitoring Sites
SPM: Special Purpose Monitors
STN: Speciation Trends Network
TEOM: Tapered Element Oscillating Method
UATM: Urban Air Toxics Monitor
US EPA: United States Environmental Protection Agency
UV: Ultra Violet
VOC: Volatile Organic compounds
VSCC: Very Sharp Cut Cyclone
WDNR: Wisconsin Department of Natural Resources

Monitor (Parameter) Abbreviations

CO – Carbon Monoxide
Hg - Mercury
NO_2 – Nitrogen Dioxide
NOy – Reactive Oxides of Nitrogen
PM_{10}: Particulate Matter 10 micron or smaller in size

$PM_{2.5}$: Particulate Matter 2.5 micron or smaller in size
PM_{crs}: Particulate Matter 2.5 to 10 micron in size
O_3 - Ozone
Pb – Lead
SO_2 – Sulfur Dioxide
T – Temperature
WD - Wind Direction
WS – Wind Speed

Summary of Significant Network Changes

AQS Site ID	COUNTY	CITY	SITE NAME	SITE ADDRESS	O_3	$PM_{2.5}$	PM_{10}	PMcrs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NO_y	PAH	VOC Carbonyl	NTN	Hg	Comment
55-087-0009	Outagamie	Appleton	Appleton AAL	4432 N. Meade St	S	C & F														
55-003-0010	Ashland	Odanah	Bad River Tribal School – Odanah	100 Birch St.	Y	F & Fc						Y								
55-079-0085	Milwaukee	Bayside	Bayside	601 E. Ellsworth Ln.	S															
55-105-0030	Rock	Beloit	Beloit-Converse	1501 Ritsher St.	S															
-	Douglas	-	Brule River															Y	MD	
55-059-0019	Kenosha	Pleasant Prairie	Chiwaukee Prairie Stateline	Chiwaukee Prairie, 11838 First Court	S	C & F						Y & RF								
55-021-0015	Columbia	Columbus	Columbus	N 1045 Wendt Rd.	S							S & RF								
55-111-0007	Sauk	Baraboo	Devils Lake Park	Devils Lake State Park, E12886 Tower Rd.	S	C, F Cc & Fc	C & Cc	C & Cc				Y						Y	MD	
55-035-0014	Eau Claire	Eau Claire	Eau Claire-DOT Sign Shop	5509 Highway 53 South	S	C & F						Y								
55-039-0006	Fond du Lac	-	Fond du Lac	N3996 Kelly Rd, Town of Byron	S															
55-089-0008	Ozaukee	Grafton	Grafton	N. Port Washington Rd. (East side of Hwy 32 and I43)	S							S & RF								
55-009-0005	Brown	Green Bay	Green Bay East High	1415 E. Walnut St.		C, F, Fc & M			Y											
55-009-0026	Brown	Green Bay	Green Bay UW	Hwys 54 & 57	S															
55-089-0009	Ozaukee	Belgium	Harrington Beach	Harrington Beach State Park, 531 Hwy D	S	C & F						Y								
55-027-0001	Dodge	Horicon	Horicon Wildlife Area	1210 N. Palmatory St.	Y	C, F & M	C, F & Fc	C	HS		HS	Y & RF		Y & Yc	HS	Y	Y		T (GEM, GOM & PBM) & MD	
55-055-0009	Jefferson	Jefferson	Jefferson-Laatsch	N4440 Laatsch Lane	S															
55-059-0025	Kenosha	Kenosha	Kenosha-Water Tower	4504 64th Ave.	S							S								
55-061-0002	Kewaunee	Kewaunee	Kewaunee	Route 1, Hwy 42	S															
55-117-0008	Sheboygan	Kohler	Kohler	444 Highland Dr.									Y & Yc							
55-063-0012	La Crosse	La Crosse	La Crosse-DOT	3550 Mormon Coulee Rd.	S	C & F						Y								
55-073-0012	Marathon	-	Lake DuBay	1780 Bergen Rd.	S							Y						Y		
55-127-0005	Walworth	Lake Geneva	Lake Geneva	2420 Elgin Club Rd.	S							Y						Y	MD	
55-025-0041	Dane	Madison	Madison - East	2302 Hoard St.	S	C & F			Y			Y								
55-025-0047	Dane	Madison	Madison -University Ave. Well #6	2757 University Ave.		F	F													
		c – Collocated monitor		C – Continuous					Indicates a site where a change occurred or will occur in 2015.											
		D – Discontinued		F –Federal Reference Method					Indicates a site where a change is planned for 2016.											
		HS – High Sensitivity		M - Fine Particle Speciation – Cation/Anion/Carbon																
		MD – Mercury Deposition Network		RF – Precipitation for National Weather Service																
		P – PAMS		S – Seasonal monitoring																
		T – Tekran mercury monitoring		Y – Year round monitoring																

Summary of Significant Network Changes (cont.)

AQS Site ID	COUNTY	CITY	SITE NAME	SITE ADDRESS	O_3	$PM_{2.5}$	PM_{10}	PM-crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NO_y	PAH	VOC Carbonyl	NTN	Hg	Comment
55-071-0007	Manitowoc	Two Rivers	Manitowoc Woodland Dunes	2315 Goodwin Rd.	S					S		S			S					
55-079-0058	Milwaukee	Milwaukee	Milwaukee-College Ave. Park & Ride	1550 W. College Ave.		C & F	F & Fc							Y						
55-079-XXXX	Milwaukee	Milwaukee	Milwaukee - College Ave. NR	1550 W. College Ave.						Y	HS	Y								
55-079-0099	Milwaukee	Milwaukee	Milwaukee – Fire Dept. HQ	744 W. Wells St.		F														
55-079-0026	Milwaukee	Milwaukee	Milwaukee - SER DNR HDQRS	2300 N. Martin Luther King Jr. Dr.	Y	C,F, Fc & M	C	C	Y	Y		Y			S		P		T(GEM)	
55-079-0010	Milwaukee	Milwaukee	Milwaukee - Sixteenth St. Health Center	1337 S. 16th St.	S	C & F	F					Y		Y			Y		T(GEM)	
55-029-0004	Door	-	Newport Park	475 CTH NP	S							S								
55-119-8001	Taylor	-	Perkinstown	W10746 Cty Rd. M		C, F & M												Y		
55-041-0007	Forest	Crandon	Potawatomi	Fire Tower Rd.	Y	C & F			Y	Y		Y						Y	T (GEM) & MD	
55-043-0009	Grant		Potosi	128 Hwy 61, Potosi Township		C & F						Y								
55-101-0020	Racine	Racine	Racine - Payne and Dolan	4227 Charles St.	S							S								Established 4/3/15
55-085-0996	Oneida	Rhinelander	Rhinelander Tower	434 High St.					Y			Y								
55-117-0006	Sheboygan	-	Sheboygan Kohler Andre	Kohler Andre Park, 1520 Beach Park Rd.	S							S								
55-117-0009	Sheboygan	-	Sheboygan-Haven	N7563 Highway 42	S							S								
-	Washburn	-	Spooner	Highway 70														Y		Beginning in March 2014 operated by US Forest Service
55-031-0019	Douglas	Superior	Superior STP	51 East 1st St.								Y								Being considered for shut down in 2016 depending on changes to the industrial monitoring network
55-125-0001	Vilas	Boulder Junction	Trout Lake	10810 County Hwy M	S	F												Y	MD	
55-133-0027	Waukesha	Waukesha	Waukesha-Cleveland Ave.	1310 Cleveland Ave.	S	C & F						Y								PM2.5 speciation ended on 12/31/14.

		c – Collocated monitor		C – Continuous					Indicates a site where a change occurred or will occur in 2015.											
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		HS – High Sensitivity		M - Fine Particle Speciation – Cation/Anion/Carbon																
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		P – PAMS		S – Seasonal monitoring																
		T – Tekran mercury monitoring		Y – Year round monitoring																

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 nationwide 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.

Monitoring Networks

In 1981, the U.S. Environmental Protection Agency (U.S. EPA) approved a portion of the Wisconsin State Implementation Plan (SIP) for the Clean Air Act monitoring plan dealing with air quality surveillance, which is required by Parts 53 and 58 of Title 40 of the Code of Federal Regulations. That monitoring plan presented a detailed scheme for ambient air quality monitoring, including a detailed proposal for a comprehensive network of ambient monitors throughout Wisconsin. The Department proposed to conduct an annual review of the monitoring network and to notify the public of significant changes in the network by conducting a public informational meeting. In addition to the networks prescribed by EPA, WDNR operates sites within the Mercury Deposition Network (MDN) National Trends Network (NTN), and assists with other networks.

State and Local Air Monitoring Stations (SLAMS)

State and Local Air Monitoring Stations or SLAMS consist of a network of monitoring stations whose size and distribution is largely determined by the monitoring requirements for NAAQS comparison and the needs of monitoring organizations to meet their respective tribal/state implementation plan (TIP/SIP) requirements. SLAMS exclude special purpose monitor (SPM) stations and include National Core Monitoring Network (NCore), Photochemical Assessment Monitoring Stations (PAMS), and all other State or locally operated stations that have not been designated as SPM stations.

Special Purpose Monitor Stations (SPM)

An SPM station means a monitor designated as a special purpose monitor station in its monitoring network plan and in the Air Quality System (AQS), and which the agency does not count when showing compliance with the minimum monitoring requirements for the number and siting of monitors of various types. SPMs provide for special studies needed by the monitoring organizations to support TIPs/SIPs and other air program activities. These monitors are not counted towards the monitoring organizations minimum requirements established in CFR for monitoring certain pollutants. Federal rules (40 CFR Part 58.20) limit the length of time an SPM can operate to a maximum of two years.

$PM_{2.5}$ Chemical Speciation Network (CSN)

As part of the effort to monitor particulate matter, EPA monitors and gathers data on the chemical makeup of particles. These sites are placed at various SLAMS across the Nation. Fifty-four of these CSN sites, the Speciation Trends Network (STN), are used to determine, over a period of several years, trends in concentration levels of selected ions, metals, carbon species, and organic compounds in $PM_{2.5}$. Further breakdown on the location or placement of the trends sites requires that approximately 20 of the monitoring sites be placed at existing Photochemical Assessment Monitoring Stations (PAMS). Currently, there are four speciation sites in Wisconsin: Green Bay-East, Horicon, Milwaukee-SER and Perkinstown. The Waukesha – Cleveland Ave. speciation site was closed on 1/1/15 due to defunding.

Photochemical Assessment Monitoring Stations (PAMS)

Section 182(c)(1) of the 1990 CAA requires the enhanced monitoring of ozone, oxides of nitrogen (NOx), and volatile organic compounds (VOC). Revisions to 40 CFR 58 required states to establish Photochemical Assessment Monitoring Stations (PAMS) as part of their SIP monitoring networks in ozone nonattainment areas classified as serious, severe, or extreme.

The chief objective of the enhanced ozone monitoring revisions is to provide an air quality database that assists air pollution control agencies in evaluating, tracking the progress of, and, if necessary, refining control strategies for attaining the ozone NAAQS. Ambient concentrations of ozone and ozone precursors are used to make attainment/nonattainment decisions, aid in tracking VOC and NOx emission inventory reductions, better characterize the nature and extent of the ozone problem, and to evaluate air quality trends. In addition, data from the PAMS provides an improved database for evaluating photochemical model performance, especially for future control strategy mid-course corrections as part of the continuing air quality management process. The data helps ensure the implementation of the most effective regulatory controls.

The Wisconsin PAMS Network includes two monitoring sites. One urban source region site located in Milwaukee and one rural downwind sites, located in the Woodland Dunes conservancy near Manitowoc. The two sites are a subset of Wisconsin fixed ozone sites which are located throughout Wisconsin.

National Air Toxics Trends Stations (NATTS)

There are currently 187 hazardous air pollutants (HAPs) or Air Toxics (AT) regulated under the CAA. These pollutants have been associated with a wide variety of adverse health and ecosystem effects. In 1999, EPA finalized the Urban Air Toxics Strategy (UATS). The UATS states that emissions data are needed to quantify the sources of air toxics impacts and aid in the development of control strategies, while ambient monitoring data are needed to understand the behavior and concentration of air toxics in the atmosphere after they are emitted. Part of this strategy included the development of the National Air Toxics Trends Stations (NATTS). The NATTS programs measures core air toxics pollutants including VOCs, carbonyl, metals, hexavalent chromium, and PAHs. Specific data quality objectives are set for monitoring sites in the NATT network. At NATT sites, EPA has established a goal to be able to detect a 15% concentration change between two 3-year annual mean concentrations within acceptable error. It is also anticipated that the NATTS data will be used for:

- Tracking trends in ambient levels to evaluate progress toward emission and risk reduction goals;
- Evaluating directly public exposure & environmental impacts in the vicinity of monitors;
- Providing quality assured data for risk characterization;
- Assessing the effectiveness of specific emission reduction activities; and
- Evaluating and subsequently improving air toxics emission inventories and model performance.

Nationally the NATTS program is made up of 27 monitoring sites; 20 representing urban communities and 7 representing rural communities. Wisconsin operates one NATTS site at the state's super site in Dodge County (Horicon). This is supplemented by a site in Milwaukee which is state-operated (Milwaukee-SER).

National Core Monitoring Network (NCore)

The NCore multi-pollutant stations are part of an overall strategy to integrate multiple monitoring networks and measurements. Each state (i.e., the fifty states, District of Columbia, Puerto Rico, and the Virgin Islands) and some local government entities are required to operate at least one NCore site. Monitors at NCore multi-pollutant sites measure particles ($PM_{2.5}$, speciated $PM_{2.5}$, PM_{crs} , speciated PM_{crs}), O3, SO_2, CO, nitrogen oxides (NO/ NO_2/NOy), and basic meteorology. In addition, a number of NCore sites may be selected to measure lead (Pb).

The objective is to locate sites in broadly representative urban (about 63 sites) and rural (about 17 sites) locations throughout the country to help characterize regional and urban patterns of air pollution. In many cases, monitoring organizations collocate these new stations with Speciation Trends Network (STN) sites measuring speciated $PM_{2.5}$ components, PAMS sites already measuring O3 precursors, and/or NATTS sites measuring air toxics. By combining these monitoring programs at a single location, EPA and its partners maximize the multi-pollutant information available. This greatly enhances the foundation for future health studies, NAAQS revisions, validation of air quality models,

assessment of emission reduction programs, and studies of ecosystem impacts of air pollution.

Wisconsin's NCore site is located in Dodge County, representing a rural area. High sensitivity nitrogen oxides, carbon monoxide and sulfur dioxide began operating at that site in 2005 and 2006.

National Atmospheric Deposition Program (NADP) Networks

This National Atmospheric Deposition Program (NADP) is a cooperative effort between federal, state, tribal and local governmental agencies, educational institutions, private companies and non-governmental agencies that measures atmospheric pollutants (i.e. acids, nutrients, and base cations) deposited to land and surface water in wet and dry form. NADP consists of five networks: National Trends Network (NTN), Mercury Deposition Network (MDN), Atmospheric Integrated Monitoring Network (AIRMon), Atmospheric Mercury Network (AMNet) and Ammonia Monitoring Network (AMoN). Data are made available on the NADP website: http://nadp.sws.uiuc.edu/NADP/. Four of these networks operate in Wisconsin.

1) National Trends Network (NTN): This national network measures precipitation chemistry. WDNR operates three NTN sites throughout the state at Trout Lake, Devil's Lake and Brule River. Additionally, one site is operated by the US Forest Service at Spooner, one by the US EPA at Perkinstown and one by the Forest County Potawatomi Nation at Potawatomi. Site operators follow standard procedures to ensure NTN data comparability and representativeness. They collect samples weekly on Tuesday morning and send samples to the Central Analytical Laboratory (CAL) at the Illinois State Water Survey. The CAL reviews field and laboratory data and delivers all data and information to the NADP Program office, which applies a final set of checks and resolves remaining discrepancies.

2) Mercury Deposition Monitoring Network (MDN): This national network measures atmospheric mercury deposition to land and surface water in the form of precipitation. All MDN sites follow standard procedures and have uniform precipitation chemistry collectors and gages. Six MDN site are located in Wisconsin. Three sites are directly operated by WDNR at Trout Lake, Devil's Lake, and Brule River. Two sites at Lake Geneva and Horicon, are operated by Lake Michigan Air Directors Consortium (LADCO). The Potawatomi site is tribal. Site operators collect samples Tuesday morning. Samples are sent to the designated laboratory, currently the Mercury Analytical Laboratory (HAL) at Frontier Geosciences, Inc. in Seattle, Washington. The HAL delivers all data and information to the NADP Program Office for final checks and resolution of remaining discrepancies.

3) Atmospheric Mercury Network (AMNet): This network measures atmospheric mercury fractions which contribute to dry and total mercury deposition. There is an AMNet site located at Horicon operated by WDNR which has been active since January of 2010.

4) Ammonia Monitoring Network (AMoN): This network measures ammonia gas concentrations across the United States. There are AMoN sites located at Horicon

and Perkinstown. The Horicon site is operated by WDNR and has been active since January of 2010.

BioWatch

BioWatch, operated through the Department of Homeland Security, is an early warning system designed to detect the release of biological agents in the air through a comprehensive protocol of monitoring and laboratory analysis. The program was designed to demonstrate the effectiveness of new technology in protecting public health. Given the nature of the program, few details are available publicly.

The goals of BioWatch are to:

- Provide early warning of a biological attack by expeditiously identifying the bio-agent, thereby minimizing casualties in the affected area;
- Assist in establishing forensic evidence on the source, nature, and extent of biological attack to aid law enforcement agents in identifying the perpetrators; and
- Determine a preliminary spatial distribution of biological contamination, including what populations may have been exposed.

Data Processing and Reporting

With the exception of the NADP, fine particle speciation and BioWatch data; 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 US EPA's AIRNow web site. Particulate data collected over 24 hours (filter-based method) is made available on the Air Quality website as it is processed.

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

Network Review

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 US 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 suitable and not suitable for comparison against the annual $PM_{2.5}$ NAAQS.
8) The Metropolitan Statistical Area (MSA), Core-Based Statistical Area (CBSA), Combined Statistical Area (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.
12) The identification of required NO_2 monitors as near-road, area-wide, or vulnerable and susceptible population monitors.
13) The identification of any PM2.5 FEMs and/or ARMs used in the monitoring agency's network where the data are not of sufficient quality such that data are not to be compared to the NAAQS.

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 location 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 US EPA will be presented here. Other pertinent documentation may also be included in this section.

Regulatory Changes Affecting Network Operations

Over the last few years, US 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.
A brief discussion of adopted and proposed revisions to NAAQS monitoring requirements follows.

Revised Carbon Monoxide Monitoring Network Design Requirements

On August 31, 2011 US EPA finalized a rule to retain the existing National Ambient Air Quality Standards for carbon monoxide (CO) and revise the monitoring requirements for CO. CO monitors need to be sited near highly trafficked roads in certain urban areas

having a population of 1 million or more. US EPA requires co-location of these CO monitors with NO_2 near-road monitors, resulting in the requirement of one CO monitor at the required NO_2 near-road monitoring site in Milwaukee. The co-located CO monitor was in operation by January 1, 2014 to meet the near-road site requirements.

The CO rule finalized on August 31, 2011 also gives EPA Regional Administrators the authority to require additional monitoring in case-by-case circumstances, such as in areas impacted by major stationary CO sources, in urban downtown areas or urban street canyons, or in areas adversely impacted by meteorological and/or topographical influences. Should US EPA require additional monitoring based on this provision, WDNR will address the new requirement.

Revised Fine Particle Monitoring Network Design Requirements

On January 15, 2013, US EPA finalized the health-based National Ambient Air Quality Standard (NAAQS) for particle pollution. The annual NAAQS for fine particles ($PM_{2.5}$) was lowered from 15 micrograms per cubic meter to 12 micrograms per cubic meter. US EPA also retained the existing standards for coarse particle pollution (PM_{10}). US EPA will also require near roadway $PM_{2.5}$ monitoring at one location in each CBSA with a population of 1 million or more. This monitoring will be phased in beginning January 2015.

The new $PM_{2.5}$ requirements obligate Wisconsin to locate a near-road $PM_{2.5}$ monitor in Milwaukee by January 2017. The near-road site meeting the 1-hour NO_2 requirement will likely serve as the location for the near-road $PM_{2.5}$ site. US EPA will not be providing additional funding for the near-road PM2.5 site and has directed that WDNR relocate an existing monitor. Future network plans will address the relocation of one $PM_{2.5}$ monitor to the near-road site.

Revised Nitrogen Dioxide Monitoring Network Design Requirements

On January 22, 2010, US EPA finalized the health-based National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide (NO_2) to 100 ppb over a 1 hour averaging period and established new ambient air monitoring and reporting requirements. In urban areas, monitors are required near major roads as well as in other locations where maximum concentrations are expected. Additional monitors are required in large urban areas to measure the highest concentrations of NO_2 that occur more broadly across communities. Working with the states, US EPA is siting a subset of monitors in locations to help protect communities that are susceptible and vulnerable to NO_2-related health effects. The new monitoring network is being implemented in phases. Monitors in the first and second phases were deployed by January 1, 2014.

The new requirements obligated Wisconsin to locate a near-road NO_2 monitor in Milwaukee, to be operational by January 1, 2014. The NO_2 monitor at the near-road site became operational on January 1, 2014. A community wide population-oriented monitor will be required in Milwaukee as well. The existing NO_2 monitor at the Milwaukee SER HQ site may fulfill this monitoring requirement.

Revised Sulfur Dioxide Monitoring Network Design Requirements

On June 2, 2010 US EPA finalized the NAAQS for sulfur dioxide (SO_2) at 75 ppb over a 1 hour averaging period and established new ambient air monitoring and reporting requirements. In addition to the existing source-oriented SO_2 monitor in Rhinelander, the Green Bay SO_2 monitor, and the high sensitivity (background) SO_2 monitor at the NCore site in Horicon, two additional community-wide population oriented monitors were required to begin monitoring. One was already in operation at the Milwaukee Southeast Region Headquarters and the other required monitor began operation in the Madison CBSA (Madison-East) prior to January 1, 2013. Under the Population Weighted Emission Index (PWEI) regulations, the Regional Administrator may require additional SO2 monitors where there is potential to have concentrations that violate the SO_2 standard. US EPA Region V is in the process of determining if such areas exist in Wisconsin. If such an area is identified, WDNR will work to address additional monitoring requirements.

Proposed Ozone Monitoring Network Design Requirements

On November 25, 2014, US EPA proposed to strengthen the National Ambient Air Quality Standards (NAAQS) for ground-level ozone. The proposal also included other monitoring items such as:

- Streamlining and modernizing the PAMS network requirements
- A proposed change to the length of the monitoring season in Wisconsin

Wisconsin commented on the proposed changes in a letter to US EPA. The monitoring season in Wisconsin currently runs from April 15 – October 15. The proposed change to the season would require a March 1 start, with the season running until October 15 with implementation no later than 2017. WDNR provided comments and data refuting the need for a change in season length. The final rule is expected in October 2015.

Future Revisions to Monitoring Network Design Requirements

US EPA anticipates promulgating revisions to the ozone NAAQS in 2015. As a result, the Department may be required to perform additional related monitoring related to a revised ozone NAAQS.

Summary of Proposed Network Changes for Criteria Pollutants

Fine Particle Network

Wisconsin Air Monitoring Program's fine particle network has two primary goals:

- To deploy Federal Reference Method (FRM) non-continuous instruments to provide an air quality database for comparison with the NAAQS that will assist in evaluating, tracking the progress of and refining control strategies.
- To deploy non-Federal Equivalent Method (FEM) continuous fine particle instruments to maximize geographic coverage and support forecasting efforts, where possible and as resources permit.

The continuous network of Met One Beta Attenuation Monitors (BAMs) includes Appleton AAL, Chiwaukee, Devil's Lake, Eau Claire-DOT Sign Shop, Green Bay East, Harrington Beach, Horicon Wildlife Area, La Crosse DOT, Madison-East, Milwaukee-College Ave. Park & Ride, Milwaukee-SSHC, Milwaukee-SER, Perkinstown, Potosi and Waukesha. In addition, the Forest County Potawatomi community operates a BAM.

For the non-continuous network, based on current design values and the anticipated funding, FRM sampling frequency will be adjusted as follows:

Site	2015 and 2016 Freq.
Appleton	1 in 3
Bad River Tribal School – Odanah	1 in 6
Bad River Tribal School (collocated)	1 in 6
Chiwaukee Prairie Stateline	1 in 3
Devils Lake Park	1 in 6
Devils Lake Park (collocated)	1 in 12
Eau Claire - DOT Sign Shop	1 in 6
Green Bay – East	1 in 3
Green Bay - East (collocated)	1 in 12
Harrington Beach	1 in 6
Horicon Wildlife Area	1 in 3
La Crosse DOT	1 in 3
Madison - East	1 in 6
Madison - University Ave. Well #6	1 in 3
Milwaukee - 16th St. Health Center	1 in 3
Milwaukee College Ave. Park& Ride	1 in 3
Milwaukee - Fire Dept HQ	1 in 3
Milwaukee – SER	1 in 6
Milwaukee -SER (collocated)	1 in 12
Perkinstown	1 in 6
Potawatomi	1 in 6

Potosi	1 in 3
Trout Lake	1 in 6
Waukesha – Cleveland Ave.	1 in 3

Also, WDNR will continue supporting FRM $PM_{2.5}$ monitoring at the Forest County Potawatomi community and Bad River tribal sites.

PM_{10} – PM Coarse Network

Continuous PM Coarse systems are located at the Devil's Lake, Horicon and Milwaukee SER sites. A PM Coarse system consists of a continuous PM_{10} BAM and continuous $PM_{2.5}$ BAM placed side-by-side. Currently, there are no plans to purchase additional PM Coarse or PM_{10} instruments in 2015.

Gases Monitoring

On November 25, 2014, US EPA proposed to strengthen the ozone standard. This may cause WDNR to need to revise the monitoring network design requirements for ozone to assist with implementation of the ozone NAAQS. The rule is expected to be finalized in October 2015 and currently includes an extension to the length of monitoring season. As currently proposed, the required ozone monitoring season would be extended by six weeks, beginning on March 1 and ending on October 51; currently the season is April 15 through October 15. As requested by US EPA Region V, the Chiwaukee ozone site is monitoring April 1 through October 31, but will be subject to change in the future, dependent on the finalization of the rule. It is expected that WDNR would include further ozone network revisions in the 2016 submittal for the 2017 ozone season.
Additional changes in the ozone network include:

- The continuation of a Special Purpose Monitor (SPM) for a third year in Kenosha County (Kenosha – Water Tower) that is more indicative of population exposure.
- The establishment of a new ozone site in Racine County to replace the old unsafe site that closed at the end of the 2013 season. This site became operational at the start of the 2014 season. More details on the site can be found in this report.

PAMS

The AutoGC which began operations in 1999, failed in 2010 ending continuous VOC monitoring conducted at the Milwaukee SER site. AutoGC monitoring cannot resume until federal funds are available to replace the instrument. Wisconsin has continued canister and carbonyl sampling on every sixth day at Milwaukee-SER site. The proposed ozone rule contains a re-design of the PAMS network, which may impact WDNR in future years.

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. 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 coal unloading and storage facilities, petroleum product storage and transshipment, etc.

Current Lake Michigan Monitoring Sites

AQS Id	Site Name	CBSA or MSA	Latitude Longitude	Address	City	County	Site Est.
55-087-0009	Appleton - AAL	Appleton- Neenah, WI	44.30738 -88.39509	4432 N. Meade St	Appleton	Outagamie	4/14/95
55-039-0006	Fond du Lac	Fond du Lac, WI	43.6874 -88.4220	N3996 Kelly Rd., Town of Byron		Fond du Lac	4/22/94
55-009-0005	Green Bay - East High	Green Bay, WI	44.50729 -87.99344	1415 E. Walnut	Green Bay	Brown	7/24/80
55-009-0026	Green Bay - UW	Green Bay, WI	44.53098 -87.90799	UW-Green Bay, Hwys 54 & 57	Green Bay	Brown	4/7/94
55-061-0002	Kewaunee		44.44312 -87.50524	Route 1, Hwy 42	Kewaunee	Kewaunee	4/6/94
55-117-0008	Kohler		43.74395 -87.7763	444 Highland Dr.		Sheboygan	12/15/09
55-071-0007	Manitowoc - Woodland Dunes		44.138619 -87.6161	2315 Goodwin Rd.	Two Rivers	Manitowoc	4/5/94
55-029-0004	Newport Park		45.237 -86.993	475 CTH NP		Door	4/15/89
55-117-0006	Sheboygan - Kohler Andre	Sheboygan, WI	43.679 -87.716	Kohler Andre Park, 1520 Beach Park Rd.		Sheboygan	6/26/97
55-117-0009	Sheboygan - Haven	Sheboygan, WI	43.81523 -87.79194	N7563 Highway 42, Town of Haven		Sheboygan	4/2/14

Current Lake Michigan Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg
55-087-0009	Appleton - AAL	S	C & F													
55-039-0006	Fond du Lac	S														
55-009-0005	Green Bay - East High		C, F,Fc & M			Y					Y					
55-009-0026	Green Bay - UW	S														
55-061-0002	Kewaunee	S														
55-117-0008	Kohler									Y & Yc						
55-071-0007	Manitowoc - Woodland Dunes	S					S		S			S				
55-029-0004	Newport Park	S							S							
55-117-0006	Sheboygan - Kohler Andre	S							S							
55-117-0009	Sheboygan - Haven	S							S							

c – Collocated monitor
D – Discontinued
HS – High Sensitivity
MD – Mercury Deposition Network
RF – Precipitation for National Weather Service
Tek – Tekran mercury monitoring

C – Continuous
F –Federal Reference Method
M - Fine Particle Speciation – Cation/Anion/Carbon
P – PAMS
S – Seasonal monitoring
Y – Year round monitoring

Southeastern Wisconsin Intra-State AQCR

The topography of this air region is generally flat to 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 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 density to the north, west, and south). The western portion of Ozaukee, Waukesha, and Racine and Kenosha counties, and most of Washington and Walworth counties are primarily agricultural.

Current Southeastern Wisconsin Monitoring Sites

AQS Id	Site Name	CBSA or MSA	Latitude Longitude	Address	City	County	Site Est.
55-079-0085	Bayside	Milwaukee-Waukesha, WI	43.181 -87.900	601 E. Ellsworth Ln.	Bayside	Milwaukee	5/1/84
55-059-0019	Chiwaukee Prairie Stateline	Kenosha, WI	42.5047687 -87.80930	Chiwaukee Prairie, 11838 First Court	Pleasant Prairie	Kenosha	7/15/87
55-089-0008	Grafton	Milwaukee-Waukesha, WI	43.3430 -87.809231	N. Port Washington Rd. (East side of Hwy 32 and I43)		Ozaukee	6/5/91
55-089-0009	Harrington Beach	Milwaukee-Waukesha, WI	43.49806 -87.8100	Harrington Beach State Park, 531 Hwy D	Belgium	Ozaukee	6/8/94
55-059-0025	Kenosha - Water Tower	Kenosha, WI	42.596 -87.886	4504 64th Ave.	Kenosha	Kenosha	5/15/13
55-127-0005	Lake Geneva		42.580 -88.499	2420 Elgin Club Rd.	Lake Geneva	Walworth	7/10/87
55-079-0056	Milwaukee - College Ave. - NR	Milwaukee-Waukesha, WI	42.93257 -87.93434	1550 W. College Ave.	Milwaukee	Milwaukee	10/22/13
55-079-0058	Milwaukee - College Ave. Park and Ride	Milwaukee-Waukesha, WI	42.93056 -87.932104	1550 W. College Ave.	Milwaukee	Milwaukee	10/15/09
55-079-0099	Milwaukee – Fire Dept HQ	Milwaukee-Waukesha, WI	43.041 -87.925	711 W. Wells St.	Milwaukee	Milwaukee	1/1/70
55-079-0026	Milwaukee - SER DNR HQ	Milwaukee-Waukesha, WI	43.0609750 -87.913504	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	1/1/99
55-079-0010	Milwaukee - Sixteenth St. Health Center	Milwaukee-Waukesha, WI	43.01667 -87.93333	Health Center, 1337 S. Cesar E. Chavez Dr.	Milwaukee	Milwaukee	4/4/97
55-079-0041	Milwaukee - UWM	Milwaukee-Waukesha, WI	43.075 -87.884	UWM North Campus, 2114 E Kenwood Blvd	Milwaukee	Milwaukee	Est. 1/1/73 Closed 12/31/13
55-101-0020	Racine-Payne and Dolan		42.778304 -87.796138	4227 Charles St., Racine		Racine	Est. 4/3/15
55-133-0027	Waukesha - Cleveland Ave.	Milwaukee-Waukesha, WI	43.0200694 -88.215033	1310 Cleveland Ave.	Waukesha	Waukesha	2/3/89

Current Southeastern Wisconsin Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg
55-079-0085	Bayside	S														
55-059-0019	Chiwaukee Prairie Stateline	S	C & F						Y & RF							
55-089-0008	Grafton	S							S & RF							
55-089-0009	Harrington Beach	S	C & F						Y							
55-059-0025	Kenosha-Water Tower	S							S							
55-127-0005	Lake Geneva	S							Y							MD
55-079-0056	Milwaukee - College Ave. - NR						Y	Y	Y							
55-079-0058	Milwaukee - College Ave. Park & Ride		C & F	F & Fc												
55-079-0099	Milwaukee - Fire Dept HQ		F													
55-079-0026	Milwaukee - SER DNR HQ	Y	C,F, Fc & M	C	C	Y	Y		Y			S		P		Tek(GEM)
55-079-0010	Milwaukee - Sixteenth St. Health Center	S	C & F	F					Y		Y			Y		Tek(GEM)
55-101-0020	Racine-Payne and Dolan	S														
55-133-0027	Waukesha - Cleveland Ave.	S	C, F & M	F					Y							

c – Collocated monitor
D – Discontinued
HS – High Sensitivity
MD – Mercury Deposition Network
RF – Precipitation for National Weather Service
Tek – Tekran mercury monitoring

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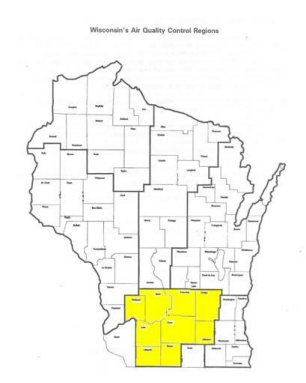
F –Federal Reference Method
M - Fine Particle Speciation – Cation/Anion/Carbon
P – PAMS
S – Seasonal monitoring
Y – Year round monitoring

Southern Wisconsin AQCR

The majority of the land in this air region is gently rolling farmland. In Lafayette county, for example, 93 % of the land is in farms. In the Dane county, Madison had a 2013 population of 238,000. As a whole, Dane county had a population of 497,021. (Population figures are final estimates from the Wisconsin Dept. of Administration.) There were 552 manufacturing establishments (2009) in Dane county. Outside of Madison, industry is scattered and is mainly electrical power generation, an occasional foundry, or quarry.



Current Southern Wisconsin Monitoring Sites

AQS Id	Site Name	CSA or UA	Latitude Longitude	Address	City	County	Site Est.
55-021-0015	Columbus	Madison, WI	43.3156 -89.1089	N 1045 Wendt Rd.		Columbia	8/10/88
55-111-0007	Devils Lake Park		43.4351 -89.6797	Devils Lake State Park, E12886 Tower Rd.		Sauk	5/11/95
55-027-0001	Horicon Wildlife Area		43.466111 -88.621111	1210 N. Palmatory St.	Horicon	Dodge	6/24/82
55-055-0009	Jefferson - Laatsch		43.0034 -88.8263	N4440 Laatsch Lane	Jefferson	Jefferson	4/8/13
55-025-0041	Madison - East	Madison, WI	43.1008 -89.3572	2302 Hoard St.	Madison	Dane	4/15/92
55-025-0047	Madison - University Ave. Well #6	Madison, WI	43.07333 -89.4358	2757 University Ave.	Madison	Dane	1/3/99

Current Southern Wisconsin Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg	AMoN
55-021-0015	Columbus	S							S & RF								
55-111-0007	Devils Lake Park	S	C, F Cc & Fc	C & Cc	C & Cc				Y						Y	MD	
55-027-0001	Horicon Wildlife Area	Y	C, F & M	C, Fc & F	C	HS		HS	Y & RF		Y & Yc	HS	Y	Y		Tek (GEM, GOM & PBM), AM & MD	Y
55-055-0009	Jefferson-Laatsch	S															
55-025-0041	Madison - East	S	C & F			Y			Y								
55-025-0047	Madison - University Ave. Well #6		F	F													

AM – Atmospheric Mercury Network
AMoN – Ammonia Monitoring Network
c – Collocated monitor
C – Continuous
D – Discontinued
F –Federal Reference Method
HS – High Sensitivity
M - Fine Particle Speciation – Cation/Anion/Carbon
MD – Mercury Deposition Network
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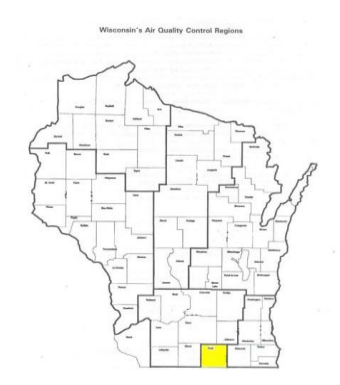
S – Seasonal monitoring
Tek – Tekran mercury monitoring
Y – Year round monitoring

Rockford-Janesville-Beloit Interstate AQCR

The Rockford-Janesville-Beloit air region combines agricultural activities with the Beloit Janesville, Wisconsin and Rockford, Illinois urban-industrial areas. The Wisconsin portion of the air region, Rock county, 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 Id	Site Name	CBSA or MSA	Latitude Longitude	Address	City	County	Site Est.
55-105-0030	Beloit - Converse	Janesville-Beloit, WI	42.51831 -89.06347	1501 Ritsher St.	Beloit	Rock	7/19/13

Current Rockford – Janesville – Beloit Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg
55-105-0030	Beloit - Converse	S														

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RF – Precipitation for National Weather Service
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P – PAMS
S – Seasonal monitoring
Y – Year round monitoring

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 Id	Site Name	CBSA or MSA	Latitude Longitude	Address	City	County	Site Est.
55-043-0009	Potosi		42.693 -90.698	128 Hwy 61, Potosi Township		Grant	1/6/99

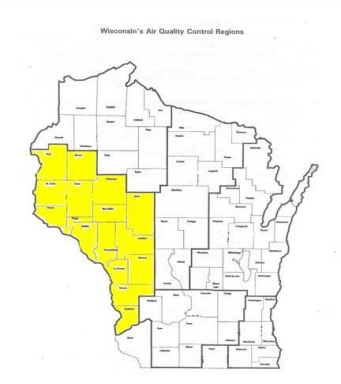
Current Metropolitan Dubuque Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	M crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg
55-043-0009	Potosi		C & F						Y							

c – Collocated monitor
D – Discontinued
HS – High Sensitivity
MD – Mercury Deposition Network
RF – Precipitation for National Weather Service
Tek – Tekran mercury monitoring
C – Continuous
F –Federal Reference Method
M - Fine Particle Speciation – Cation/Anion/Carbon
P – PAMS
S – Seasonal monitoring
Y – Year round monitoring

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 Southeast Minnesota-La Crosse air region has a varied topography. The northwestern part (i.e., north of La Crosse) is rugged and 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 – La Crosse Monitoring Sites

AQS Id	Site Name	CSA or UA	Latitude Longitude	Address	City	County	Site Est.
55-035-0014	Eau Claire - DOT Sign Shop	Eau Claire-Menominee, WI	44.761 -91.413	5509 Highway 53 South	Eau Claire	Eau Claire	3/9/11
55-063-0012	La Crosse - DOT	La Crosse, WI-MN	43.7775 -91.2269	3550 Mormon Coulee Rd.	La Crosse	La Crosse	10/13/05

Current Southeast Minnesota – La Crosse Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg
55-035-0014	Eau Claire – DOT Sign Shop	S	C & F						Y							
55-063-0012	La Crosse – DOT	S	C & F						Y							

c – Collocated monitor
C – Continuous
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F –Federal Reference Method
HS – High Sensitivity
M – Fine Particle Speciation – Cation/Anion/Carbon
MD – Mercury Deposition Network
P – PAMS
RF – Precipitation for National Weather Service
S – Seasonal monitoring
Tek – Tekran mercury monitoring
Y – Year round monitoring

Northwest Wisconsin – Duluth, Minnesota Interstate Air Quality Control Region

The Wisconsin portion of the Duluth-Superior air region has two geographically distinct areas. The northern portions of Bayfield, Douglas, and Ashland counties are 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 significant coal and grain handling activity. Duluth, 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 Id	Site Name	CSA or UA	Latitude Longitude	Address	City	County	Site Est.
55-003-0010	Bad River – Tribal School – Odanah (Tribal site)		46.602 -90.656	100 Birch St.	Odanah	Ashland	7/25/02
55-119-8001	Perkinstown		45.2066 -90.5972	W10746 Cty Rd. M		Taylor	1/1/88
NA	Brule River		46.746 -91.605			Douglas	3/5/96
NA	Spooner		45.822 -91.874	Highway 70		Washburn	6/3/80
55-031-0019	Superior STP		46.726 -92.071	107 Moccasin	Superior	Douglas	10/2/80

Current Northwest Wisconsin – Duluth Minnesota Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg	AMoN
55-003-0010-	Bad River – Tribal School – Odanah	Y	F & Fc						Y								
55-119-8001	Perkinstown		C, F & M												Y		Y
NA	Brule River														Y	MD	
NA	Spooner														Y		
55-031-0019	Superior – STP								Y								

AMoN – Ammonia Monitoring Network
C – Continuous
F –Federal Reference Method
M – Fine Particle Speciation – Cation/Anion/Carbon
P – PAMS
S – Seasonal monitoring
Y – Year round monitoring
c – Collocated monitor
D – Discontinued
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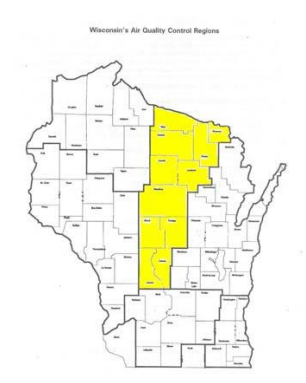
MD – Mercury Deposition Network
RF – Precipitation for National Weather Service
Tek – Tekran mercury monitoring

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 counties, 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 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 Id	Site Name	CSA or MSA	Latitude Longitude	Address	City	County	Site Est.
55-073-0012	Lake DuBay	Wausau, WI	44.70735 -89.77173	1780 Bergen Rd.		Marathon	9/25/91
55-041-0007	Potawatomi		45.563 -88.8088	Fire Tower Rd.	Crandon	Forest	6/7/02
55-085-0996	Rhinelander Tower		45.64505 -89.41848	434 High St.	Rhinelander	Oneida	1/1/81
55-125-0001	Trout Lake		46.052 -89.653	10810 County Hwy M	Boulder Junction	Vilas	1/1/73

Current North Central Wisconsin Monitors

AQS Id	Site Name	O_3	$PM_{2.5}$	PM_{10}	PM crs	SO_2	NO_2	CO	MET	Pb-TSP	Metals (PM_{10})	NOy	PAH	VOC-Carbonyl	NTN	Hg
55-073-0012	Lake DuBay	S							Y							
55-041-0007	Potawatomi	Y	C & F			Y	Y		Y						Y	Tek(GEM) & MD
55-085-0996	Rhinelander Tower					Y			Y							
55-125-0001	Trout Lake	S	F												Y	MD

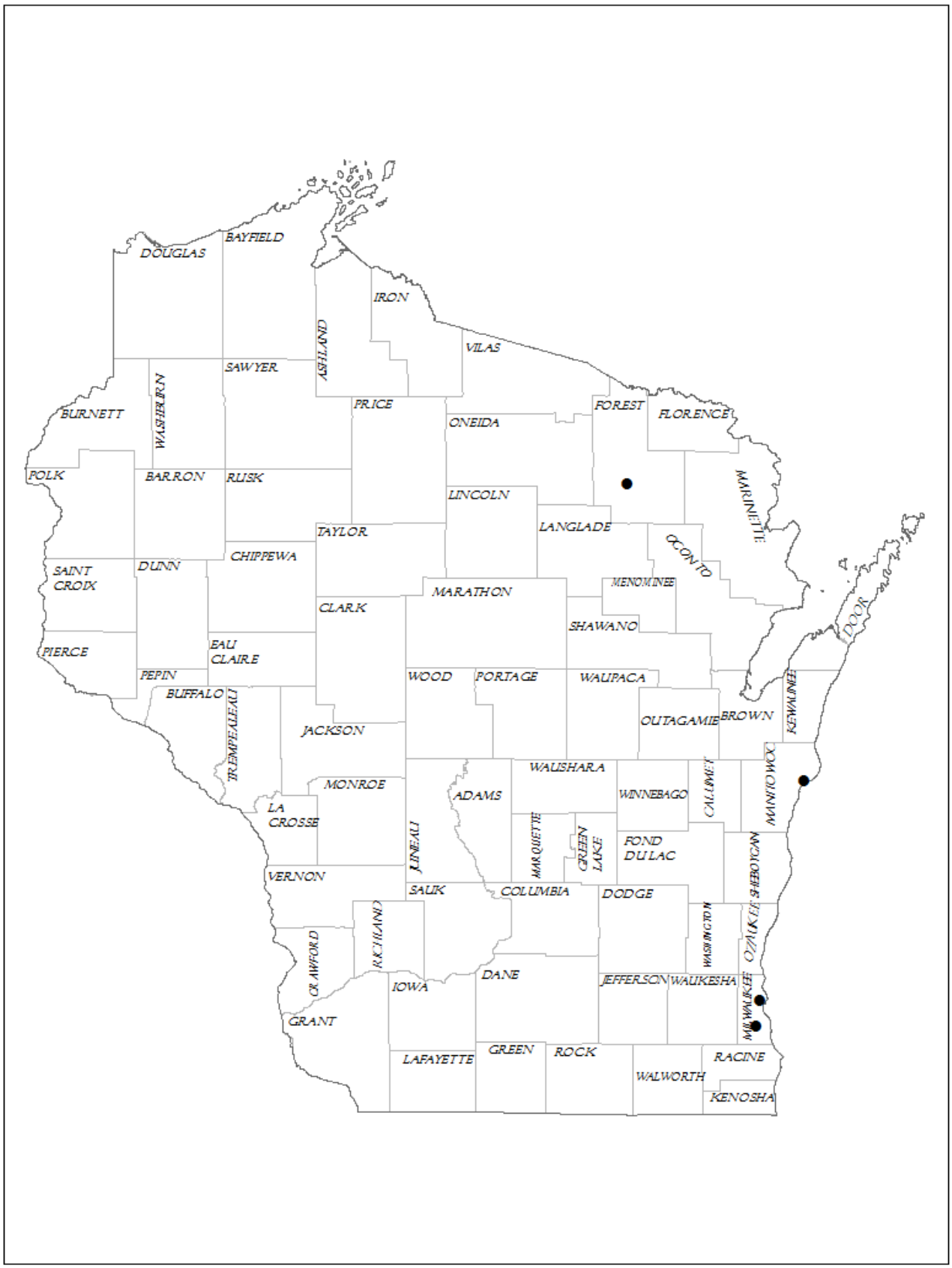
c – Collocated monitor
D – Discontinued
HS – High Sensitivity
MD – Mercury Deposition Network
RF – Precipitation for National Weather Service
Tek – Tekran mercury analyzer

C – Continuous
F –Federal Reference Method
M – Fine Particle Speciation – Cation/Anion/Carbon
P – PAMS
S – Seasonal monitoring
Y – Year round monitoring

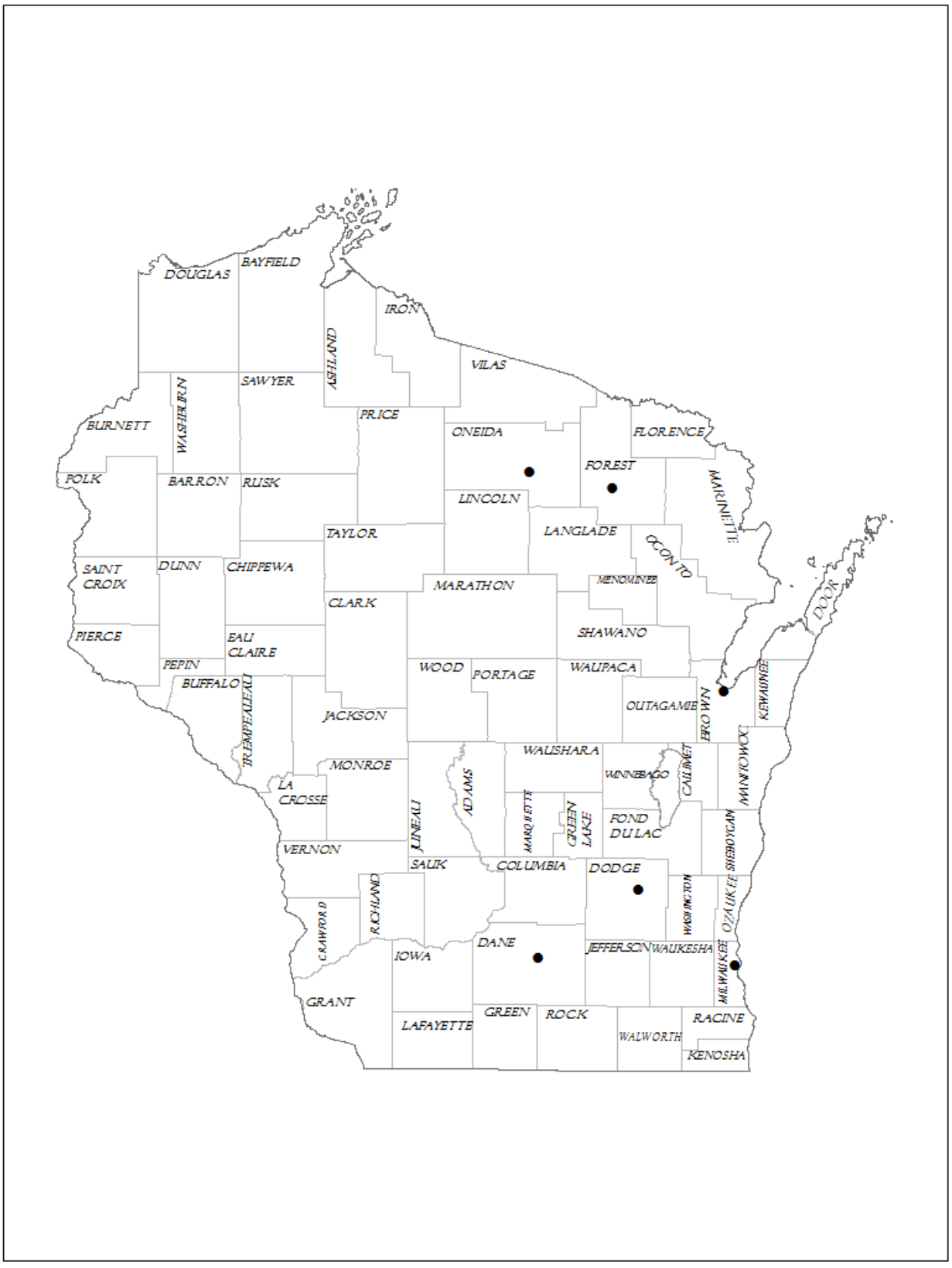
Monitoring Sites by Pollutant

Carbon Monoxide (CO) Network Map

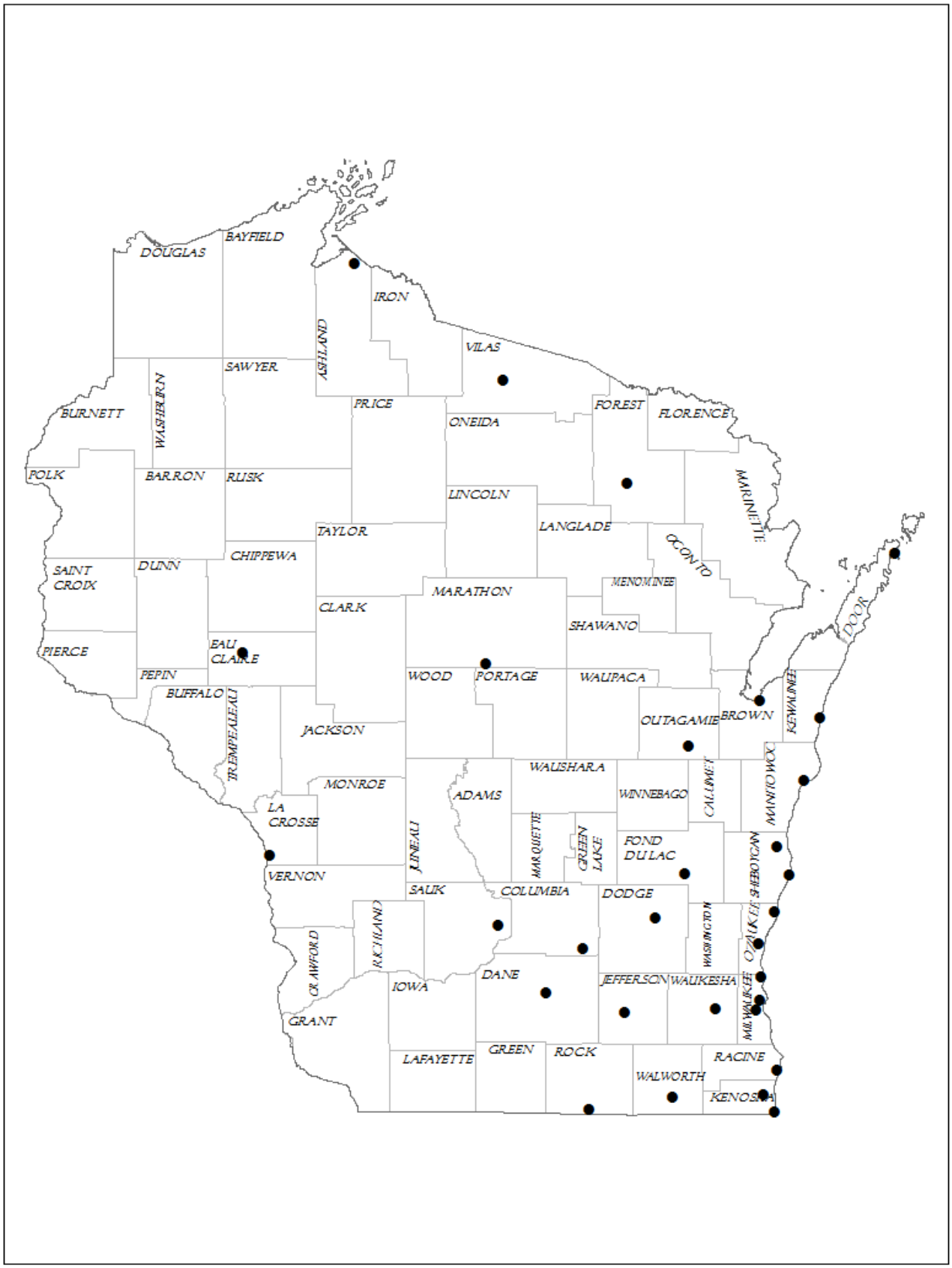
Nitrogen Dioxide (NO_2) Network Map



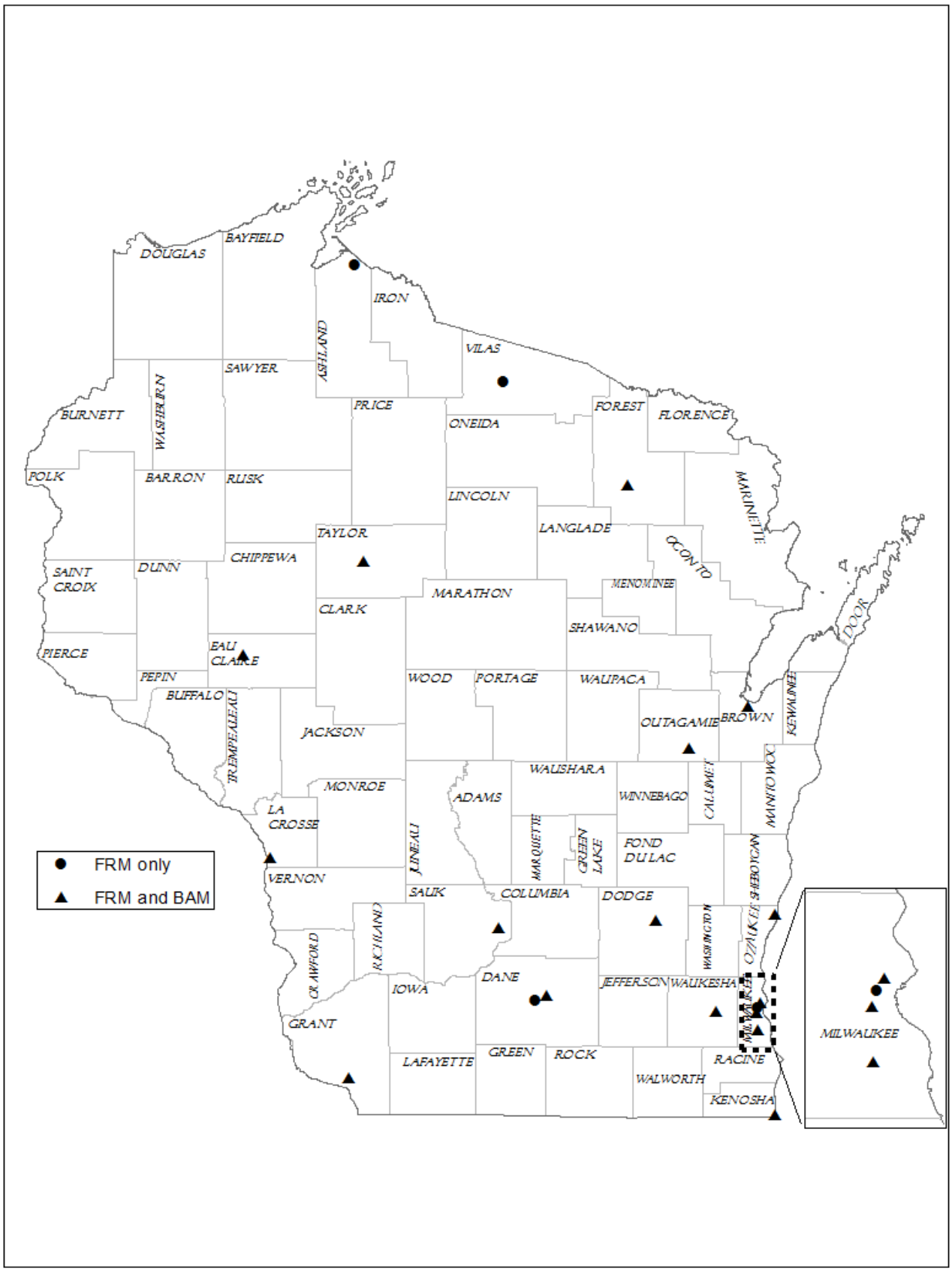
Sulfur Dioxide (SO_2) Network Map



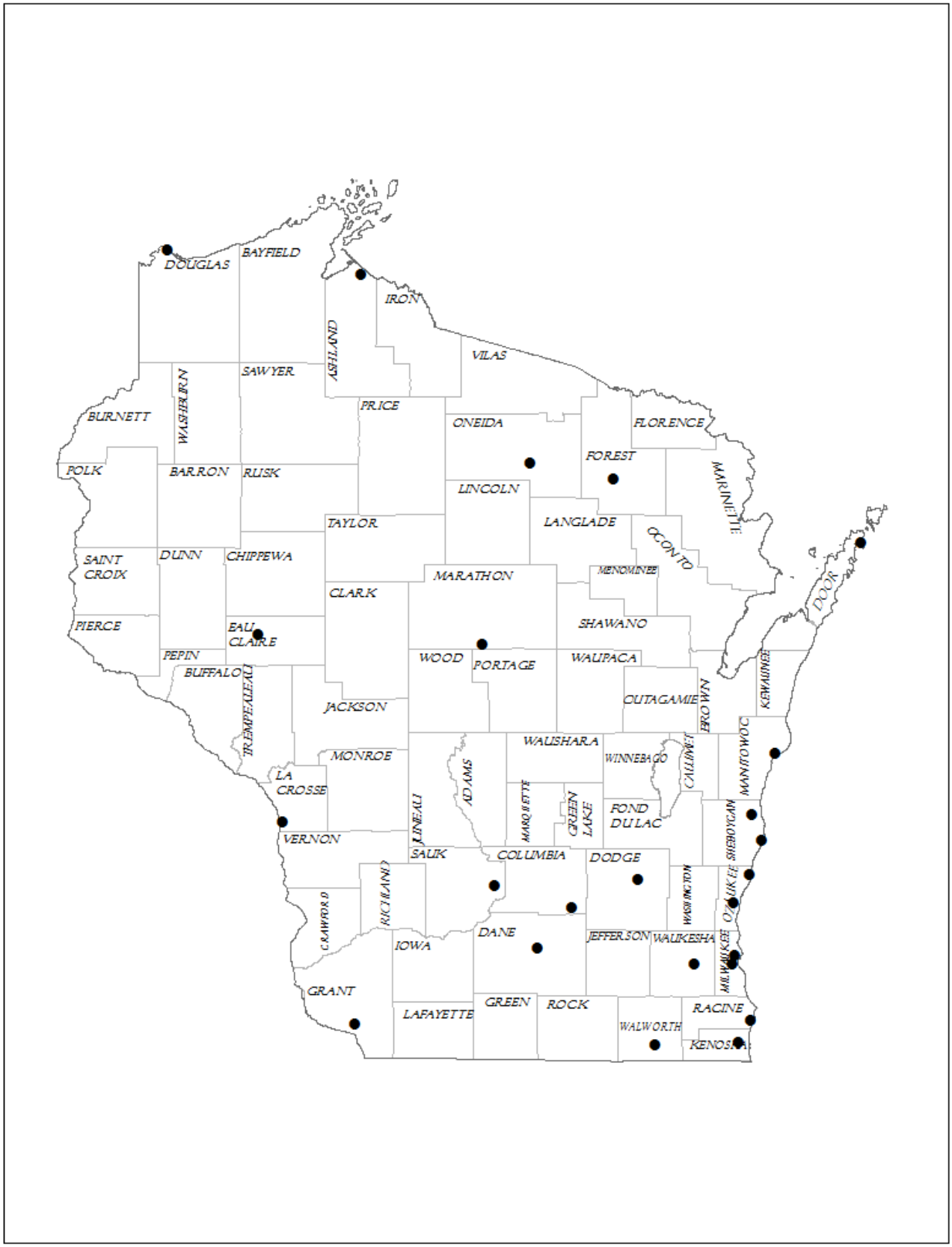
Ozone Network Map



$PM_{2.5}$ Continuous and Filter Based (FRM) Network Map



Meteorology Network Map



Report of Monitoring Sites by Pollutant

Carbon Monoxide (CO)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	High Sensitivity Ncore
Milwaukee – College Ave. – NR		55-079-0056	1550 W. College Ave.	Milwaukee	Milwaukee	Near-road
Enhanced Ozone Monitoring (EOM – PAMS)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
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
Nitrogen Dioxide (NO_2)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Manitowoc – Woodland Dunes		55-071-0007	2315 Goodwin Rd.	Two Rivers	Manitowoc	PAMS – High Sensitivity
Milwaukee – College Ave. – NR		55-079-0056	1550 W. College Ave.	Milwaukee	Milwaukee	Near-road
Milwaukee – SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	PAMS
Potawatomi		55-041-0007	Fire Tower Rd.	Crandon	Forest	Tribal
Nitrogen, Reactive Oxides (NOy)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Horicon Wildlife Area		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
Milwaukee – SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr	Milwaukee	Milwaukee	PAMS
NADP: NTN, MDN, AMNet and AMoN						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Brule River					Douglas	NTN, MDN
Devils Lake Park		55-111-0007	Devils Lake State Park, E12886 Tower Rd.	Baraboo	Sauk	NTN, MDN (Event Sampling)

NADP: NTN, MDN, AMNet and AMoN (continued)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	MDN, AMNet and AMoN
Lake Geneva		55-127-0005	2420 Elgin Club Rd	Lake Geneva	Walworth	MDN
Perkinstown		55-119-8001	W10746 CTY Rd. M		Taylor	NTN and AMoN
Potawatomi		55-041-0007	Fire Tower Rd.	Crandon	Forest	Tribal, NTN, MDN
Spooner			Highway 70		Washburn	NTN
Trout Lake		55-125-0001	10810 County Hwy M	Boulder Junction		NTN MDN
Ozone (O_3)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Appleton AAL	Appleton - Neenah, WI	55-087-0009	4432 N. Meade St.	Appleton	Outagamie	
Bad River - Tribal School-Odanah		55-003-0010	100 Birch St.	Odanah	Ashland	Tribal - Year Round
Bayside	Milwaukee - Waukesha, WI	55-079-0085	601 E. Ellsworth Ln.	Bayside	Milwaukee	
Beloit - Converse	Janesville-Beloit, WI	55-105-0030	1501 Ritsher St.	Beloit	Rock	Established 7/19/13
Chiwaukee Prairie Stateline	Kenosha, WI	55-059-0019	Chiwaukee Prairie, 11838 First Court	Pleasant Prairie	Kenosha	April 1 – October 31 Chicago CSA
Columbus		55-021-0015	N 1045 Wendt Rd.	Columbus	Columbia	Madison CSA – maximum downwind
Devils Lake Park		55-111-0007	Devils Lake State Park, E12886 Tower Rd.		Sauk	
Eau Claire – DOT Sign Shop	Eau Claire	55-035-0014	5509 Highway 53 South	Eau Claire	Eau Claire	
Fond du Lac		55-039-0006	N3996 Kelly Rd.	Town of Byron	Fond du Lac	
Grafton	Milwaukee - Waukesha, WI	55-089-0008	N. Port Washington Rd. (East side of Hwy 32 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	Belgium	Ozaukee	
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	Year-round; NCore and National Air Toxics Trends site
Jefferson - Laatsch		55-055-0009	N4440 Laatsch Ln.	Jefferson	Jefferson	Established 4/15/13.
Kenosha - Water Tower	Kenosha, WI	55-059-0025	4504 64th Ave.	Kenosha	Kenosha	Established 5/15/13

Ozone (O_3) (continued)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Kewaunee		55-061-0002	Route 1, Hwy 42	Kewaunee	Kewaunee	
La Crosse - DOT Building	La Crosse, WI-MN	55-063-0012	3550 Mormon Coulee Rd.	La Crosse	La Crosse	
Lake DuBay	Wausau, WI	55-073-0012	1780 Bergen Rd.		Marathon	
Lake Geneva		55-127-0005	2420 Elgin Club Rd.	Lake Geneva	Walworth	
Madison - East	Madison, WI	55-025-0041	2302 Hoard 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 Street Health Center	Milwaukee-Waukesha, WI	55-079-0010	Health Center, 1337 S Cesar E Chavez Dr.	Milwaukee	Milwaukee	Environmental Justice
Newport Park		55-029-0004	475 CTH NP)		Door	Maximum downwind
Potawatomi		55-041-0007	Fire Tower Rd.	Crandon	Forest	Tribal – Year Road
Racine – Payne and Dolan		55-101-0020	4227 Charles St.		Racine	Established 4/3/15.
Sheboygan - Haven	Sheboygan, WI	55-117-0009	N7563 HWY 42	Sheboygan	Sheboygan	
Sheboygan - Kohler Andre	Sheboygan, WI	55-117-0006	Kohler Andre Park, 1520 Beach Park Rd.		Sheboygan	
Trout Lake		55-125-0001	10810 County Hwy M	Boulder Junction	Vilas	
Waukesha - Cleveland Ave.	Milwaukee-Waukesha, WI	55-133-0027	1310 Cleveland Ave.	Waukesha	Waukesha	
Lead (Pb)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Kohler	Sheboygan	55-117-0008		Kohler	Sheboygan	Source Oriented
Metals (Toxics)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.		Dodge	National Air Toxics Trends Site
Milwaukee - Sixteenth Street Health Center	Milwaukee-Waukesha, WI	55-079-0010	Health Center, 1337 S Cesar E Chavez Dr.	Milwaukee	Milwaukee	
PAMS VOCs and Carbonyls						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Milwaukee - SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	1 in 6; autoGC not functioning halted the monitoring

PM_{crs}						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Horicon Wildlife Area		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	Continuous
Devils Lake Park		55-111-0007	Devils Lake State Park, E12886 Tower Rd.		Sauk	Continuous

PM_{10}						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Madison - University Ave. Well #6	Madison, WI	55-025-0047	2557 University Ave.	Madison	Dane	
Horicon Wildlife Area		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 - SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	Continuous
Milwaukee - Sixteenth Street Health Center	Milwaukee-Waukesha, WI	55-079-0010	Health Center, 1337 S Cesar E Chavez Dr.	Milwaukee	Milwaukee	Toxics – Not for NAAQS
Devils Lake Park		55-111-0007	Devils Lake State Park, E12886 Tower Rd.		Sauk	Collocated & Continuous
Waukesha - Cleveland Ave.	Milwaukee-Waukesha, WI	55-133-0027	1310 Cleveland Ave.	Waukesha	Waukesha	SIP Area

$PM_{2.5}$						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Appleton - AAL	Appleton-Neenah, WI	55-087-0009	4432 N. Meade St.	Appleton	Outagamie	Requested every 3 days for FRM; Continuous BAM
Bad River - Tribal School - Odanah		55-003-0010	100 Birch St.	Odanah	Ashland	Tribal FRM every 6 days; Collocated FRM every 6 days
Chiwaukee Prairie Stateline	Kenosha, WI	55-059-0019	Chiwaukee Prairie, 11838 First Court	Pleasant Prairie	Kenosha	FRM every 3 days; Continuous BAM
Devils Lake Park		55-111-0007	Devils Lake State Park, E12886 Tower Rd.		Sauk	FRM every 6 days; Collocated FRM every 12 days; 2 collocated BAMs
Eau Claire - DOT Sign Shop		55-035-0014	5509 Highway 53 South	Eau Claire	Eau Claire	FRM every 6 days; Continuous BAM
Green Bay - East High	Green Bay, WI	55-009-0005	1415 E. Walnut	Green Bay	Brown	Speciation , FRM daily; Collocated FRM every 12 days; Continuous BAM

$PM_{2.5}$ (continued)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Harrington Beach Park	Milwaukee-Waukesha, WI	55-089-0009	Harrington Beach State Park, 531 Hwy D	Belgium	Ozaukee	FRM every 6 days; Continuous BAM
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	NCORE; Speciation FRM every 3 days; Continuous BAM
La Crosse - DOT Building	La Crosse, WI-MN	55-063-0012	3550 Mormon Coulee Rd.	La Crosse	La Crosse	FRM every 3 days; Continuous BAM
Madison - East	Madison, WI	55-025-0041	2302 Hoard St.	Madison	Dane	FRM every 6 days; Continuous BAM
Madison - University Ave. Well #6	Madison, WI	55-025-0047	2557 University Ave.	Madison	Dane	Requested every 3 days for FRM
Milwaukee - College-Avenue Park & Ride	Milwaukee-Waukesha, WI	55-079-0058	1550 W College Ave.	Milwaukee	Milwaukee	FRM every 3 days; Continuous BAM
Milwaukee - Fire Dept HQ	Milwaukee-Waukesha, WI	55-079-0099	711 W. Wells St.	Milwaukee	Milwaukee	FRM every 3 days
Milwaukee - SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	Speciation FRM every 6 days; Collocated FRM every 12 days; Continuous BAM
Milwaukee - Sixteenth Street Health Center	Milwaukee-Waukesha, WI	55-079-0010	1337 S Cesar E Chavez Dr.	Milwaukee	Milwaukee	FRM every 3 days
Perkinstown		55-119-8001	W10746 CTY Rd. M		Taylor	Speciation FRM every 6 days; Continuous BAM
Potawatomi		55-041-0007	Fire Tower Rd.	Crandon	Forest	Tribal FRM every 6 days; Continuous BAM
Potosi		55-043-0009	128 Hwy 61, Potosi Township		Grant	FRM every 3 days; Continuous BAM
Trout Lake		55-125-0001	10810 County Hwy M	Boulder Junction	Vilas	FRM every 6 days
Waukesha - Cleveland Ave.	Milwaukee-Waukesha, WI	55-133-0027	1310 Cleveland Ave.	Waukesha	Waukesha	FRM every 3 days; Continuous BAM
$PM_{2.5}$ Speciation						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Green Bay - East High	Green Bay, WI	55-009-0005	1415 E. Walnut	Green Bay	Brown	
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	NCore
Milwaukee - SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	

$PM_{2.5}$ Speciation (continued)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Perkinstown		55-119-8001	W10746 CTY Rd. M		Taylor	
Sulfur Dioxide (SO_2)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Green Bay - East High	Green Bay, WI	55-009-0005	1415 E. Walnut	Green Bay	Brown	SIP-required Source Influenced
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	NCore – High Sensitivity
Madison - East	Madison, WI	55-025-0041	2302 Hoard St.	Madison	Dane	
Milwaukee - SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	
Potawatomi		55-041-0007	Fire Tower Rd.	Crandon	Forest	Tribal
Rhinelander Tower		55-085-0996	434 High St.	Rhinelander	Oneida	Source oriented; SIP Requirement
Toxics						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	
Milwaukee - Sixteenth Street Health Center	Milwaukee-Waukesha, WI	55-079-0010	1337 S. 16th St.	Milwaukee	Milwaukee	Environmental Justice Area
Meteorology (MET)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Bad River - Tribal School-Odanah		55-003-0010	100 Birch St.	Odanah	Ashland	
Chiwaukee Prairie Stateline	Kenosha, WI	55-059-0019	Chiwaukee Prairie, 11838 First Court	Pleasant Prairie	Kenosha	
Columbus		55-021-0015	N 1045 Wendt Rd.	Columbus	Columbia	
Devils Lake Park		55-111-0007	Devils Lake State Park, E12886 Tower Rd.		Sauk	
Eau Claire - DOT Sign Shop		55-035-0014	5509 Highway 53 South	Eau Claire	Eau Claire	

Meteorology (MET) (continued)						
Site Name	**Urban Area**	**AQS Id**	**Address**	**City**	**County**	**Comments**
Grafton	Milwaukee - Waukesha, WI	55-089-0008	N. Port Washington Rd. (East side of Hwy 32 and I43)	Grafton	Ozaukee	
Harrington Beach Park	Milwaukee - Waukesha, WI	55-089-0009	Harrington Beach State Park, 531 Hwy D	Belgium	Ozaukee	
Horicon Wildlife Area		55-027-0001	1210 N. Palmatory St.	Horicon	Dodge	NCore
Kenosha - Water Tower	Kenosha, WI	55-059-0025	4504 64th Ave.	Kenosha	Kenosha	Established 5/15/13
La Crosse - DOT Building	La Crosse, WI-MN	55-063-0012	3550 Mormon Coulee Rd.	La Crosse	La Crosse	
Lake DuBay	Wausau, WI	55-073-0012	1780 Bergen Rd.		Marathon	
Lake Geneva		55-127-0005	2420 Elgin Club Rd.	Lake Geneva	Walworth	
Madison - East	Madison, WI	55-025-0041	2302 Hoard St.	Madison	Dane	
Manitowoc - Woodland Dunes		55-071-0007	2315 Goodwin Rd.	Two Rivers	Manitowoc	
Milwaukee - College Ave. - NR		55-079-0056	1550 W. College Ave.	Milwaukee	Milwaukee	Near-road Established10/22/13
Milwaukee - SER DNR HDQRS	Milwaukee-Waukesha, WI	55-079-0026	2300 N M. L. King Jr. Dr.	Milwaukee	Milwaukee	
Milwaukee - Sixteenth Street Health Center	Milwaukee-Waukesha, WI	55-079-0010	Health Center, 1337 S Cesar E Chavez Dr.	Milwaukee	Milwaukee	
Newport Park		55-029-0004	475 CTH NP)		Door	
Potawatomi		55-041-0007	Fire Tower Rd.	Crandon	Forest	
Potosi		55-043-0009	128 Hwy 61, Potosi Township		Grant	
Rhinelander Tower		55-085-0996	434 High St.	Rhinelander	Oneida	Source oriented; SIP Requirement
Sheboygan - Haven	Sheboygan, WI	55-117-0009	N7563 HWY 42		Sheboygan	Established 4/2/2014
Sheboygan - Kohler Andre	Sheboygan, WI	55-117-0006	Kohler Andre Park, 1520 Beach Park Rd.		Sheboygan	
Superior - STP	Duluth-Superior	55-031-0019	107 Moccasin	Superior	Douglas	Supports industrial monitoring
Waukesha - Cleveland Ave.	Milwaukee-Waukesha, WI	55-133-0027	1310 Cleveland Ave.	Waukesha	Waukesha	

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Monitoring sites by County

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

Site Name	AQS Id	Pollutants	Address	Site Began
County: Ashland				
Bad River - Tribal School - Odanah	55-003-0010	O3, $PM_{2.5}$, MET	Bad River Tribal School	7/25/02
County: Brown				
Green Bay East High	55-009-0005	SO_2, $PM_{2.5}$, Cont. $PM_{2.5}$, Speciation	1415 E. Walnut	7/24/80
Green Bay UW	55-009-0026	O3	UW-Green Bay, Hwys 54 & 57	4/7/94
County: Columbia				
Columbus	55-021-0015	O3, MET, Precip	Wendt Rd.	8/10/88
County: Dane				
Madison - East	55-025-0041	O3, Cont. $PM_{2.5}$, SO_2, MET	2302 Hoard St.	4/15/92
Madison - University Ave. Well #6	55-025-0047	PM_{10}, $PM_{2.5}$	2557 University Ave.	1/3/99
County: Dodge				
Horicon Wildlife Area	55-027-0001	CO, SO_2, NOy, O3, Cont PM_{10}, $PM_{2.5}$, Cont. $PM_{2.5}$, Speciation, Cont. PMcrs, Toxic Metals, VOCs, Carbonyls, PAHs, MET	1210 N. Palmatory St.	6/24/82
County: Door				
Newport Park	55-029-0004	O3, MET	475 CTH NP	4/15/89
County: Douglas				
Superior - STP	55-031-0019	MET	E. Avenue East	10/2/80
County: Eau Claire				
Eau Claire - DOT Sign Shop	55-035-0014	O3, $PM_{2.5}$, Cont. $PM_{2.5}$, MET	5509 HWY 53 South	3/9/11
County: Fond du Lac				
Fond du Lac	55-039-0006	O3	N3996 Kelly Rd., Town of Byron	4/22/94
County: Forest				
Potawatomi	55-041-0007	SO_2, O3, NO_2, $PM_{2.5}$, Cont. $PM_{2.5}$, MET	Fire Tower Rd.	6/7/02
County: Grant				
Potosi	55-043-0009	$PM_{2.5,}$ Cont. $PM_{2.5}$, MET	128 Hwy 61, Potosi Township	1/6/99
County: Jefferson				

Site Name	AQS	Pollutants	Address	Site Began
Jefferson - Laatsch	55-055-0009	O3	N4440 Laatsch Ln.	4/8/13
County: Kenosha				
Chiwaukee Prairie Stateline	55-059-0019	O3, $PM_{2.5}$, Cont. $PM_{2.5}$, MET, Precip	Chiwaukee Prairie, 11838 First St.	7/15/87
Kenosha - Water Tower	55-059-0025	O3	4504 64th Ave.	5/15/13
County: Kewaunee				
Kewaunee	55-061-0002	O3	Kewaunee, Route 1, Hwy 42	4/6/94
County: La Crosse				
La Crosse - DOT	55-063-0012	O3, $PM_{2.5}$, Cont. $PM_{2.5}$, MET	3550 Mormon Coulee Rd.	10/13/05
County: Manitowoc				
Manitowoc - Woodland Dunes	55-071-0007	NO_2, NOy, O3, MET	2315 Goodwin Rd.	4/5/94
County: Marathon				
Lake DuBay	55-073-0012	O3, MET	1780 Bergen Rd.	9/25/91
County: Milwaukee				
Milwaukee -Sixteenth St. Health Center	55-079-0010	O3, PCBs, PM_{10}, $PM_{2.5}$, Cont $PM_{2.5}$, VOCs, Carbonyls, Toxic metals, MET	1337 S. 16th St.	4/4/97
Milwaukee - SER DNR HDQRS	55-079-0026	NO_2, NOy, O3, SO_2, Cont PM_{10}, $PM_{2.5}$, Cont. $PM_{2.5}$, Cont. PM crs, Speciation, PAMS VOCs and Carbonyls, MET	2300 N M. L. King Jr. D.	1/1/99
Milwaukee - College Ave. - NR	55-079-0056	CO, NO_2 and MET	1550 W. College Ave.	10/22/13
Milwaukee-College Ave. Park & Ride	55-079-0058	PM_{10}, $PM_{2.5}$, Cont. $PM_{2.5}$	1550 W. College Ave.	10/15/09
Bayside	55-079-0085	O3	601 E. Ellsworth Lane	5/1/84
Milw – Fire Dept. HDQRS	55-079-0099	$PM_{2.5}$	744 W. Wells St.	1/1/70
County: Oneida				
Rhinelander Tower	55-085-0996	SO_2, MET	434 High St.	1/1/81
County: Outagamie				
Appleton - AAL	55-087-0009	O3, $PM_{2.5}$, Cont. $PM_{2.5}$	4432 N. Meade St.	4/14/95
County: Ozaukee				
Grafton	55-089-0008	O3, Precip	N. Port Washington Rd. (East side of Hwy 32 and I43)	6/5/91

Site Name	AQS Id	Pollutants	Address	Site Began
Harrington Beach	55-089-0009	O3, $PM_{2.5}$, Cont. $PM_{2.5}$, MET	Harrington Beach State Park, 531 Hwy D	6/8/94
County: Racine				
Racine – Payne and Dolan	55-101-0020	O3	4227 Charles St.	4/3/15.
County: Rock				
Beloit - Converse	55-105-0030	O3	1501 Ritsher St.	7/19/13
County: Sauk				
Devils Lake Park	55-111-0007	O3, $PM_{2.5}$, Cont. $PM_{2.5}$, Cont. PM_{10}, Cont. PMcrs, MET	Devils Lake State Park, E12886 Tower Rd.	5/11/95
County: Sheboygan				
Sheboygan - Kohler Andre	55-117-0006	O3, MET	Kohler Andre Park, 1520 Beach Park Rd.	6/26/97
Sheboygan - Haven	55-117-0009	O3, MET	N7563 HWY 42	4/2/14
County: Taylor				
Perkinstown	55-119-8001	$PM_{2.5}$, Cont. $PM_{2.5}$, Speciation	W10746 CTY Rd. M	1/1/88
County: Vilas				
Trout Lake	55-125-0001	O3, $PM_{2.5}$	10810 County Hwy M	1/1/73
County: Walworth				
Lake Geneva	55-127-0005	O3, MET	RR4 Elgin Club Rd.	7/10/87
County: Waukesha				
Waukesha - Cleveland Ave.	55-133-0027	O3, PM_{10}, $PM_{2.5}$, Cont. $PM_{2.5}$, MET	1310 Cleveland Ave.	2/3/1989

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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. Sites with NADP monitors only are listed with location information with other details considered to be irrelevant.

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, the CBSA (if appropriate), the AQS identification number, the GPS coordinates, and whether monitors and monitor probes conform to the siting criteria.

2. **Date established**

   The date each existing monitoring site was established.

3. **Site Approval Status**

   Whether a monitoring site meets all design criteria for inclusion in the State and Local Air Monitoring Stations (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 control 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.
   - To report progress made toward meeting ambient air quality standards.
   - To provide a database for the evaluation of the effects of population, land use and transportation planning on air quality.
   - To provide a database for the development and evaluation of air dispersion models.
   - To provide the Air Quality Index (AQI) to the public.

5. **Monitoring Types**

Most monitors described in the monitoring network are designated as State and Local Air Monitoring Sites (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 Tribal, Special Purpose, Industrial, EPA, Non-EPA Federal and Other. The following are the criteria used for each of these designations.

SLAMS:
State or Local air monitoring stations for parameters (pollutants and/or meteorological data) addressed by 40 CFR Part 58.

Tribal:
Air monitoring stations operating under the authority of a Federally recognized tribal agency for parameters addressed by 40 CFR Part 58.

Special Purpose: 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.

Industrial: A monitor that is operated by a private industry entity rather than under the control of a State, Local, or Tribal government.

EPA: A monitor that is operated by EPA or an EPA contractor for parameters addressed by 40 CFR Part 58.

Non-EPA Federal: A monitor operated by another Federal agency for parameters addressed by 40 CFR Part 58.

Other: A monitor for a parameter not addressed by 40 CFR Part 58. (i.e. It will not be allowed for criteria pollutants or other parameters associated with a monitoring network such as NCORE, PAMS or NATTS.)

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-FEM continuous $PM_{2.5}$ instruments.

Fine Particles: Currently, Wisconsin operates one type of continuous $PM_{2.5}$ instrument, a Beta Attenuation Monitors (BAMs). All of the continuous $PM_{2.5}$ BAM monitors in Wisconsin's network measure "Acceptable PM10-2.5 AQI & Speciation Mass" that provides data that are neither equivalent to the reference method nor appropriate for direct comparison with the NAAQS. None of the BAMs are set-up as FEMs. Results from these monitors are used for public health-oriented ambient air monitoring and are the basis for issuing air quality advisories.

Lead: Wisconsin monitors lead for two primary reasons. The first is to compare source-oriented lead concentrations to the federal lead NAAQS. The collocated monitors at Kohler are Hi-volume TSP samplers and data are compared to the NAAQS. The remaining lead monitors in Wisconsin's network are high volume PM_{10} samplers. These instruments are used for the air toxics monitoring program and the methods are consistent with those in the National Air Toxics Trends program. The lead determination is performed using inductively coupled plasma mass spectroscopy (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_{10}: At the Horicon NCore, Devil's Lake and Milwaukee-SER sites; a dual Met One Beta Attenuation Monitor measures PM_{10} 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_{10} STP is a federal equivalent method (FEM) and is appropriate for NAAQS comparison.

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 US EPA's AQS data system is accurate and precise. Staff members verify air monitors on a scheduled basis to ensure that each instrument is calibrated and operating properly. Data validation is performed monthly by verifying that the data reported by each instrument is recorded accurately in the computerized database and has been coded properly. Monitors are annually audited by independent staff and standards different from those involved in routine operations. WDNR annually participates in national audit programs where available.

Exceptions

Meteorology: At special purpose or air toxics monitoring sites, siting for meteorological monitors may not meet the requirements in federal rules. Relative humidity, and solar radiation measured at some sites do not have calibration and audit procedures that meet federal requirements. 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. Consequently, these results are not reported to US 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, they are not held to the same specifications 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 (500 meters).
(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 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.

Monitoring Exposures	Siting Area Scale
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: 4432 N. Meade St., Appleton
County: Outagamie
Coordinates: 44.30738, -88.39509
Date Established: 04/14/1995

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 inlets are about 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.

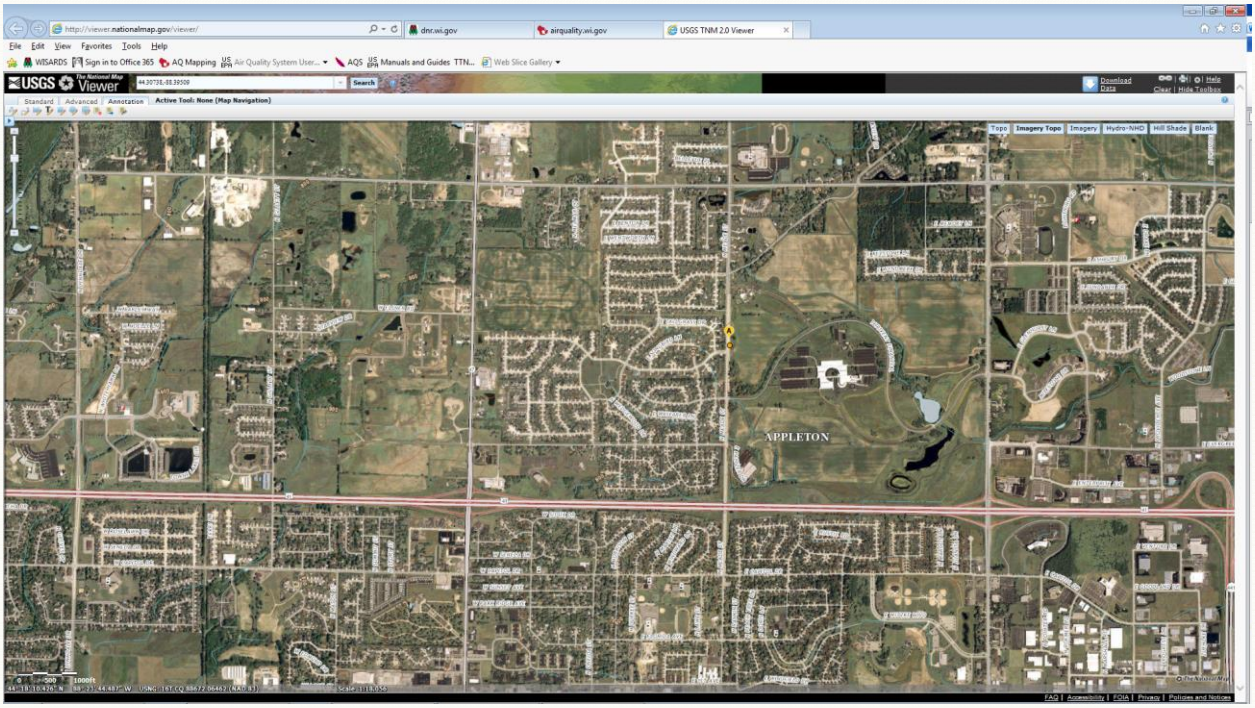
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and $PM_{2.5}$ and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is "Population Exposure" for all monitors.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/15/1995
$PM_{2.5}$	R&P FRM2025i	SLAMS	Gravimetric	Requested1 in 3	01/01/1999
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM	SLAMS	Beta Attenuation	Continuous	08/18/2011

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 scale for $PM_{2.5}$ and Ozone.



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Bad River - Tribal School– Odanah

AQS Site ID: 55-003-0010
Location: 100 Birch St., Odanah
County: Ashland
GPS Coordinates: 46.602, -90.656
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 inlets are 220 m from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

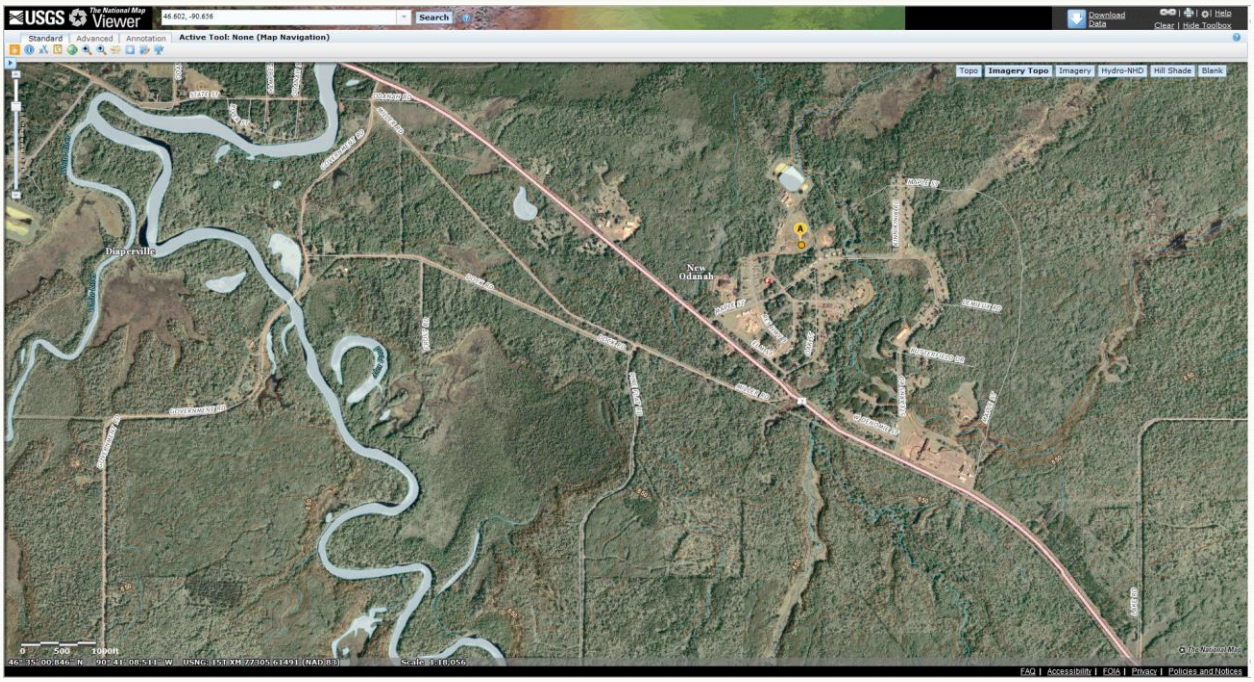
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of $PM_{2.5}$ and to provide pollutant levels for daily air quality index reporting. For the mercury monitors, the monitoring objective type is "Other". For the remaining monitors, the monitoring objective type is "General Background".

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	Tribal	UV Photometry	Continuous	07/30/2004
$PM_{2.5}$	R&P FRM2025	Tribal	Gravimetric	1 in 6 - collocated	07/25/2002
Wind Speed/Direction, Temperature	Met One Meteorological	Tribal	Mechanical	Continuous	07/26/2004

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

Area of Representativeness: This site represents general background levels on a regional scale for $PM_{2.5}$ and ozone.



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Bayside

AQS Site ID: 55-079-0085
Location: 601 E. Ellsworth Ln., Bayside
County: Milwaukee
GPS coordinates: 43.181792, -87.900976
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 about 6 meters above ground level and 258 m from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

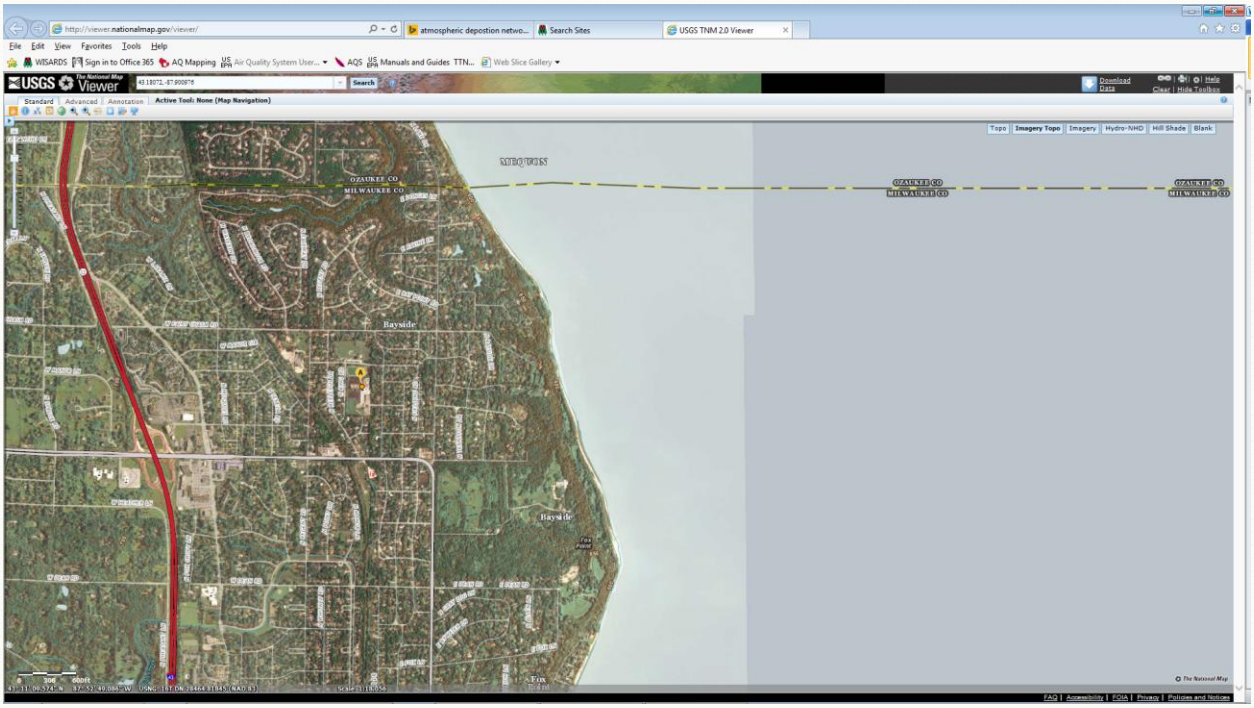
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for regular air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	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.



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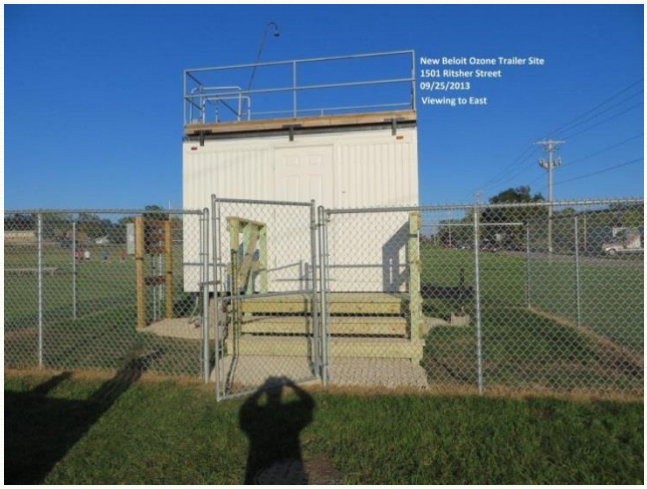
Beloit - Converse

AQS Site ID: 55-105-0030
Location: 1501 Ritsher St., Beloit
County: Rock
GPS coordinates: 42.51831, -89.0347
Date Established: 07/19/2013

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

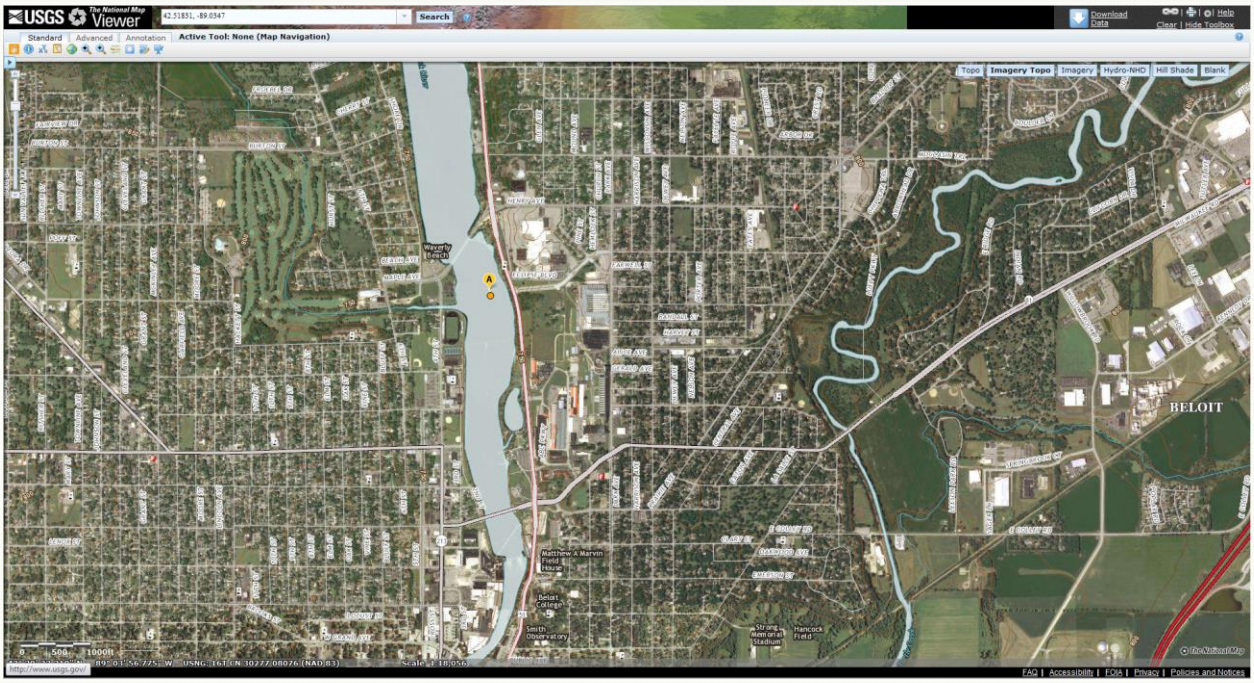
Locational Setting: This site is located near the Converse Elementary School in Beloit. The sample inlet is 5 meters above ground level and 15 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

Monitoring Objective: 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. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	07/19/2013

Area of Representativeness: This site represents population exposure on an urban scale for ozone.



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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 design criteria for the NTN and MDN.

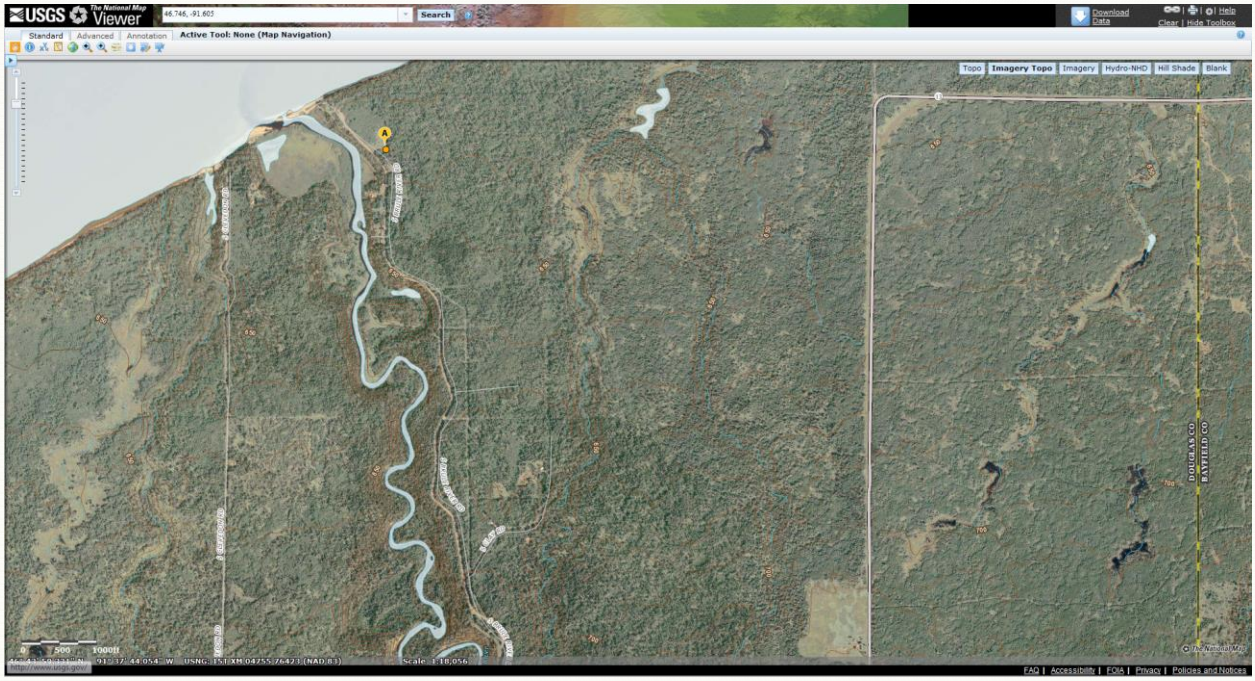
Locational Setting: This site is located in a field at the end of Brule River Rd. on the east side of the road. This site monitors atmospheric mercury deposition. The mercury deposition sampler is located 500 feet from the nearest road.

Monitoring Objective: The objectives of the NTN and the MDN are to measure precipitation chemistry and to measure atmospheric mercury deposition to land and surface water in the form of precipitation respectively. Specifically, MDN data is used 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 NTN and MDN quality assurance requirements.

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



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Chiwaukee Prairie Stateline

AQS Site ID: 55-059-0019
Location: 11838 First Court, Pleasant Prairie
County: Kenosha
GPS coordinates: 42.5047687, -87.80930
Date Established: 07/15/1987

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: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and $PM_{2.5}$, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

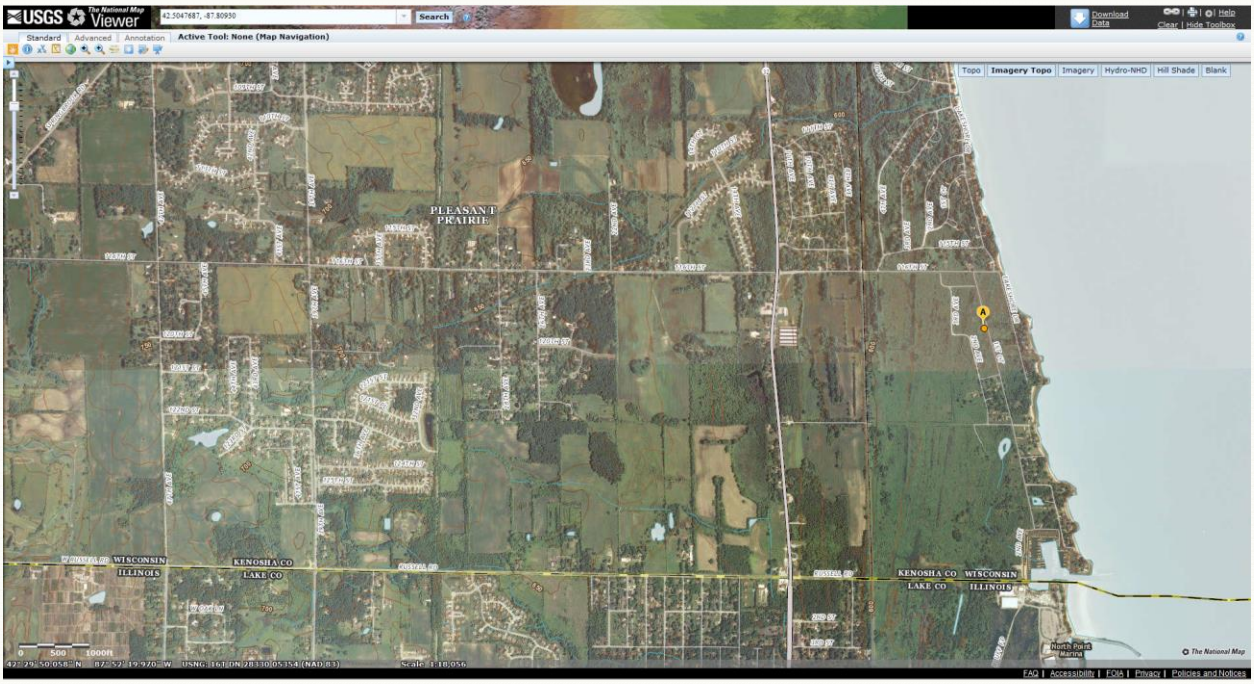
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/15/1988
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	03/20/2012
$PM_{2.5}$	R&P 2025i FRM	SLAMS	Gravimetric	1 in 3	4/4/97
Wind Speed/Direction & Temperature	Met-One Meteorological	SLAMS	Mechanical	Continuous	05/23/1988 06/17/1991
Precipitation	Texas Electronics	Non-EPA Federal	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 regional transport on a regional scale for

ozone and $PM_{2.5}$.



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Columbus

AQS Site ID: 55-021-0015
Location: N 1045 Wendt Road, Columbus
County: Columbia
GPS coordinates: 43.3156, -89.1089
Date Established: 8/10/88

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.

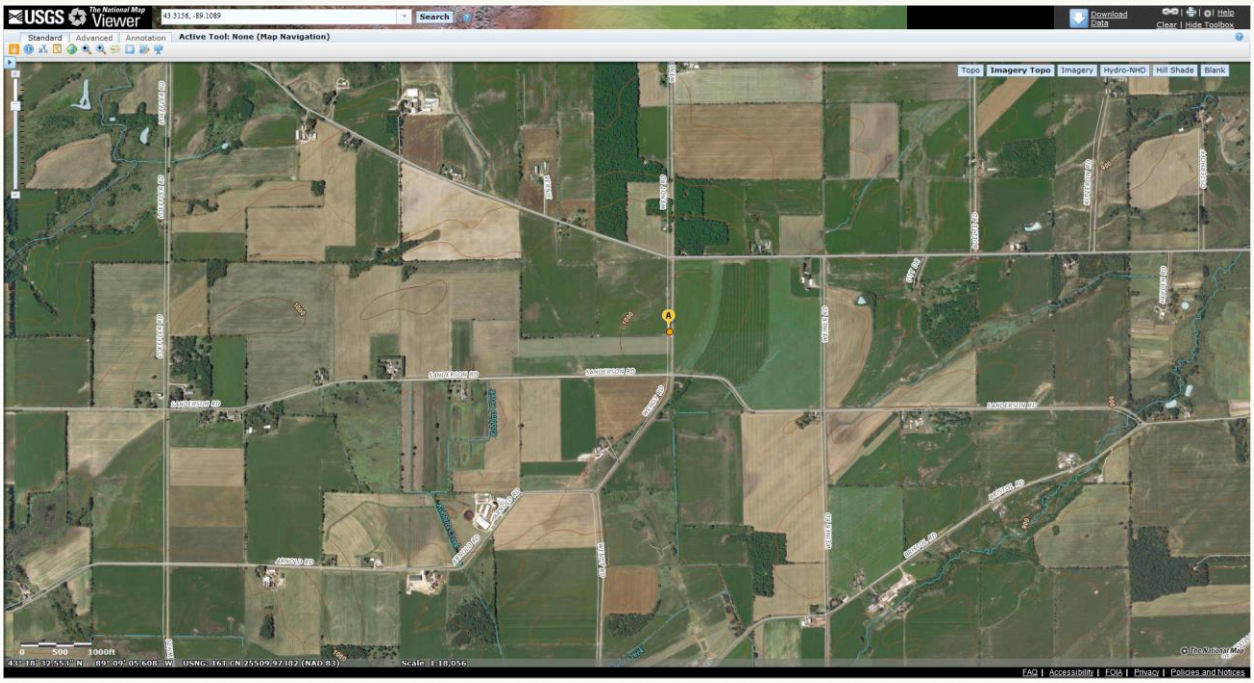
Monitoring Objective: Regional transport. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting. The ozone monitor serves as the downwind ozone instrument in the Madison CSA. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	08/10/1988
Wind Speed/ Direction. Temperature	Met One	SLAMS	Mechanical	Continuous	08/10/1988 04/30/2010
Precipitation	Texas Electronics	National Weather Service	Mechanical	Continuous	07/01/2009

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 regional scale for ozone.



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Devils Lake Park

AQS Site ID: 55-111-0007
Location: Devils Lake State Park, E12886 Tower Road
County: Sauk
GPS coordinates: 43.4351, -89.6797
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 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: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and $PM_{2.5}$, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is general/background.

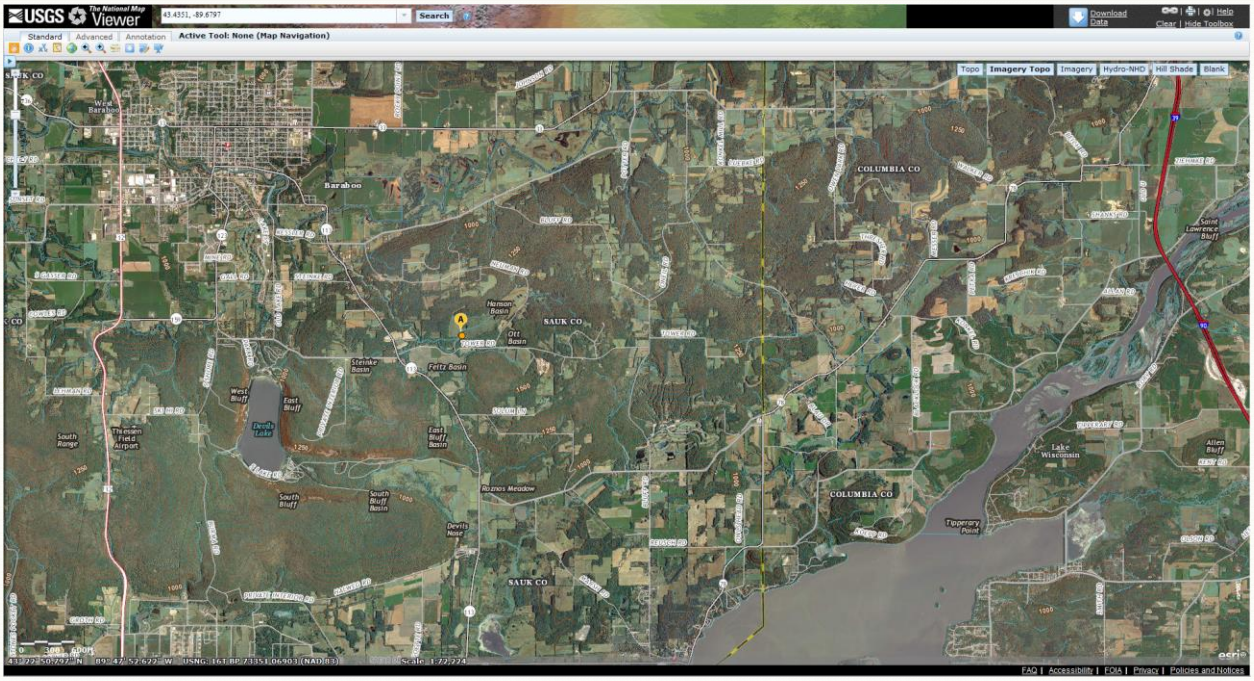
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	05/11/1995
PM_{10}	Met One BAM	SLAMS	Beta Attenuation	Continuous Collocated	11/14/2011
$PM_{2.5}$	R&P FRM2025	SLAMS	Gravimetric	1 in 6 Collocated – 1 in 12	05/09/2003 05/09/2003
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous Collocated	03/02/2012
PM Coarse	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous Collocated	11/14/2011
Wind Speed/Direction. Temperature	Met One	SLAMS	Mechanical	Continuous	07/03/1996

Mercury Deposition Network
National Trends 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 general background on a regional background scale for $PM_{2.5}$ and ozone.



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Eau Claire - DOT Sign Shop

AQS Site ID: 55-035-0014
Location: 5509 Highway 53 South

County: Eau Claire
GPS coordinates: 44.761
-91.413
Date Established: 03/09/11

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. Operation of this site is a cooperative effort between the WDNR and the Eau Claire Health Department.

Locational Setting: This site is located in a grassy clearing near a Wisconsin DOT facility. The $PM_{2.5}$ sample inlet is 7.8 meters above ground level and the ozone sample inlet is 6.2 meter above ground level. The distance to the nearest roadway is 149 meters. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

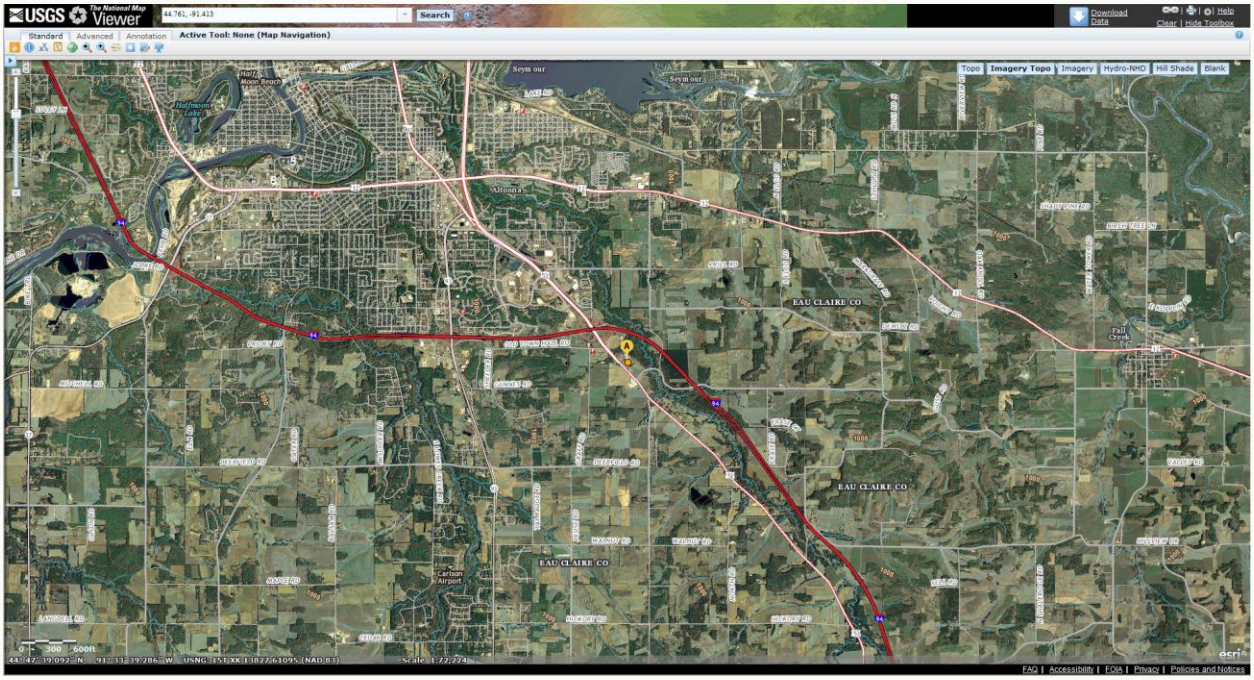
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of $PM_{2.5}$. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/01/2011
$PM_{2.5}$	R&P FRM 2025	SLAMS	Gravimetric	1 in 6	04/01/2011
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	05/02/2012
Wind Speed/Direction	Met One	SLAMS	Mechanical	Continuous	05/17/2011

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 and $PM_{2.5}$.



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Fond du Lac

AQS Site ID:	55-039-0006
Location:	N3996 Kelly Road, Town of Byron
County:	Fond du Lac
GPS coordinates:	43.6874, -88.4220
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 5 meters above ground level and 32.5 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

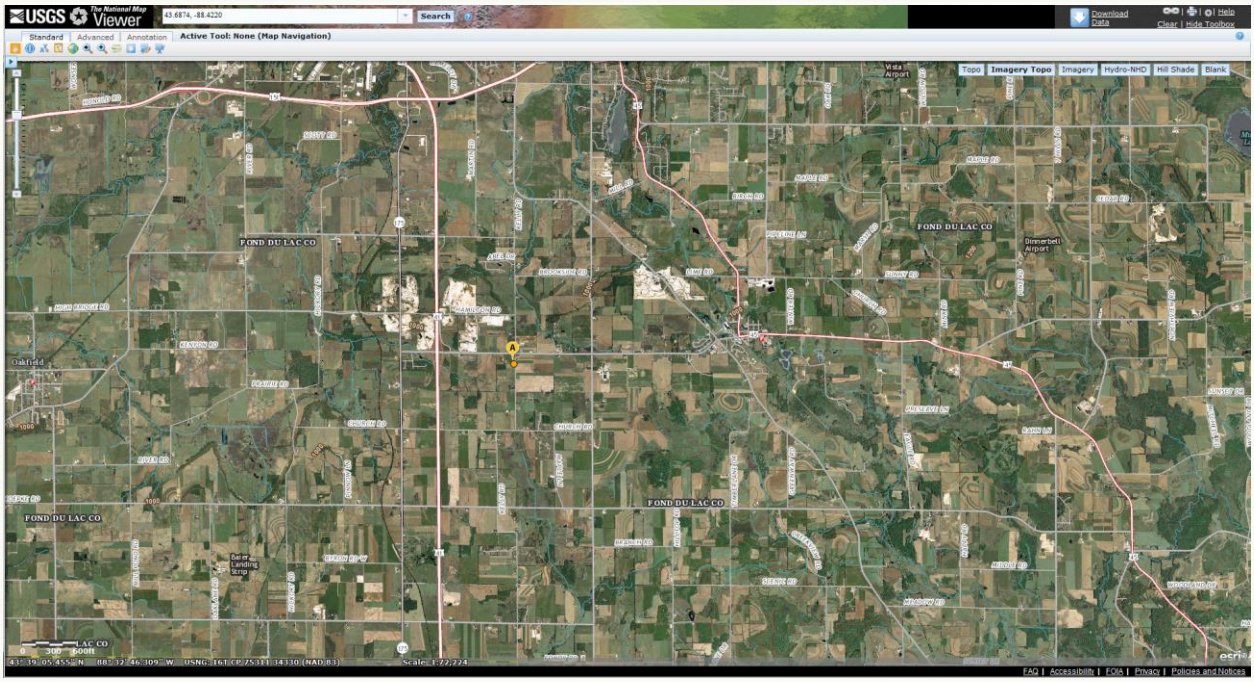
Monitoring Objective: Population Exposure. The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	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.



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Grafton

AQS Site ID:	55-089-0008
Location:	N. Port Washington Rd. (East side of Hwy 32 and I43), Grafton
County:	Ozaukee
GPS coordinates:	43.3430, -87.9200
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 19.5 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.

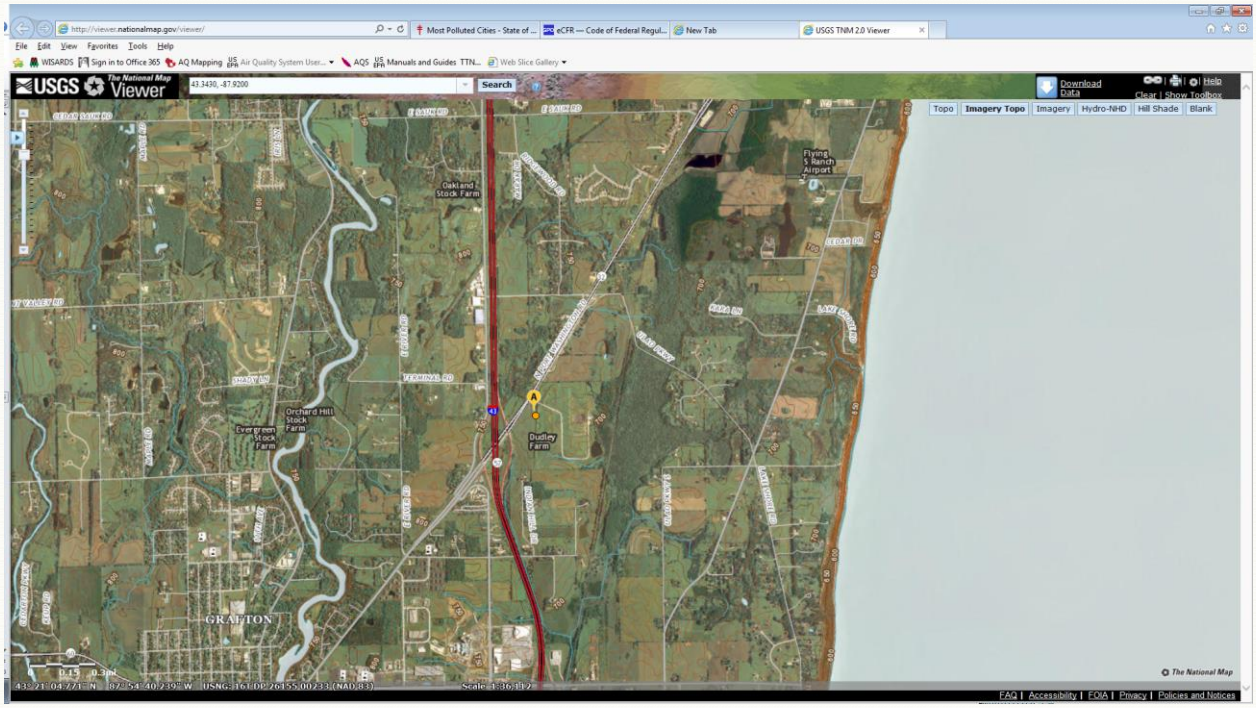
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	06/05/1991
Wind Speed/Direction. Temperature	Met One Meteorological	SLAMS	Mechanical	Continuous	06/05/1991
Precipitation	Texas Electronics	Non-EPA Federal	Mechanical	Continuous	10/08/2008

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 an urban scale for ozone.



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Green Bay - East High

AQS Site ID:	55-009-0005
Location:	1415 E. Walnut St., Green Bay
County:	Brown
GPS coordinates:	44.50729, -87.99344
Date Established:	7/24/80
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 inlets are 75 feet from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

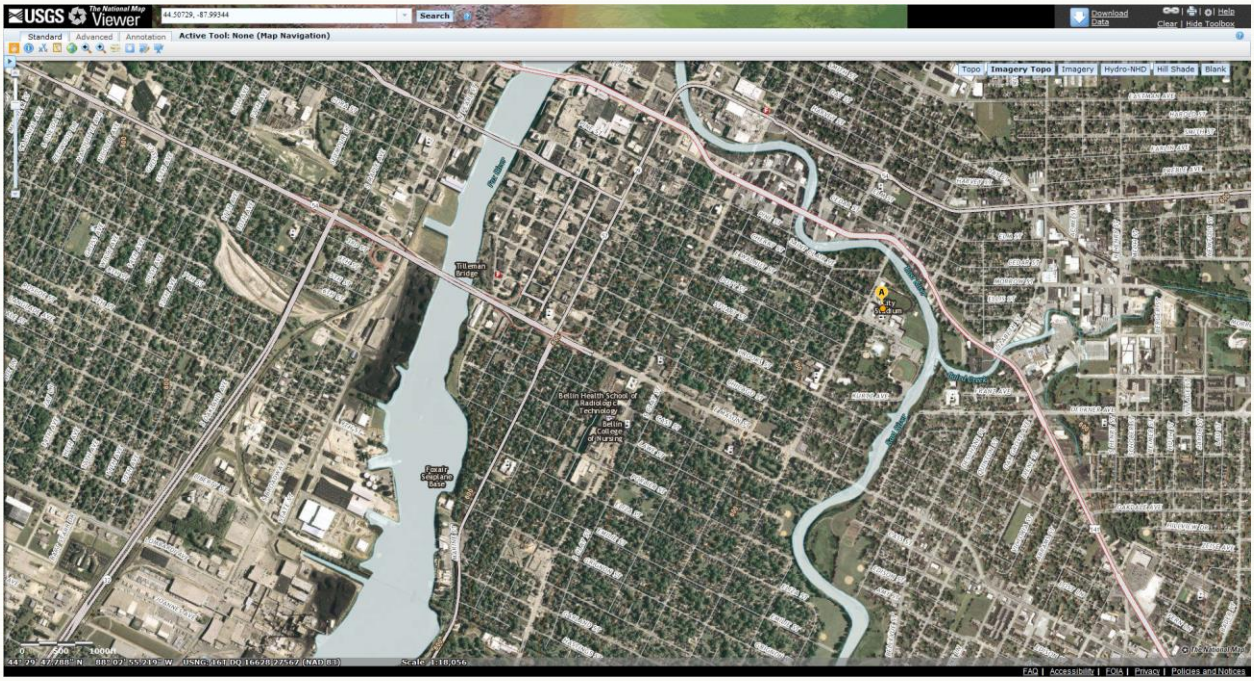
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of $PM_{2.5}$ and SO_2, and to provide pollutant levels for daily air quality index reporting. Continuous $PM_{2.5}$ began in December 2004 to measure $PM_{2.5}$ continuously in the Fox Valley/NE Wisconsin area for AIRNow and AQS data submittals. The monitoring objective types for hourly and 5-min SO_2 are source oriented and population exposure respectively. For $PM_{2.5}$, the monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est
Sulfur dioxide	API SO_2`	SLAMS	UV fluorescence	Continuous	07/24/1980
Sulfur dioxide	API SO_2	SLAMS	UV fluorescence	Continuous – 5 min	06/11/2013
$PM_{2.5}$	R&P FRM 2025i	SLAMS	Gravimetric	Daily 1 in 12	01/01/1999 04/01/2004
$PM_{2.5}$ Species	R&P FRM 2025	SLAMS	Gravimetric	1 in 12	10/12/2011
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	03/08/2012
Fine Particle Species	Met-One Speciation	SLAMS	Gravimetric	1 in 6	10/12/2011
Fine Particle Species	URG 3000N	SLAMS	Gravimetric	1 in 6	10/12/2011

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

Area of Representativeness: For hourly SO_2, this site is source oriented on a neighborhood scale. For 5-min SO_2, this site represents population exposure on a neighborhood scale. For $PM_{2.5}$, this site represents population exposure on a neighborhood scale.



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Green Bay - UW

AQS Site ID:	55-009-0026
Location	UW-Green Bay, Hwys 54 & 57
County:	Brown
GPS coordinates:	44.53098, -87.90799
Date Established:	04/7/1994
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.

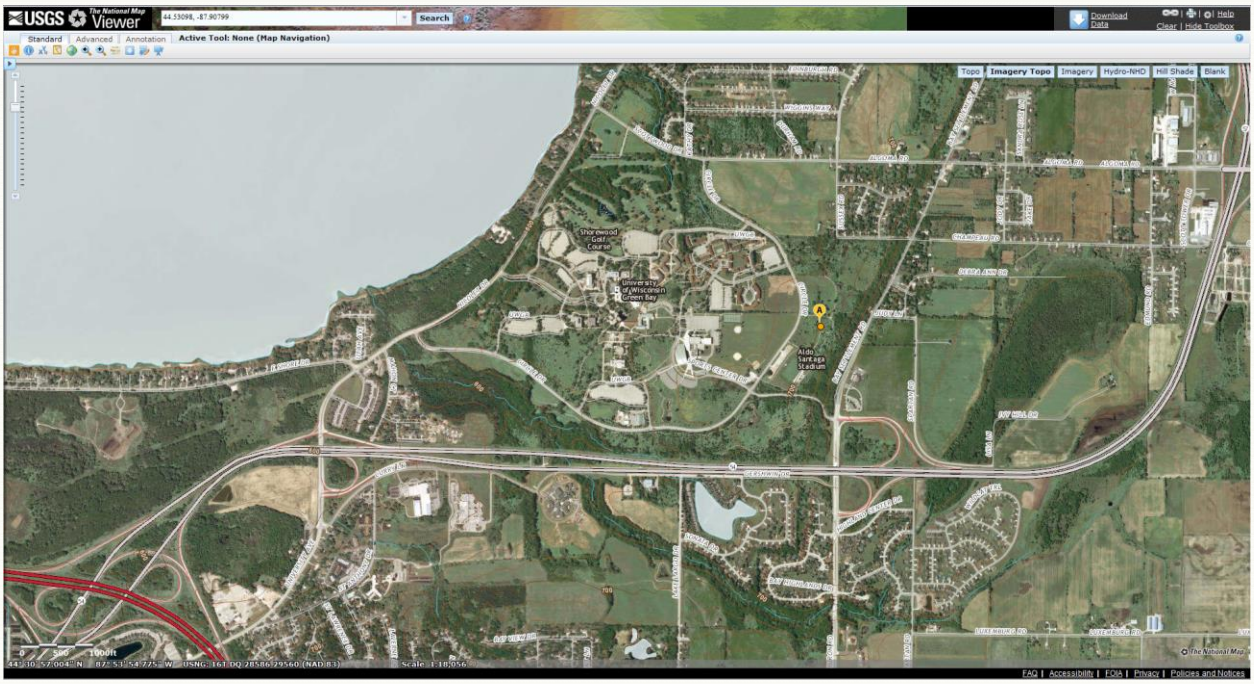
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/18/1994

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 an urban scale for ozone.



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Harrington Beach

AQS Site ID: 55-089-0009
Location: Harrington Beach State Park, 531 Hwy D
County: Ozaukee
GPS coordinates: 43.49806, -87.8100
Date Established: 06/8/1994

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 inlets are 142 meters from nearest state 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 fine particles, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is max ozone concentration.

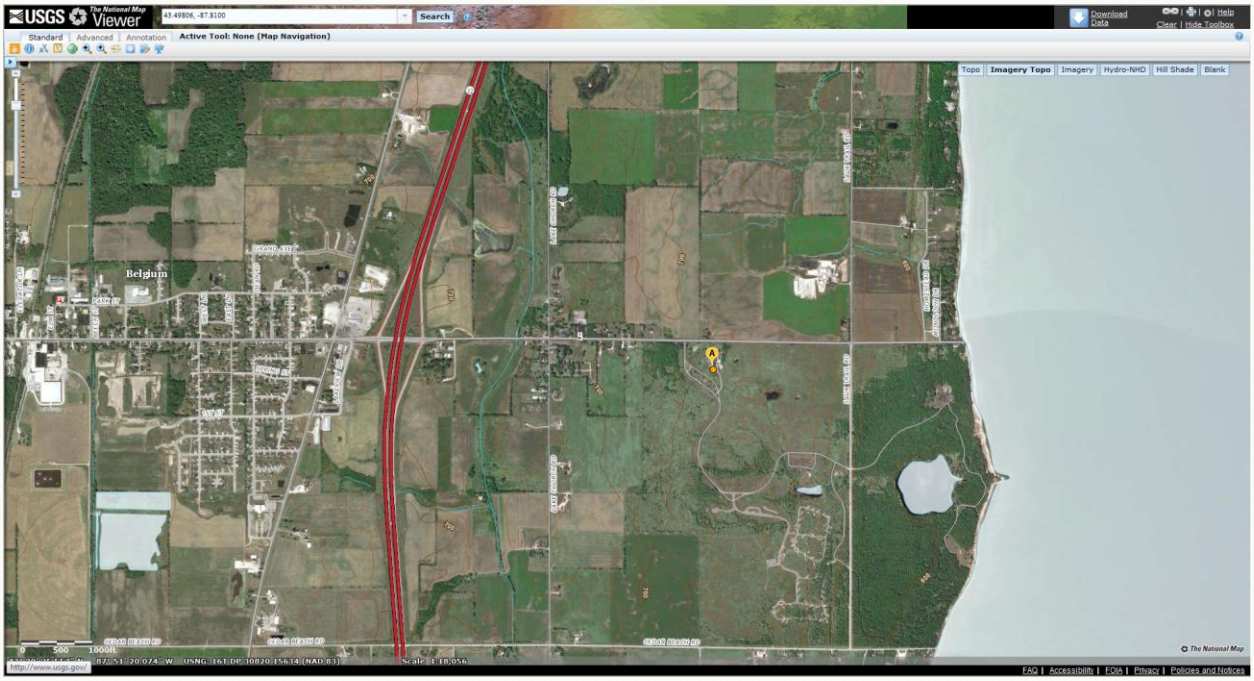
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	06/08/1994
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	12/01/2011
$PM_{2.5}$	R& P 2025 FRM	SLAMS	Gravimetric	1 in 6	06/23/2003
Wind Speed/Direction Temperature Barometric pressure	Met-One Meteorological	SLAMS	Mechanical	Continuous	06/08/1994 08/05/1994 9/11/1995

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

Area of Representativeness: For continuous $PM_{2.5}$. this site represents population

exposure on an urban scale. For daily $PM_{2.5}$. this site represents regional transport on an urban scale. For ozone this site represents population exposure on an urban scale.



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Horicon Wildlife Area

AQS Site ID: 55-027-0001
Location: 1210 N. Palmatory St.
County: Dodge
GPS coordinates: 43.466111
-88.621111
Date Established: 06/24/1982

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 42 meters from a rural road, Palmatory St.

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. The monitoring objective type is general background.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est
Ozone	Teledyne API	SLAMS	UV Absorption	Continuous	01/22/2010
$PM_{2.5}$	R&P FRM2025	SLAMS	Gravimetric	1 in 3	12/18/2009
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met-One BAM-SCC	SLAMS	Beta Attenuation	Continuous	08/26/2011
PM_{10} Total 0-10 µm STP	Met-One BAM – (02/03/2010 – 08/26/2011), (08/26/2011 -)	SLAMS	Beta Attenuation	Continuous	02/03/2010
PMcrs	Met-One BAM	SLAMS	Beta Attenuation	Continuous	02/03/2010
Fine Particle Species	Met-One Speciation	SLAMS	Gravimetric	1 in 3	12/18/2009
Fine Particle Species	URG 3000N	SLAMS	Gravimetric	1 in 3	10/1/2009

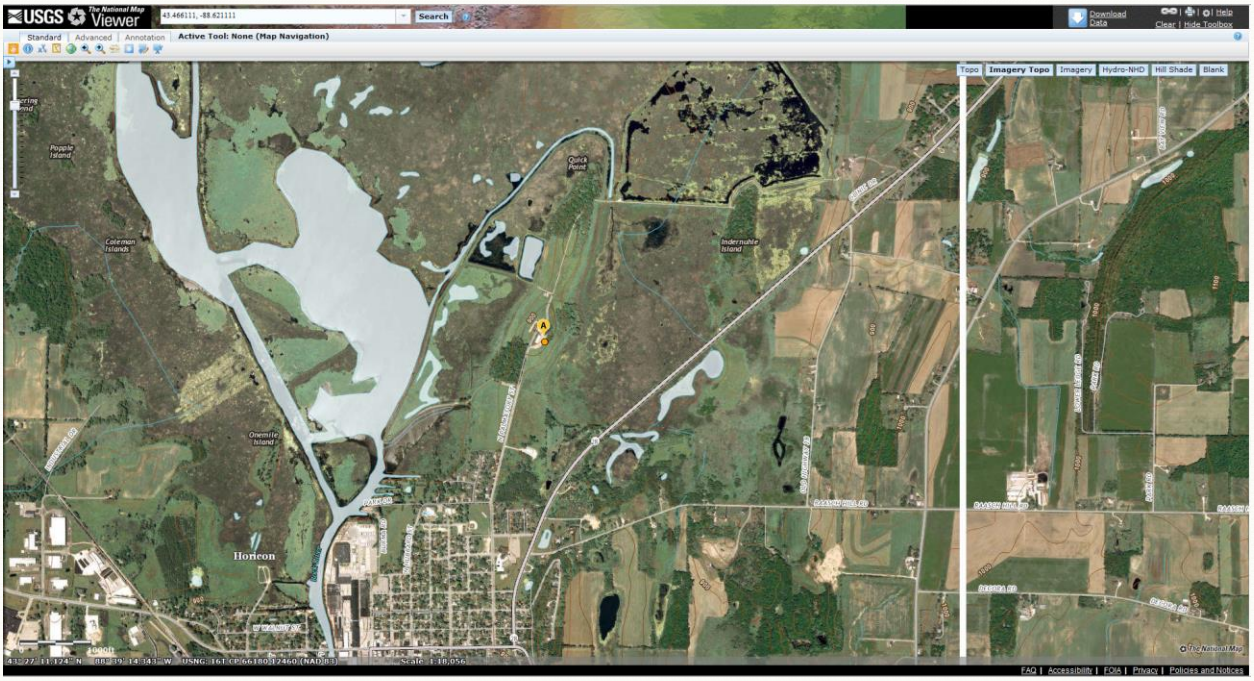
Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est

PM_{10}/toxic metals	High volume PM_{10}	NATTS	Gravimetric Inductively Coupled Plasma (ICP)- Mass Spectrometry (MS)	1 in 6 Collocated – 1 in 90	12/21/2009 01/26/2009
Polyaromatic hydrocarbons	PUF Sampler	NATTS	Gas Chromatography (GC) – MS	1 in 6 Collocated – 1 in 90	07/01/2010
Wind Speed/ Direction. Temperature, Barometric Pressure, Relative Humidity	Met One-Meteorological	SLAMS	Mechanical	Continuous	01/20/2010 01/01/2012 01/20/2012
Sulfur Dioxide	SO_2, High Sensitivity	SLAMS	UV fluorescence	Continuous - hourly	01/26/2010
Sulfur Dioxide	SO_2, High Sensitivity	SLAMS	UV fluorescence	Continuous – 5 min	03/29/2013
Nitric Oxide (NO)	NOy High Sensitivity	SLAMS	Chemiluminescence	Continuous	01/28/2010
Reactive Oxides of Nitrogen (NOy)	NOy High Sensitivity	SLAMS	Chemiluminescence	Continuous	01/28/2010
NOy-NO	NOy High Sensitivity	SLAMS	Chemiluminescence	Continuous	01/28/2010
Carbon Monoxide	CO High Sensitivity	SLAMS	Gas Filter Correlation	Continuous	01/25/2010
Volatile Organics and Carbonyls	Canister and Cartridge	NATTS	GC-MS	1 in 6	12/18/2009
Mercury	Tekran speciated mercury	Other	Tekran speciation mercury analysis system	Continuous - 5 minutes	09/15/2010
Precipitation	Texas Electronics (Heated)	Non-EPA-Federal	Mechanical, heated	Continuous	02/09/2010

Ammonia Monitoring Network
Atmospheric Mercury Network
Mercury Deposition Network

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 general background on a regional scale for $PM_{2.5}$ & ozone. This is a NCORE rural background site.



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Jefferson – Laatsch

AQS Site ID: 55-055-0009

Location: N4440 Laatsch Ln.
County: Jefferson
GPS coordinates: 43.003, -88.8263
Date Established: 4/08/2013

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 at the end of Laatsch Ln. and west of Jefferson Elementary School. The sample inlet is on the top of a trailer and 90 meters from nearest road.

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

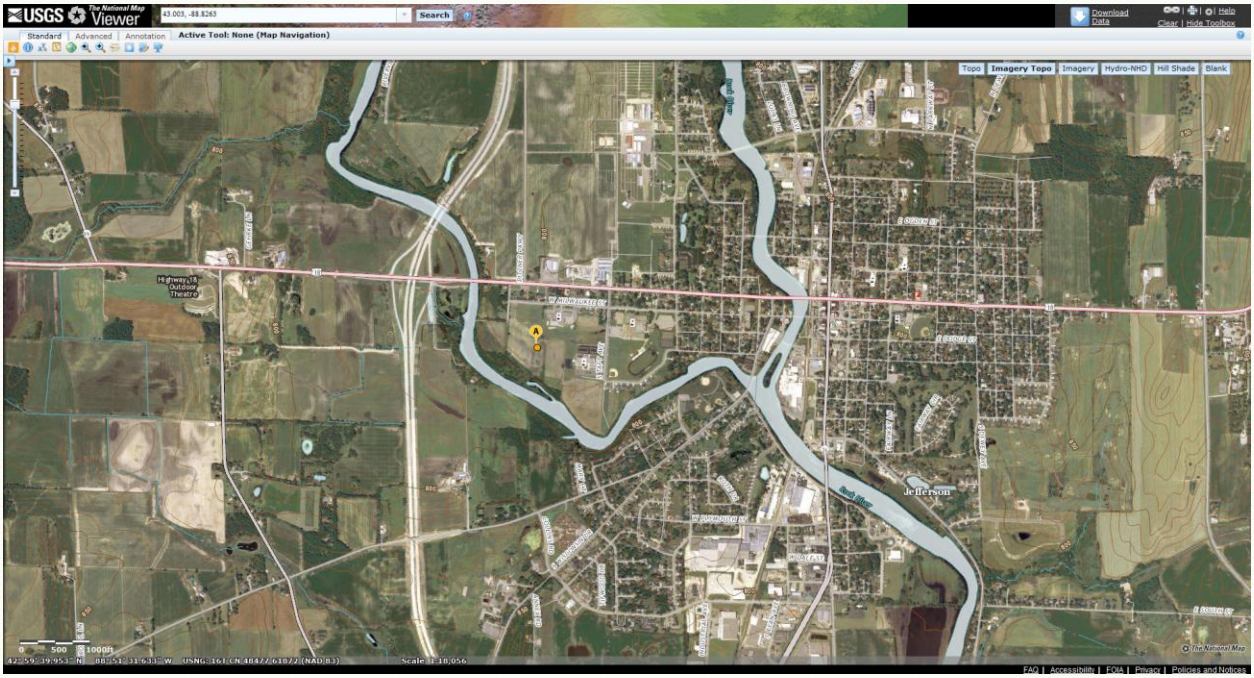
Monitoring Objective: Population Exposure. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Frequency of Sampling	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/15/2013

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.



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Kenosha - Water Tower

AQS Site ID:	55-059-0025
Location:	4504 64th Ave.
County:	Kenosha
GPS Coordinates:	42.596, -87.886
Date Established:	05/15/2013
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. The monitor began operation on May 15, 2013 and will operate as a special purpose monitor with written approval from US EPA.

Locational Setting: The monitor is located just east of Green Bay Road and north of the City of Kenosha.

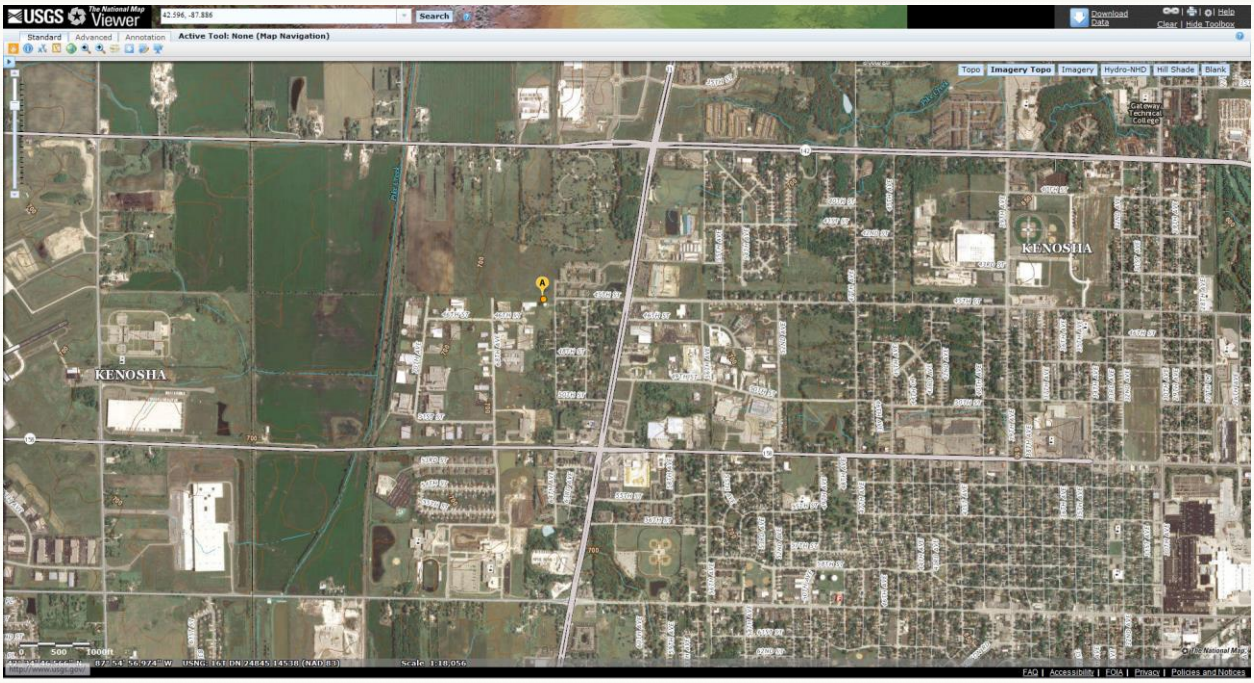
Monitoring Objective: The monitoring objectives are to detect elevated pollutant levels of ozone and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est
Ozone	Teledyne API	SPM	UV Photometry	Continuous	05/15/2013
Wind Speed/Direction & Temperature	Met-One Meteorological	SPM	Mechanical	Continuous	05/15/2013

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

Area of Representativeness: This site represents regional transport on a regional scale for ozone.



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Kewaunee

AQS Site ID:	55-061-0002
Location:	Route 1, Hwy 42, Kewaunee
County:	Kewaunee
GPS coordinates:	44.44312, -87.50524
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 ATV/ lawn tractor dealer. The sample inlet is 6 meters above ground level and 83 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

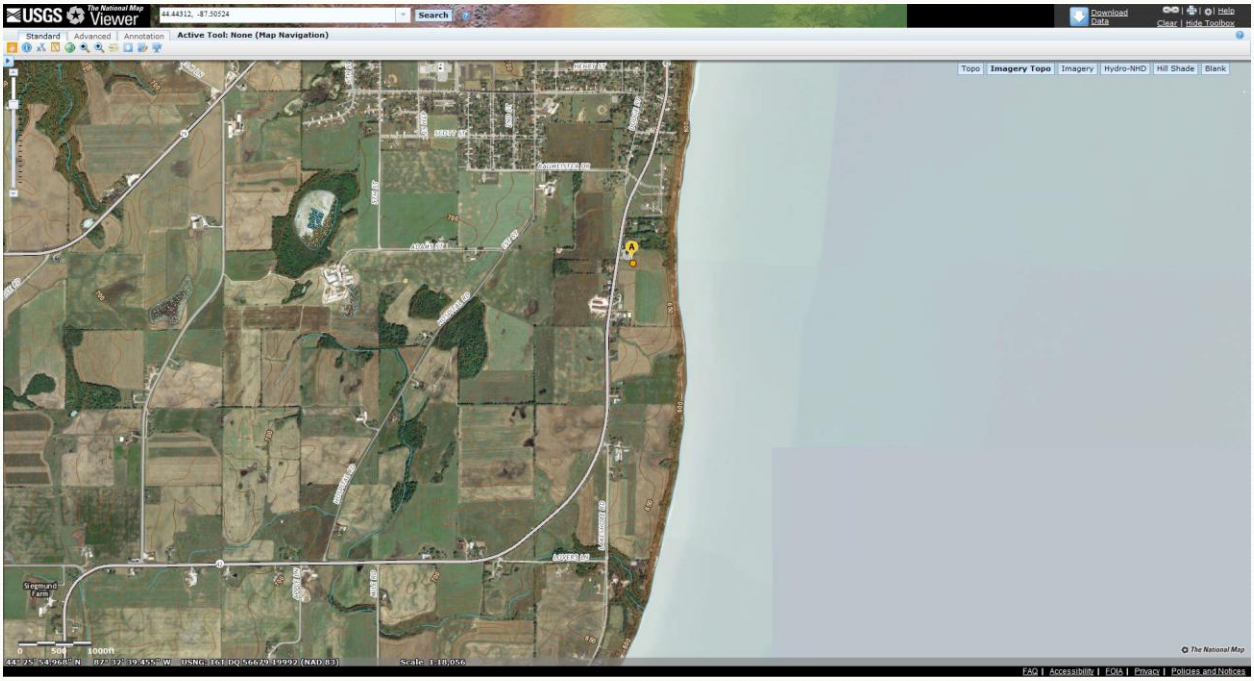
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est.
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/06/1994

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

Area of Representativeness: This site represents regional transport on an urban scale for ozone.



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Kohler

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.

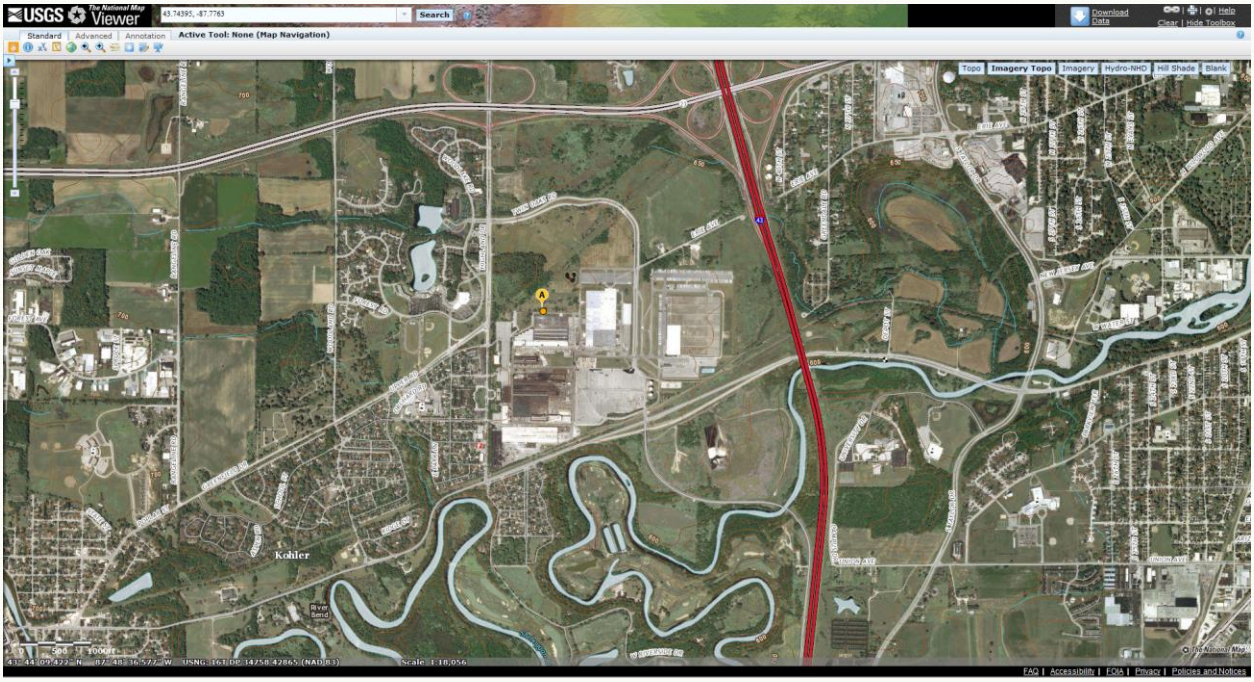
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Est.
TSP, Lead Average	TSP with meteorological attachment	SLAMS	Inductively Coupled Plasma (ICP) - Mass Spectrometry (MS)	1 in 6 Collocated – 1 in 12	01/01/2010

Monitoring Objective: The monitoring objective type is source oriented.

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

Area of Representativeness: This site represents source oriented monitoring on a middle scale for lead.



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La Crosse - DOT

AQS Site ID: 55-063-0012
Location: 3550 Mormon Coulee Rd.
County: La Crosse
GPS coordinates: 43.7775 -91.2269
Date Established: 10/13/2005

CBSA: La Crosse, WI-MN
CSA:
UA: La Crosse, WI-MN
AQCR: Southeast Minnesota-La Crosse (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 113 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

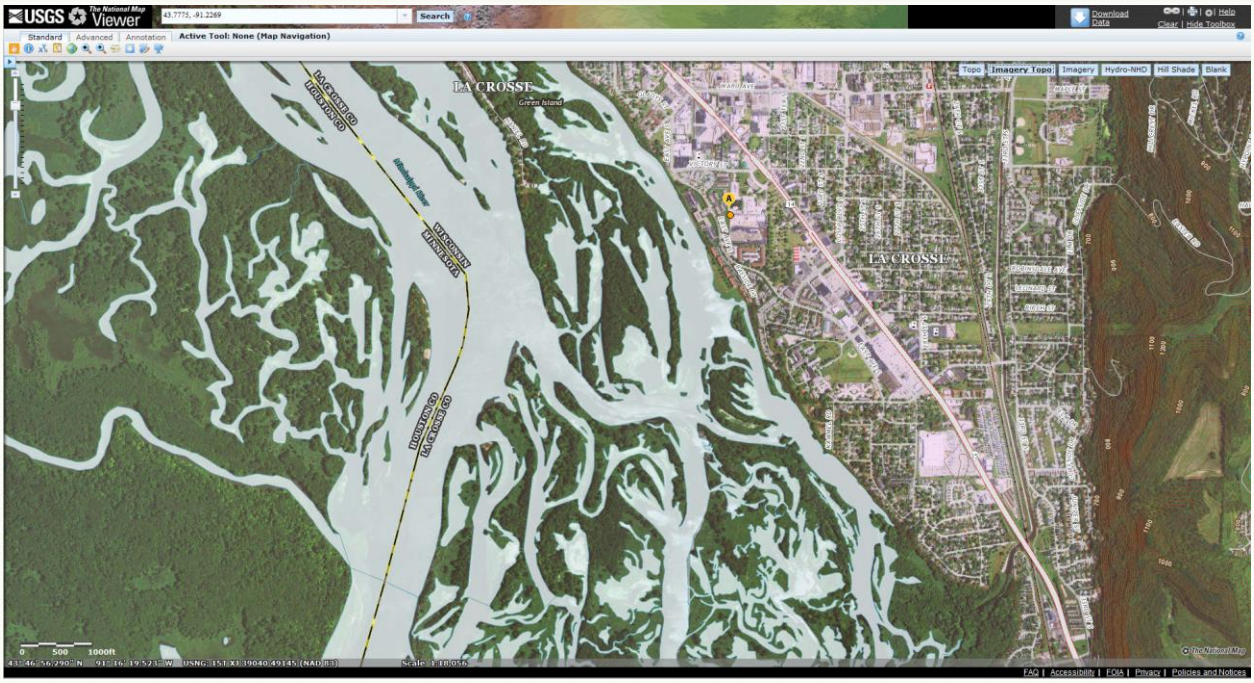
Monitoring Objective: Population Exposure. The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and fine particles, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	02/27/2008
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	05/17/2012
$PM_{2.5}$	R&P 2025 FRM	SLAMS	Gravimetric	1 in 3	12/07/2005
Wind Speed/Direction Temperature	Met One	SLAMS	Mechanical	Continuous	04/08/2008 05/24/2012

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



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Lake DuBay

AQS Site ID: 55-073-0012
Location: 1780 Bergen Road, Bergen Township
County: Marathon
GPS coordinates: 44.70735, -89.77173
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 5.4 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.

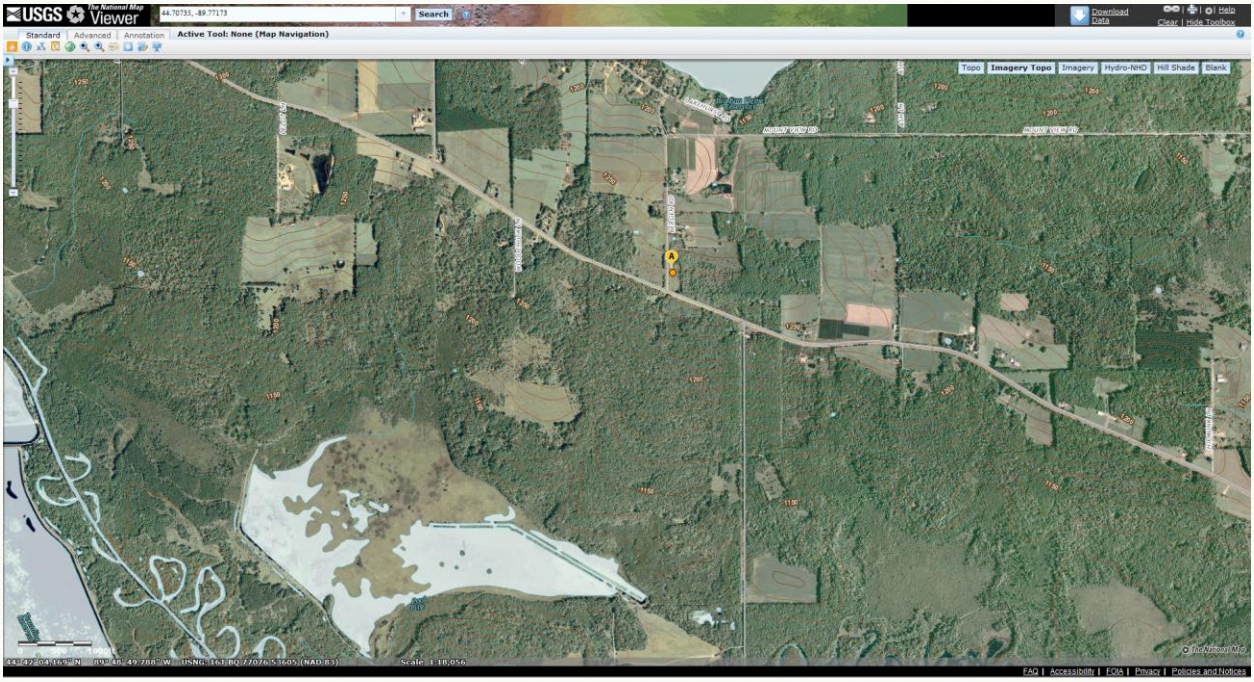
Monitoring Objective: The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	09/25/1991
Wind speed/ direction. Temperature	Met One	SLAMS	Mechanical	continuous	10/08/1991

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

Area of Representativeness: This site represents general/background on a regional scale for ozone.



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Lake Geneva

AQS Site ID:	55-127-0005
Location:	2420 Elgin Club Rd., Lake Geneva
County:	Walworth
GPS coordinates:	42.580, -88.4991
Date Established:	7/10/1987
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 meters 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: 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.

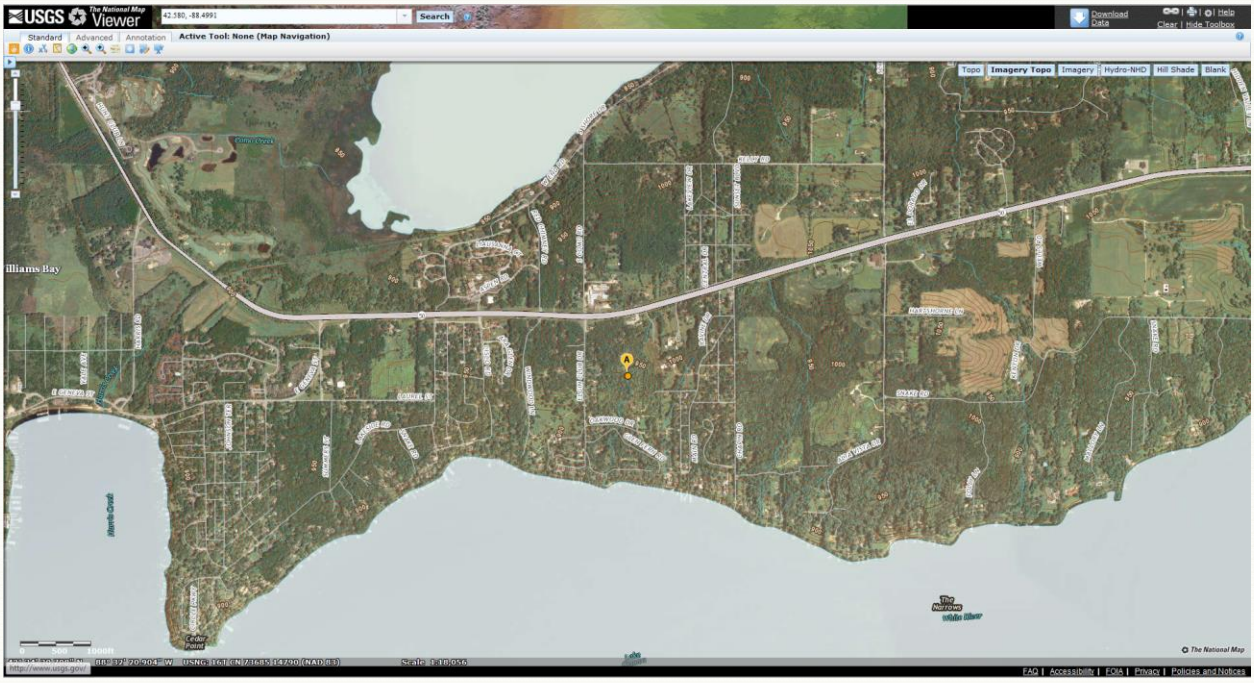
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	07/10/1987
Wind Speed/Direction. Temperature	Met One Meteorological	SLAMS	Mechanical	continuous	07/10/1987

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 regional scale for ozone.



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Madison - East

AQS Site ID: 55-025-0041
Location: 2302 Hoard St., Madison
County: Dane
GPS coordinates: 43.1008, -89.3572
Date Established: 4/15/1992

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 43 meters from nearest public road. (The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

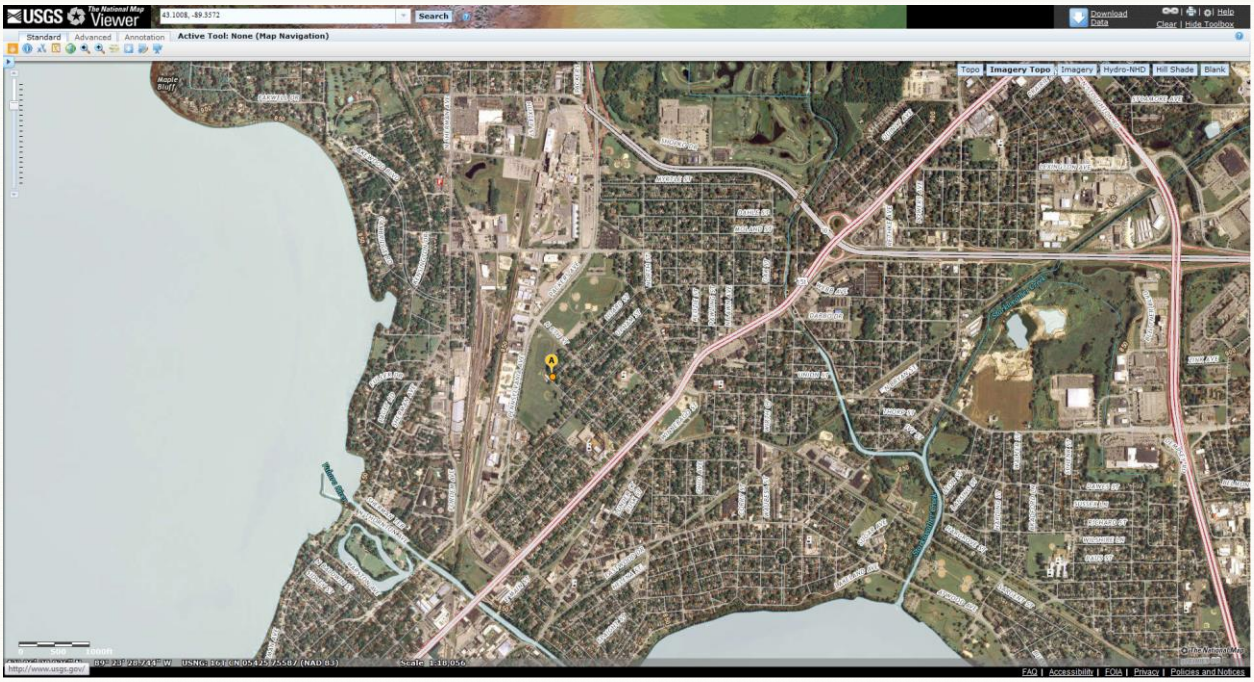
Monitoring Objective: Population Exposure. The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone and $PM_{2.5}$, and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/15/1992
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	04/23/2012
$PM_{2.5}$	R&P 2025 FRM	SLAMS	Gravimetric	1 in 6	04/02/2010
Met One	MetOne	SLAMS	Mechanical	continuous	02/01/2008

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 ozone and $PM_{2.5}$.



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Madison - University Ave. Well #6

AQS Site ID: 55-025-0047
Location: 2757 University Ave., Madison
County: Dane
GPS coordinates: 43.07333, -89.4358
Date Established: 01/03/1999

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 inlets are 12 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

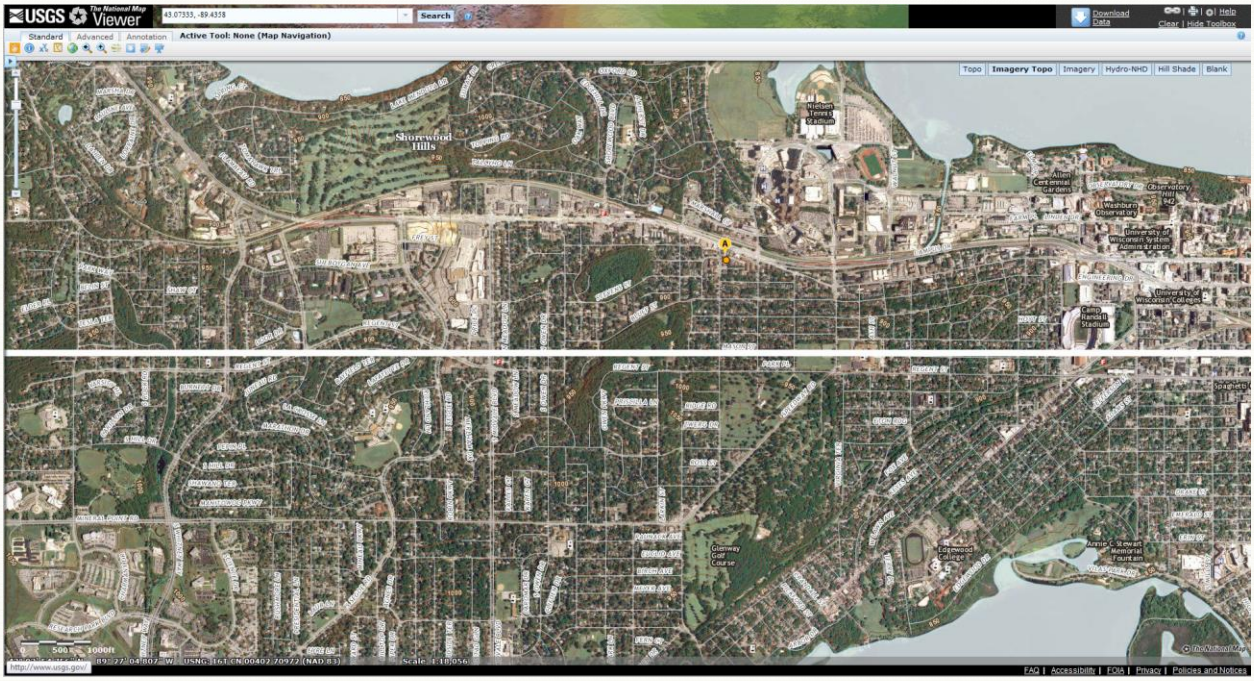
Monitoring Objective: Population exposure. The monitoring objectives are to determine compliance with NAAQS and to detect elevated pollutant levels of $PM_{2.5}$ in a high population, high vehicle traffic area.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
$PM_{2.5}$	R&P FRM2025	SLAMS	Gravimetric	Requested 1 in 3	01/03/1999
PM_{10}	Tisch High Volume PM_{10}	SLAMS	Gravimetric	1 in 6	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.



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Manitowoc - Woodland Dunes

AQS Site ID: 55-071-0007
Location: 2315 Goodwin Road, Two Rivers
County: Manitowoc
GPS coordinates: 44.138619, -87.6161
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 & Preserve 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.

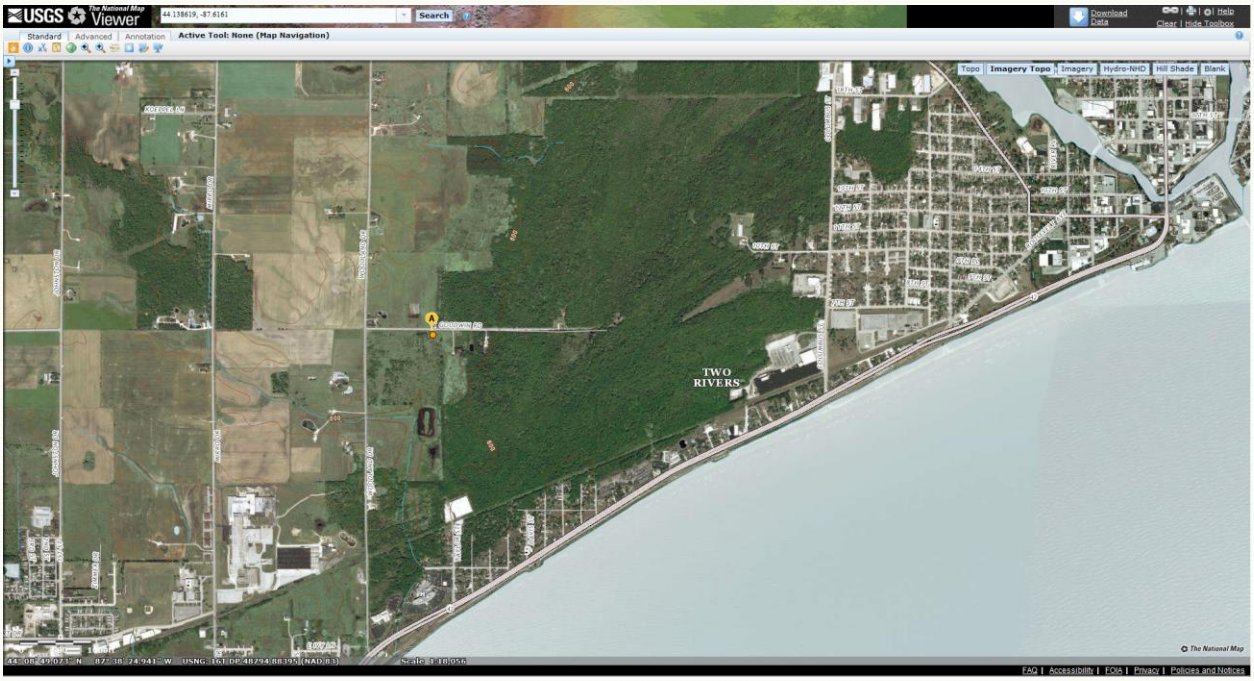
Monitoring Objective: Regional transport. The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, NOY, NO_2, and $PM_{2.5}$ and to provide pollutant levels for daily air quality index reporting. High Sensitivity NOY and NO_2 monitors only operate from June-August.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Nitric Oxide (NO)	Teledyne API 200E Teledyne API 200E	SLAMS,	Chemiluminesence	Continuous June - August Collocated	04/28/1995 06/01/2004
Nitrogen Dioxide (NO2)	Teledyne API 200E	SLAMS	Chemiluminesence	Continuous June - August	04/28/1995
Oxides of Nitrogen (NOx)	Teledyne API 200E	SLAMS,	Chemiluminesence	Continuous June - August	04/28/1995
Reactive Oxides of Nitrogen (NOy)	Teledyne API T200U	SLAMS,	Chemiluminesence	Continuous June - August	06/01/2004
NOy-NO	Teledyne API T200U	SLAMS,	Chemiluminesence	Continuous June - August	05/31/2011
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/05/1994
Wind Speed and Direction. Temperature	Met One	SLAMS	Mechanical	Continuous	05/10/1995

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

Area of Representativeness: This site represents regional transport on a regional scale for ozone, NO_2, NOy and $PM_{2.5}$.



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Milwaukee – College Ave. – NR

AQS Site ID: 55-079-0056
Location: 1550 W. College Ave.
County: Milwaukee
GPS coordinates: 42.93257
-87.93434
Date Established: 10/22/13

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. The trailer is 14 meters from nearest road. Given its proximity to a major interstate, this site is influenced by transportation pollution sources. The site meets the requirements of 40 CFR 58, Appendices C, D, E and G and is a near road monitoring site.

Monitoring Objective: Max precursor emissions impact

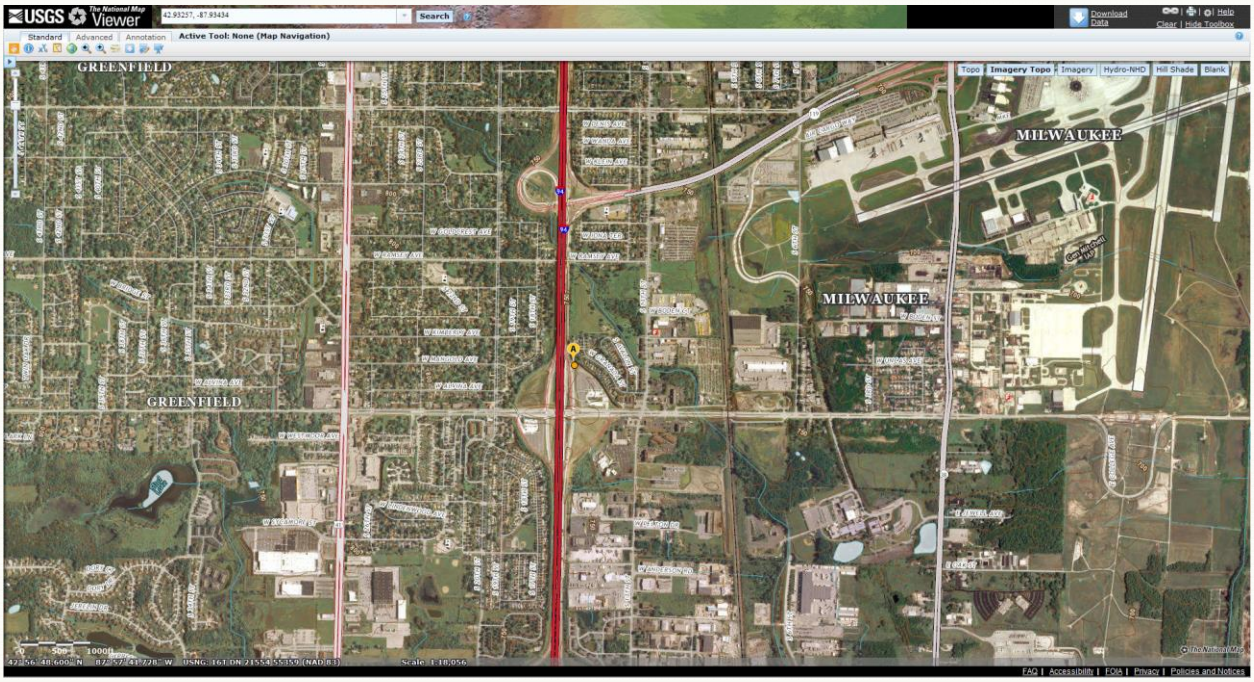
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
CO	CO High Sensitivity	SLAMS	Gas Filter Correlation	Continuous	01/01/2014
Nitric Oxide (NO)	API NOX TECO NOy 42	SLAMS	Chemiluminesence	Continuous	01/01/2014
Nitrogen Dioxide (NO_2)	API NOX	SLAMS	Chemiluminesence	Continuous	01/01/2014
Oxides of Nitrogen (NOx)	API NOX	SLAMS	Chemiluminesence	Continuous	01/01/2014
Wind Speed and Direction. Temperature	Met One	SLAMS	Mechanical	Continuous	01/01/2014

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

Area of Representativeness: This site represents max precursor emissions impact on a

neighborhood scale.



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Milwaukee – College Ave. Park & Ride

AQS Site ID: 55-079-0058
Location: 1550 W. College Ave.
County: Milwaukee
GPS coordinates: 42.93056, -87.932104
Date Established: 10/15/2009

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. The trailer is 30 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.

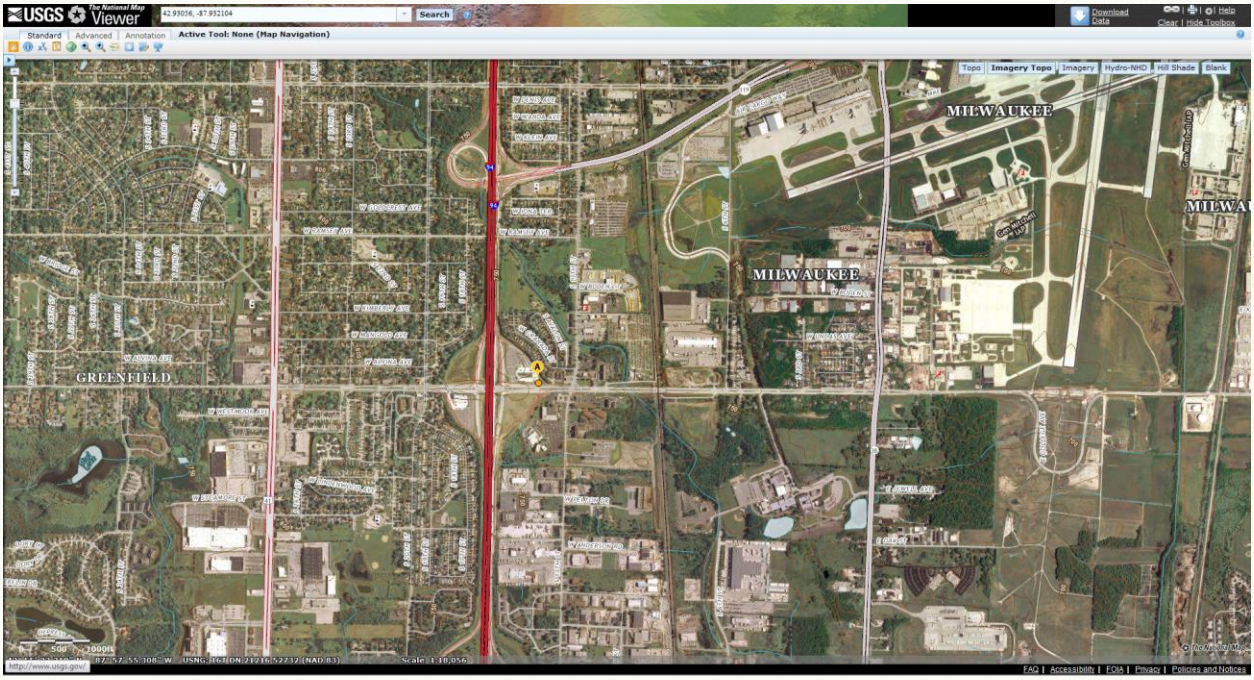
Monitoring Objective: Population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
$PM_{2.5}$	R&P FRM2025	SLAMS	Gravimetric	1 in 3	11/03/2009
PM_{10}	Tisch PM_{10}	SLAMS	Gravimetric	1 in 6 Collocated 1 in 6	11/03/2009
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	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: This site represents population exposure on a neighborhood scale.



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Milwaukee – Fire Department HQ

AQS Site ID: 55-079-0099
Location: 711 W. Wells St.
County: Milwaukee
GPS coordinates: 43.039871, -87.920794
Date Established: 01/01/1970

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 on the top of a fire department. The monitor is 36.6 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

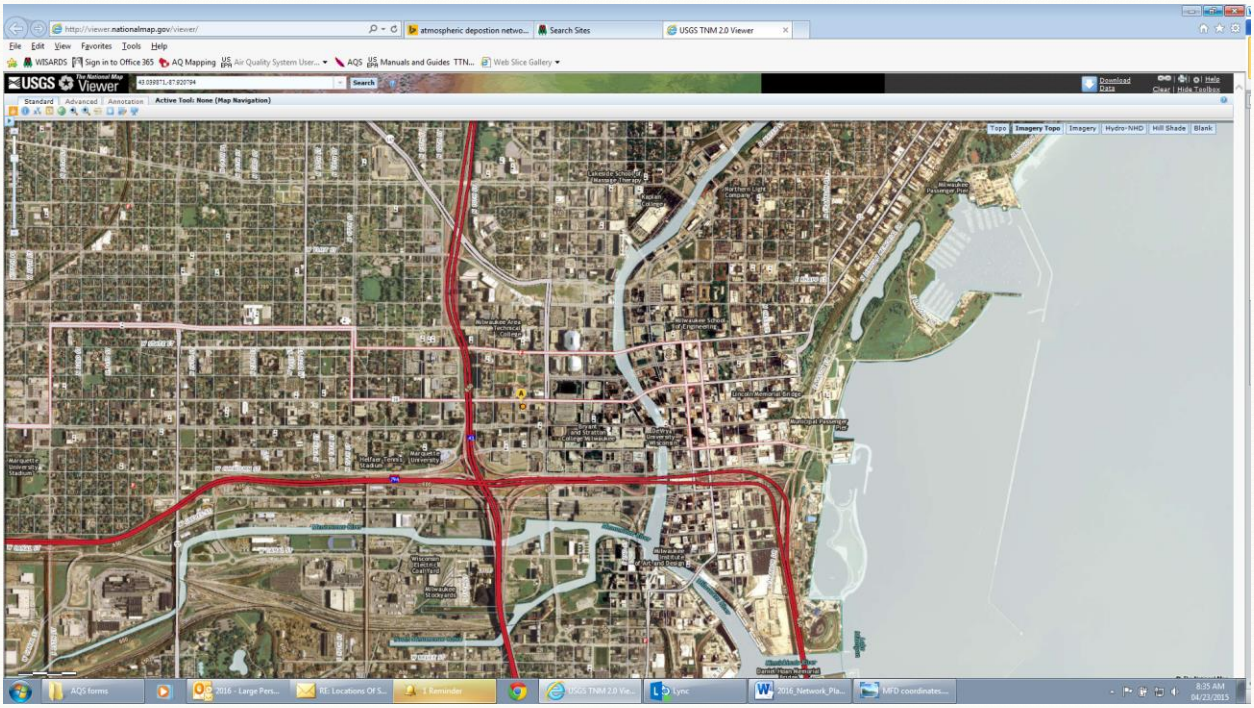
Monitoring Objective: Population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
$PM_{2.5}$	R&P FRM2025	SLAMS	Gravimetric	1 in 3	02/05/1999 Temporarily shutdown on 12/31/2009. Restarted 01/01/2012.

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.



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Milwaukee - Sixteenth St. Health Center

AQS Site ID:	55-079-0010
Location:	1337 S Cesar E Chavez Dr.
County:	Milwaukee
GPS coordinates:	43.01667, -87.93333
Date Established:	04/04/1997
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.

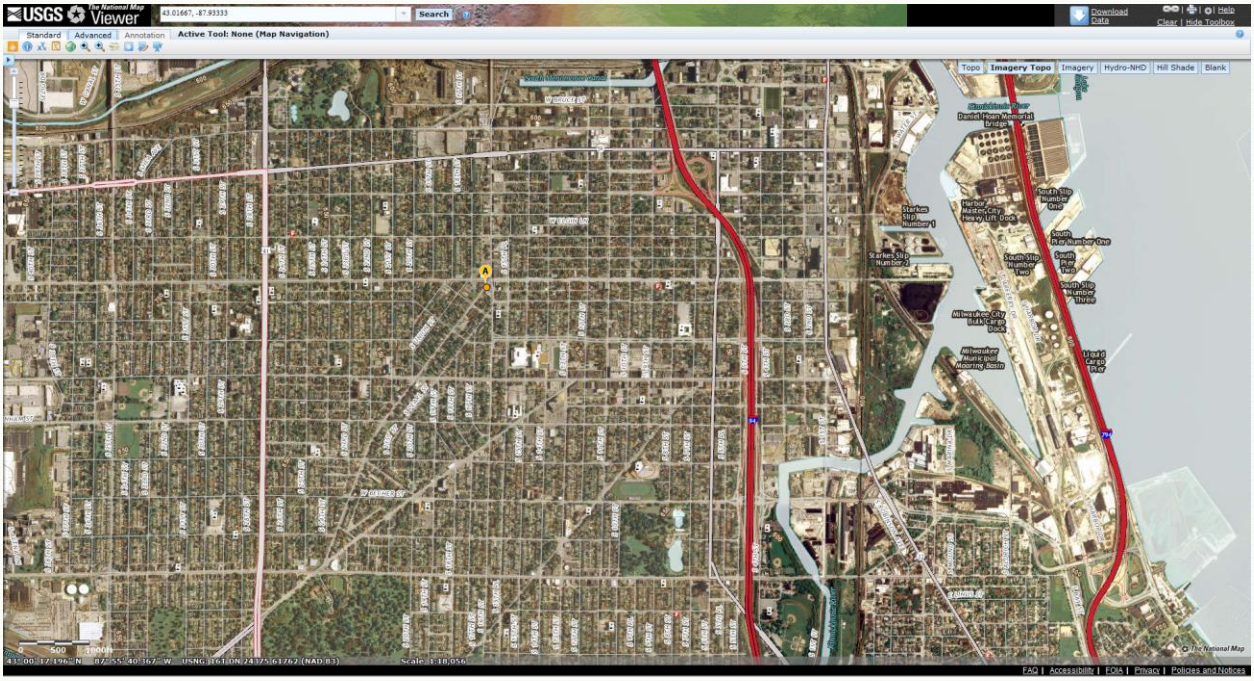
Monitoring Objective: Population Exposure, Environmental Justice site. Monitoring site was requested by Health Care Center for Ozone Monitor to Study effects of ozone on Asthmatic Patients (children) in Area. Metals are also monitored with PM_{10}. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	06/24/2003
Wind Speed/Direction. Temperature	Met One Meteorological	SLAMS	Mechanical	Continuous	06/24/2003
$PM_{2.5}$	R&P 2025 FRM	SLAMS	Gravimetric	1 in 3	01/01/1999
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM - SCC	SLAMS	Beta Attenuation	Continuous	10/17/2012
PM_{10}	Tisch PM_{10}	SLAMS	Gravimetric	1 in 12	04/04/1997
PM_{10}/toxic metals	Tisch PM_{10}	UATM	Inductively Coupled Plasma (ICP)- Mass Spectrometry (MS)	1 in 12	07/17/2007
VOCs and Carbonyls	Canister and Cartridge	UATM	Gas Chromatography (GC) – MS	1 in 12	02/01/2000
Polychlorinated Biphenyls (PCBs)	PUF Sampler	UATM	Gas Chromatography (GC) – ECD (Electron Capture Detector)	1 in 12 Collocated – 1 in 90	07/01/2010
Mercury	Tekran	Other	Cold Vapor Atomic Fluorescence	Continuous	04/03/2014

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 $PM_{2.5}$.



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Milwaukee - Southeast Region Headquarters (SER HQ)

AQS Site ID:	55-079-0026
Location:	DNR Southeast Region Headquarters 2300 N. Martin Luther King Dr.,
County:	Milwaukee
GPS coordinates:	43.0609750, -87.913504
Date Established:	1/1/1999
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.

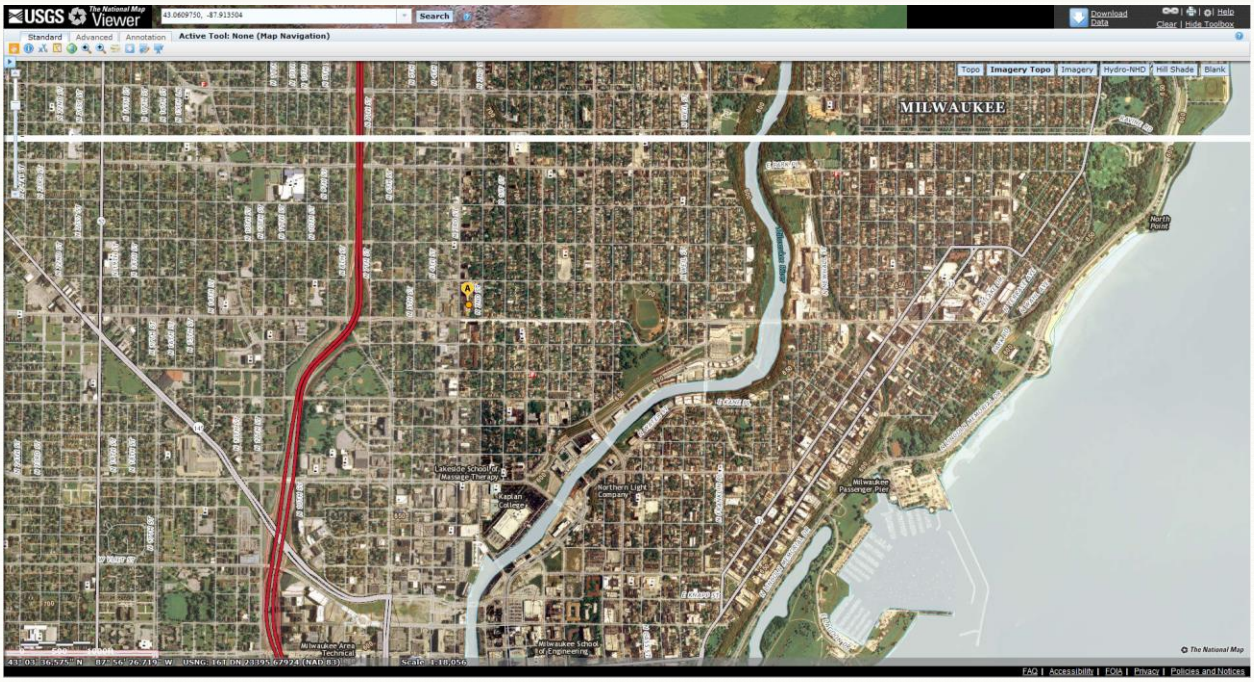
Monitoring Objective: Population Exposure, Maximum Precursor Emissions,
The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	06/01/1999
Nitric Oxide (NO)	API NOx API NOy	SLAMS	Chemiluminesence	Continuous Collocated June-August	06/24/1999 05/01/2004
Nitrogen Dioxide (NO_2)	API NOX	SLAMS	Chemiluminesence	Continuous	06/24/1999
Oxides of Nitrogen (NOx)	API NOX	SLAMS	Chemiluminesence	Continuous	06/24/1999
Reactive Oxides of Nitrogen (NOy)	API NOy	SLAMS	Chemiluminesence	Continuous June - August	05/01/2004
NOy-NO	API NOy	SLAMS	Chemiluminesence	Continuous June - August	05/24/2011
$PM_{2.5}$ Total Atmospheric	Met One Dual BAM - SCC	SLAMS	Beta Attenuation	Continuous	08/19/2011
PM_{10}	Met-One BAM	SLAMS	Beta Attenuation	Continuous	10/14/2010
PM Coarse	Met-One BAM – VSCC (10/14/2010 – 08/19/2011), SCC (08/19/2011 -)	SLAMS	Beta Attenuation	Continuous	10/14/2010
$PM_{2.5}$	R&P 2025 FRM	SLAMS	Gravimetric	1 in 6 Collocated 1 in 12	01/01/1999 04/01/2004
Sulfur Dioxide (SO_2)	SO_2, High Sensitivity	SLAMS	UV fluorescence	Continuous - hourly	06/01/1996
Sulfur Dioxide (SO_2)	SO_2, High Sensitivity	SLAMS	UV fluorescence	Continuous – 5 min	01/09/2013
Volatiles & Carbonyls	Canisters & Cartridges	SLAMS	Gas Chromatography (GC) - Mass Spectrometry (MS)	1 in 6	01/01/1999
Wind Speed/Direction Temperature	Met One Metrological	SLAMS	Mechanical	Continuous	06/11/2002
$PM_{2.5}$ Species	Met-One Speciation	Urban	Gravimetric	1 in 3	12/13/2000
Mercury	Tekran	Other	Cold Vapor Atomic Fluorescence	Continuous	08/22/2013

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 $PM_{2.5}$.



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Newport Park

AQS Site ID:	55-029-0004
Location:	475 CTH NP, 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 12 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.

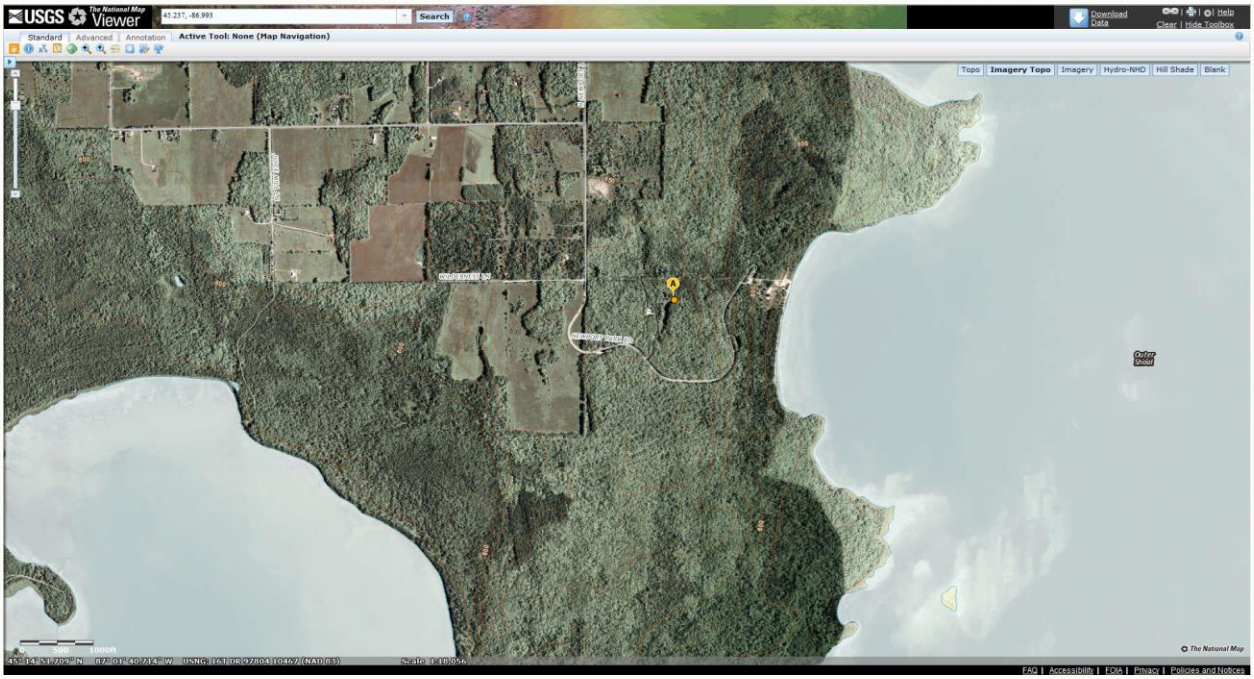
Monitoring Objective: Regional Transport. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/15/1989
Wind Speed/ Direction Temperature	Met One	SLAMS	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 regional transport on a regional scale for ozone.



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Perkinstown

AQS Site ID: 55-119-8001
Location: W10746 Cty Rd. M
County: Taylor
GPS coordinates: 45.2066, -90.5972
Date Established: 01/01/1988

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 $PM_{2.5}$ Speciation site (1 in 6) was est. in Dec. 2001, with continuous $PM_{2.5}$ in Nov. 2003 to fill a gap in north-central WI for regional $PM_{2.5}$ mapping effort. Also, this site is a NTN site. 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 Clean Air Status and Trends Network (CASTnet) monitoring site by the US EPA, the National Trends Network and the Ammonia Monitoring Network.

Monitoring Objective: Welfare related. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of $PM_{2.5}$ and to provide pollutant levels for daily air quality index reporting.

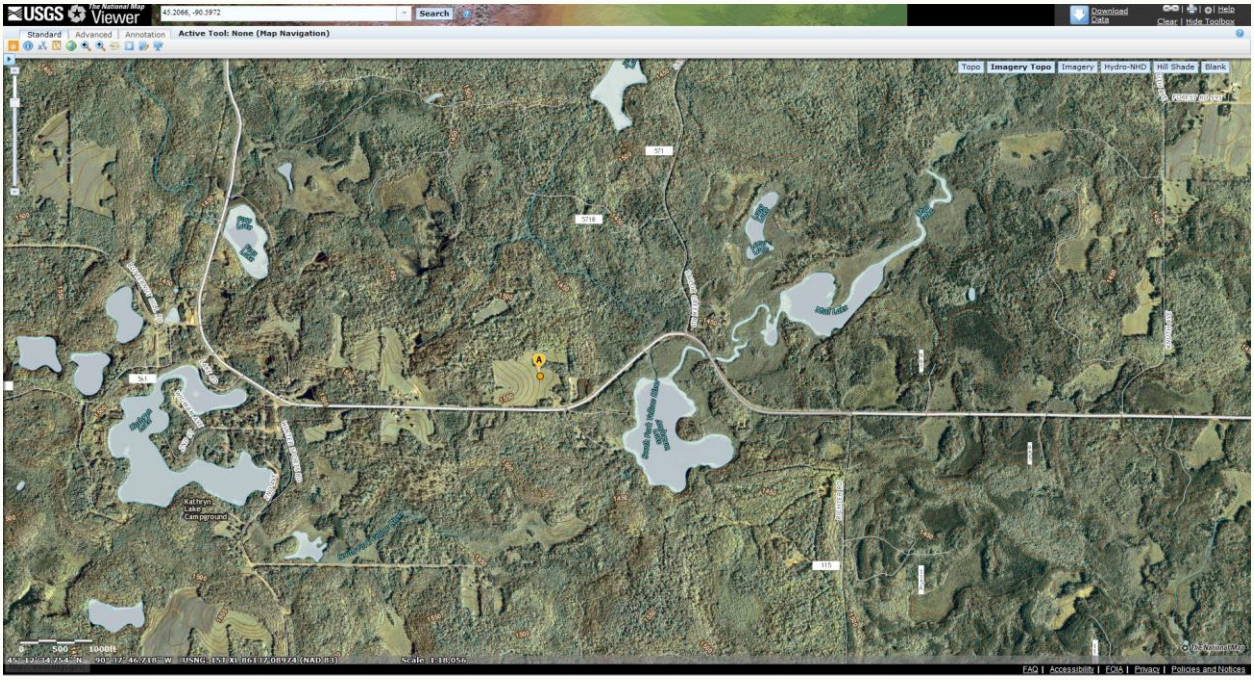
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
$PM_{2.5}$	R&P FRM2025	SLAMS	Gravimetric	1 in 6	05/03/2003
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met-One BAM-SCC	SLAMS	Beta Attenuation	Continuous	02/22/2012
$PM_{2.5}$ Species	Met-One Speciation	SLAMS	Gravimetric	1 in 6	12/01/2001

Ammonia Monitoring Network
National Trends 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 welfare related on a regional scale for $PM_{2.5}$.



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Potawatomi

AQS Site ID:	55-041-0007
Location:	Fire Tower Rd.
County:	Forest
GPS coordinates:	45.563, -88.8088
Date Established:	6/7/2002
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 tribal site is located on the Forest County Potawatomi community reservation. The sample inlet is 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.

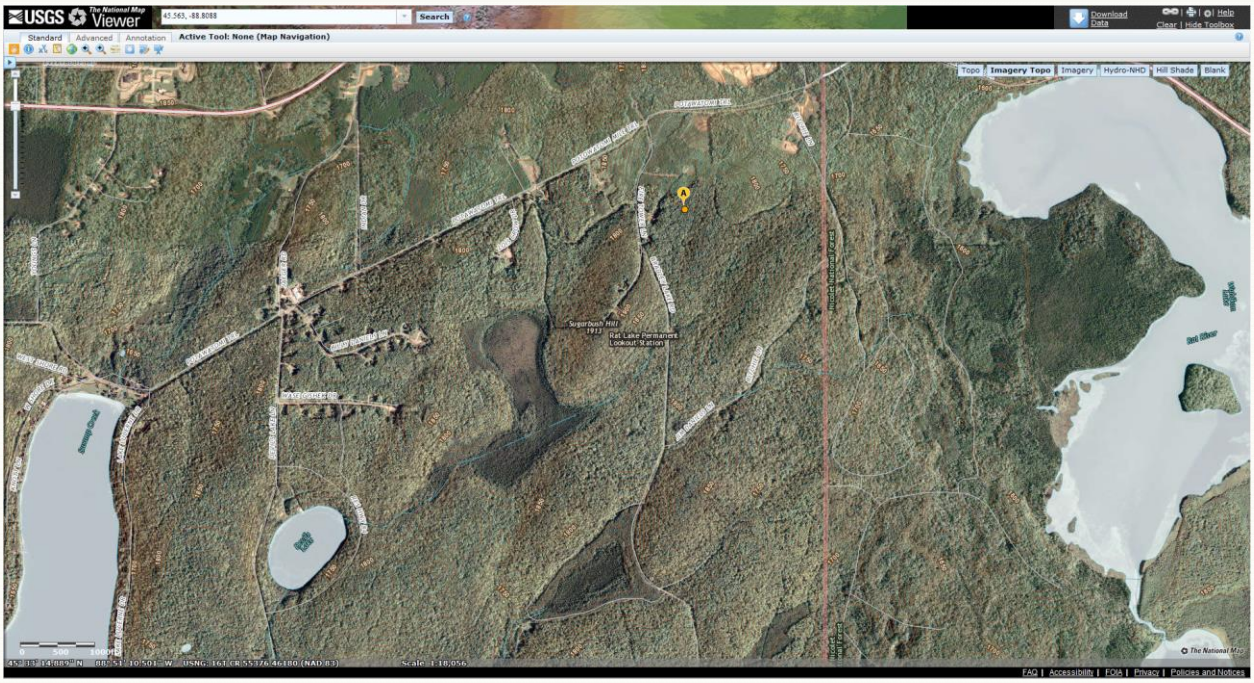
Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	Tribal	UV Photometry	Continuous	01/07/2004
Sulfur Dioxide	API SO_2	Tribal	UV Photometry	Continuous	01/07/2004
Sulfur Dioxide	API SO_2	Tribal	UV Photometry	Continuous – 5 min	01/14/2013
$PM_{2.5}$	R&P 2000	Tribal	Gravimetric	1 in 6 Collocated	02/01/2004 Discontinued 06/30/2010
$PM_{2.5}$	Met One BAM-VSCC	Tribal	Beta Attenuation	Continuous	01/31/2011 Discontinued 02/09/2012
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	Tribal	Beta Attenuation	Continuous	02/09/2012
Nitric Oxide (NO)	API NOX	Tribal	Chemiluminesence	Continuous	02/23/2010
Nitrogen Dioxide (NO_2)	API NOX	Tribal	Chemiluminesence	Continuous	02/23/2010
Oxides of Nitrogen (NOx)	API NOX	Tribal	Chemiluminesence	Continuous	02/23/2010
Wind Speed,/Direction, Temperature, Solar Radiation, Relative Humidity	Qualimetrics	Tribal	Mechanical	Continuous	05/07/2008
Mercury	Tekran	Tribal	Cold Vapor Atomic Fluorescence	Continuous	01/01/2007

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 general background on a regional scale for ozone and $PM_{2.5}$.



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Potosi

AQS Site ID: 55-043-0009
Location: 128 Hwy 61, Potosi Township
County: Grant
GPS coordinates: 42.693, -90.698
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 5 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.

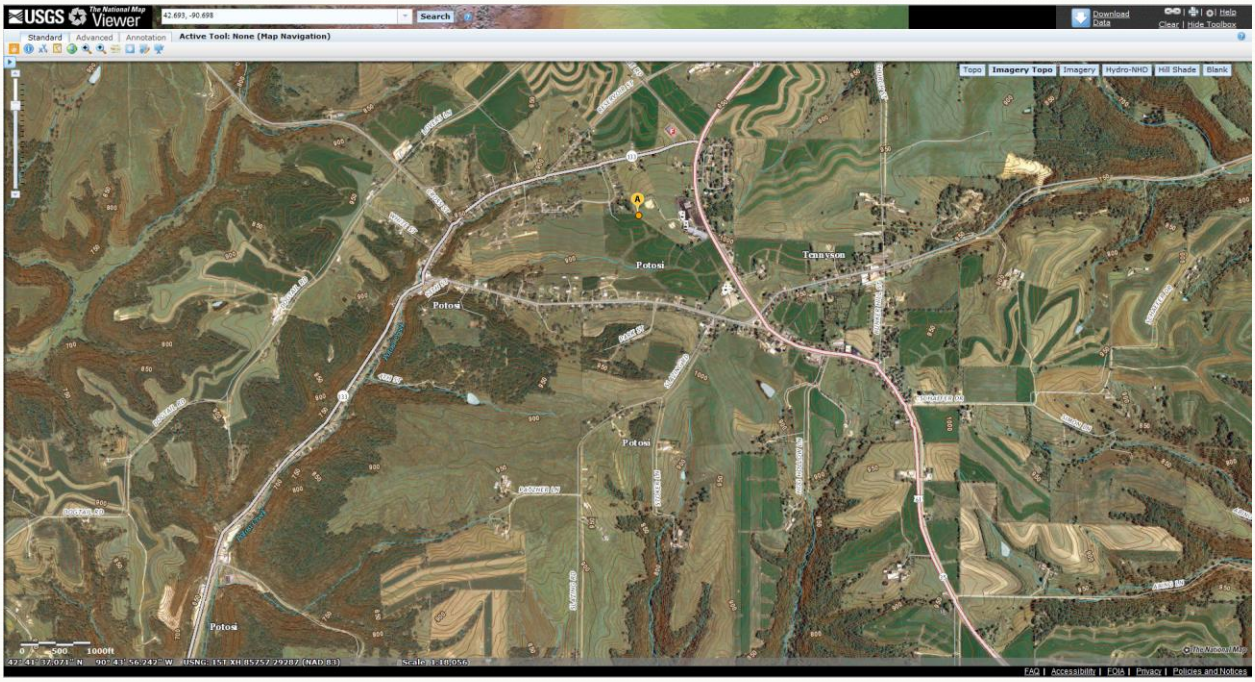
Monitoring Objective: Regional transport. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of $PM_{2.5}$.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
$PM_{2.5}$	R&P FRM 2025	SLAMS	Gravimetric	1 in 3	01/06/1999
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	11/01/2011
Wind Speed/Direction. Temperature	Met-One Meteorological	SLAMS	Mechanical	Continuous	09/26/2011

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

Area of Representativeness: This site represents regional transport on a regional scale for $PM_{2.5}$.



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Racine – Payne and Dolan

AQS Site ID: 55-101-0020
Location: 4227 Charles St., Racine
County: Racine
GPS coordinates: 42.773804, -87.796138
Date Established: 04/03/2015
CBSA: Rural site
CSA:
UA:
AQCR: Southeastern Wisconsin

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 village of Caledonia. The sample inlet is 6.5 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.

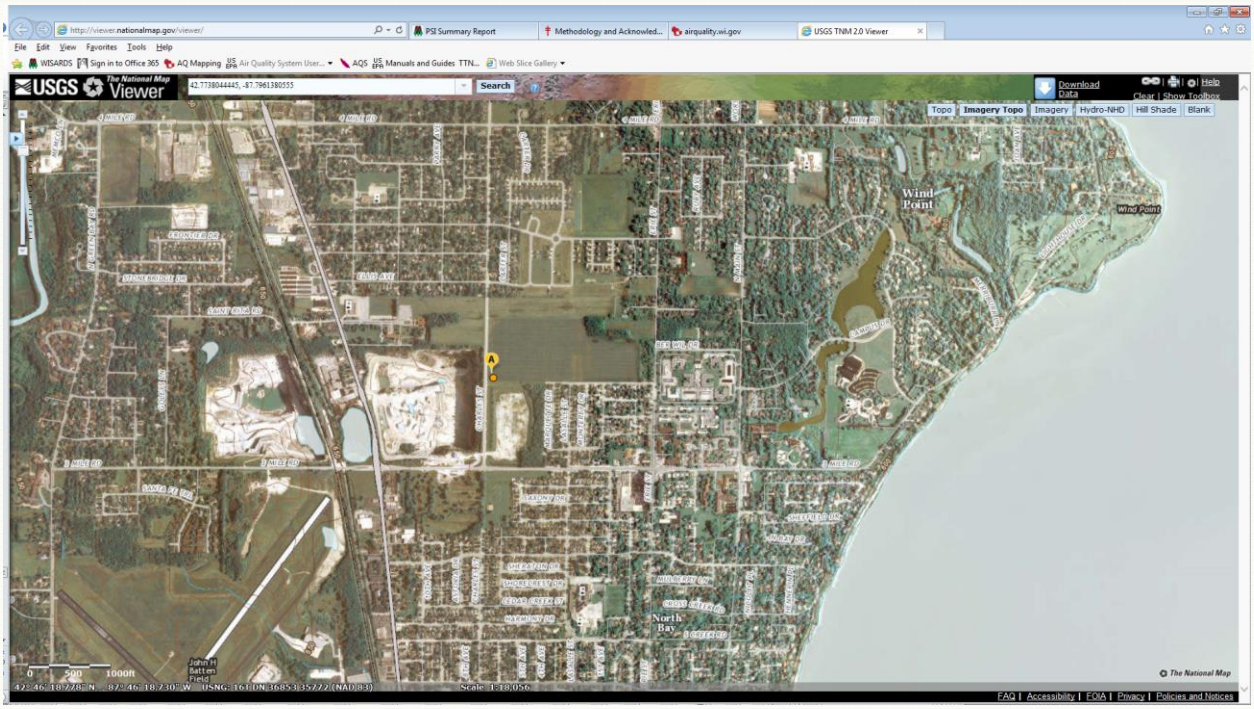
Monitoring Objective: Population Exposure. The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and to provide pollutant levels for daily air quality index reporting. The monitoring objective type is population exposure.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/13/15

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.



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Rhinelander Tower

AQS Site ID: 55-085-0996
Location: 434 High St.
County: Oneida
GPS coordinates: 45.64505, *-89.41848*
Date Established: 01/1/1981

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 Rhinelander Water Tower on Lake & High Streets. The sample inlet is 5 meters above ground level and 30.5 meters from nearest road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

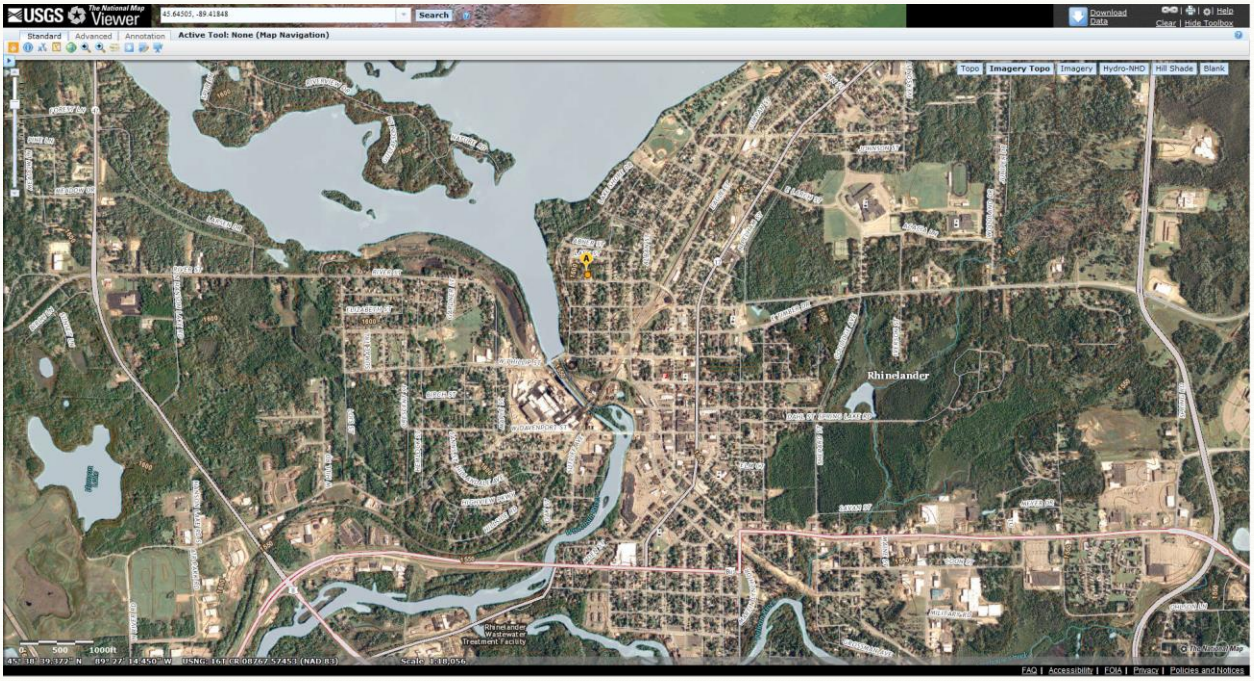
Monitoring Objective: Source Oriented. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of SO_2, is a SIP requirement and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Sulfur Dioxide	API SO_2	SLAMS	UV fluorescence	Continuous	04/14/1981
Sulfur Dioxide	API SO_2	SLAMS	UV fluorescence	Continuous – 5 min	01/03/2013
Wind Direction/ Speed	MetOne	SLAMS	Mechanical.	Continuous	04/26/1981

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

Area of Representativeness: This site represents source oriented monitoring on a neighborhood scale for SO_2.



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Sheboygan - Haven

AQS Site ID:	55-117-0009
Location:	N7563 Hwy 42
County:	Sheboygan
GPS coordinates:	43.81523, -87.79194
Date Established:	04/02/2014
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. The monitor began operation on April 14, 2014 and will operate as a special purpose monitor, pending approval from US EPA.

Locational Setting: This site is located at a rural setting. The sample inlet is 5 meters above ground level and 61 meters from nearest public road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

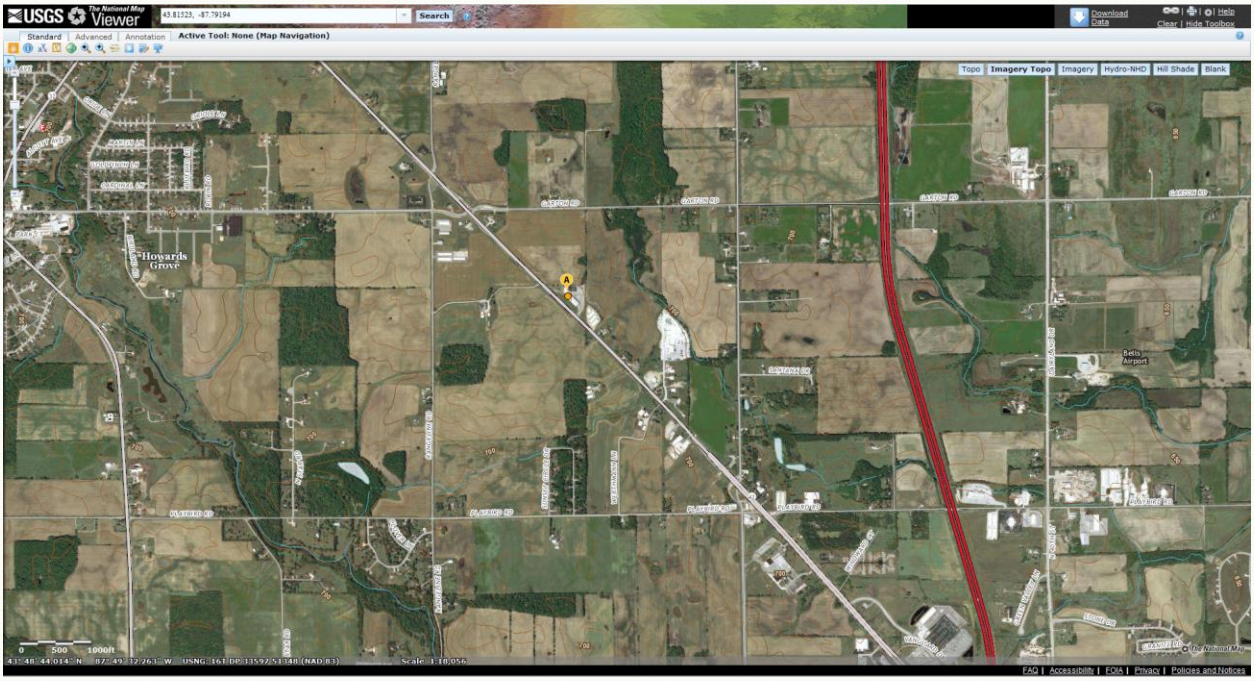
Monitoring Objective: Population exposure. The monitoring objectives are to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SPM	UV Photometry	Continuous	04/02/2014
Wind Direction/ Speed, Temperature	Meteorological Met-One	SPM	Mechanical	Continuous	04/14/2014

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.



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Sheboygan – Kohler Andre State Park

AQS Site ID: 55-117-0006
Location: Nature Center of Kohler-Andre State Park, 1520 Beach Park Rd.
County: Sheboygan
GPS coordinates: 43.679, -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 6.4 meters above ground level and 482 meters from nearest service road and 747 meters from nearest public road. The site meets the requirement of 40 CFR 58, Appendices C, D, E and G.

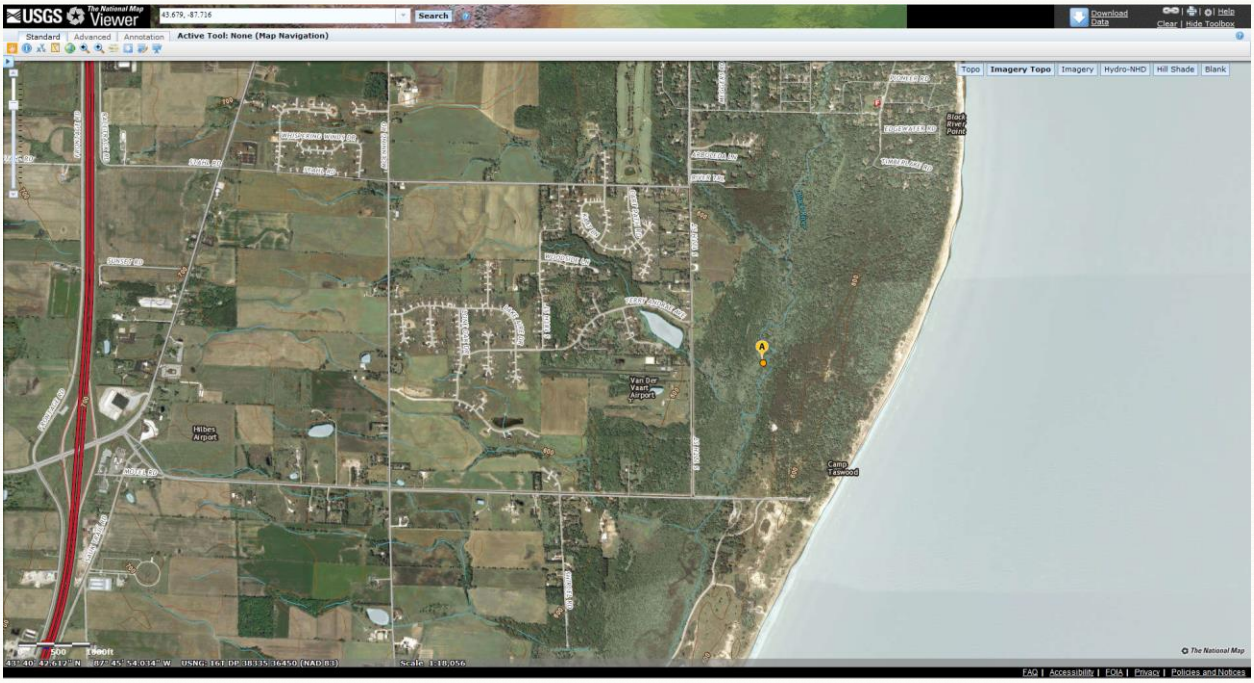
Monitoring Objective: Regional transport. The monitoring objectives are to determine compliance with NAAQS to detect elevated pollutant levels of Ozone and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	06/26/1997
Wind Direction/ Speed, Temperature	Meteorological Met-One	SLAMS	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 regional transport on a regional scale for ozone.



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Spooner (Operated by US Forest Service beginning in March 2014)

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

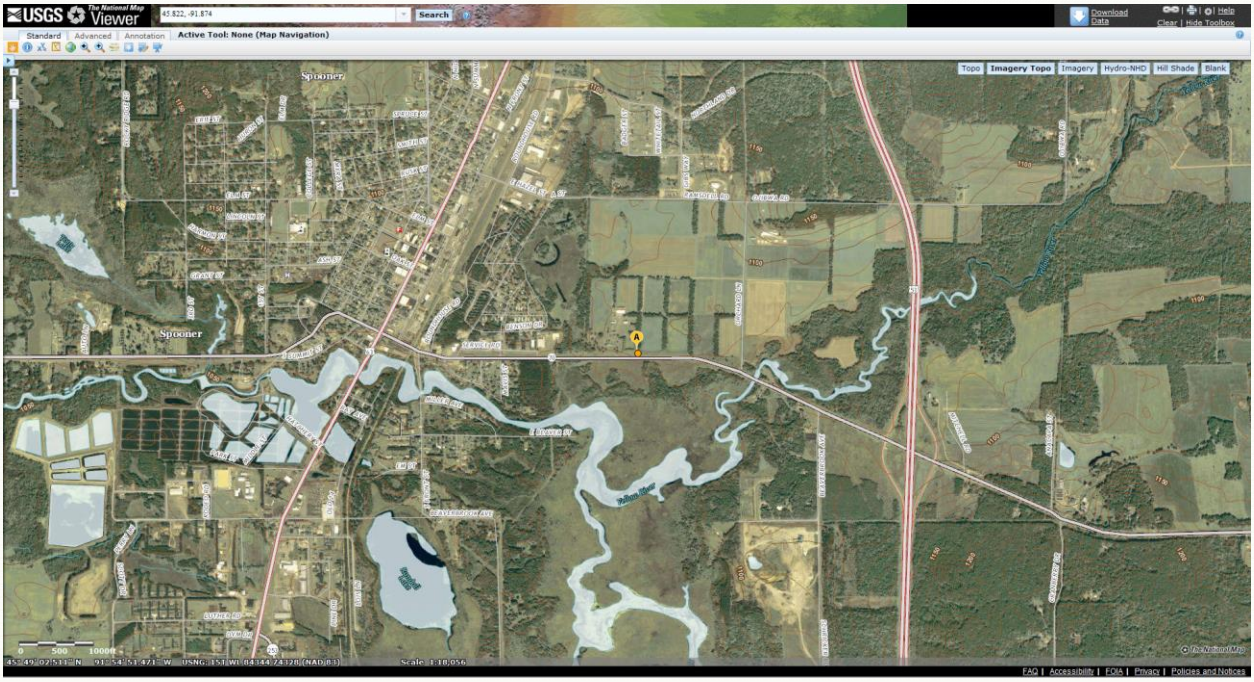
Locational Setting: This site monitors National Atmospheric Deposition Program, National Trends Network.

Monitoring Objective: The objectives of the NTN are to measure precipitation chemistry nationwide.

Monitors: Wet Deposition

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

Area of Representativeness: Regional background



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Superior - STP

AQS Site ID: 55-031-0019
Location: 107 Moccasin
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.

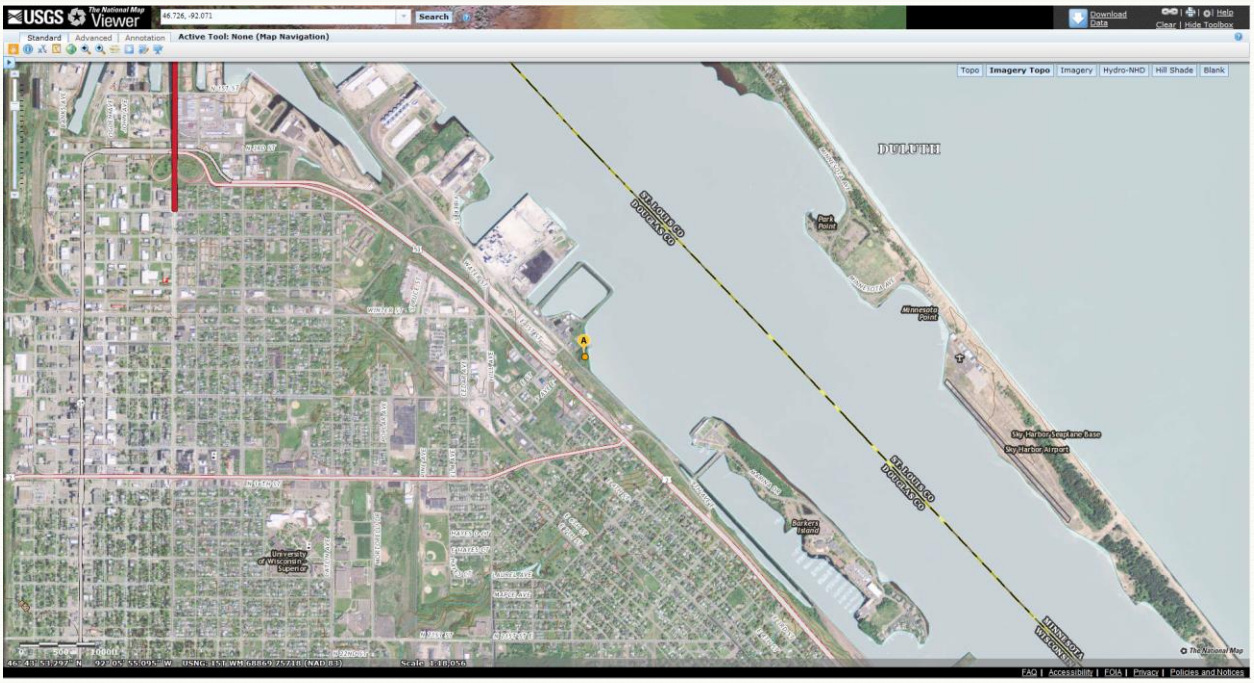
Monitoring Objective: Source oriented. This site supports permit-required monitoring for particles for multiple sites in the waterfront area.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Wind Direction/Speed Temperature	Met One	Other	Mechanical	Continuous	10/02/1980

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

Area of Representativeness: Source on a neighborhood scale.



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Trout Lake

AQS Site ID: 55-125-0001
Location: 10810 County Hwy M
County: Vilas
GPS coordinates: 46.052, -89.653
Date Established: 01/01/1973

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 inlets are 3.2 ($PM_{2.5}$) and 116.8 (Ozone) 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: 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:

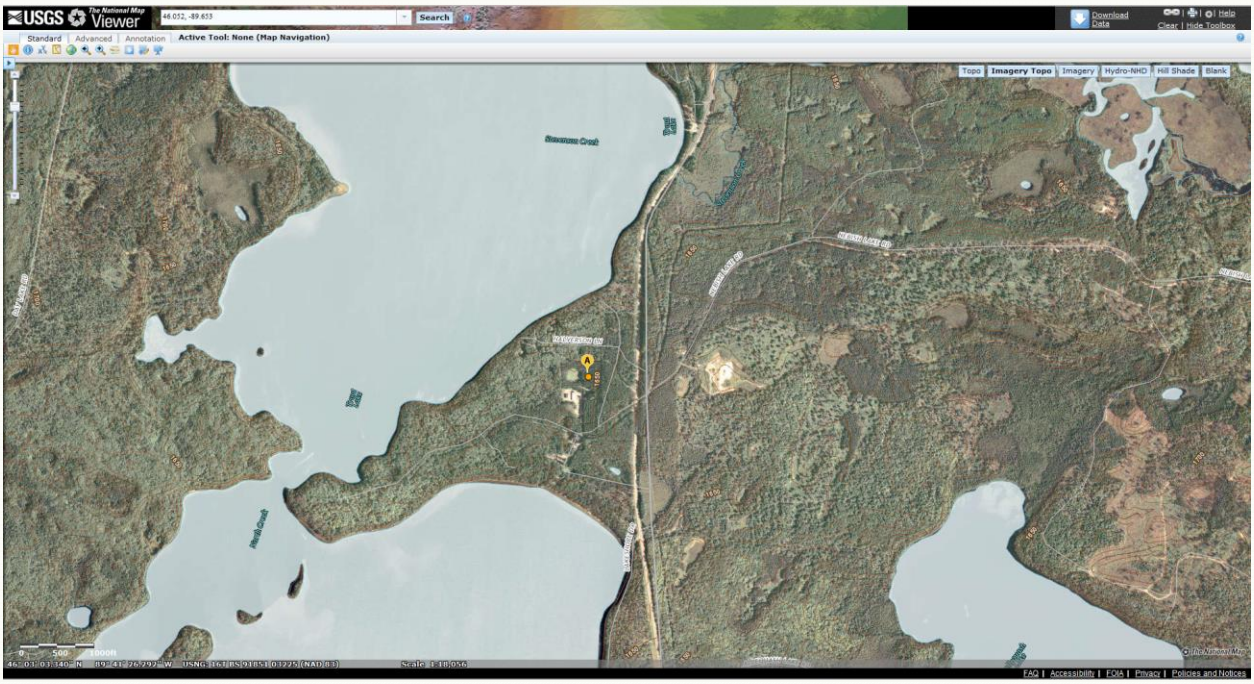
Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	12/16/1992
$PM_{2.5}$	R&P 2025	SLAMS	Gravimetric	1 in 6	01/01/1999

Mercury Deposition Network
National Trends 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 general/background on a regional scale for

ozone and $PM_{2.5}$.



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Waukesha - Cleveland Avenue

AQS Site ID: 55-133-0027
Location: 1310 Cleveland Ave.
County: Waukesha
GPS coordinates: 43.020107, -88.215027
Date Established: 02/03/1989

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 inlets are 5 - 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.

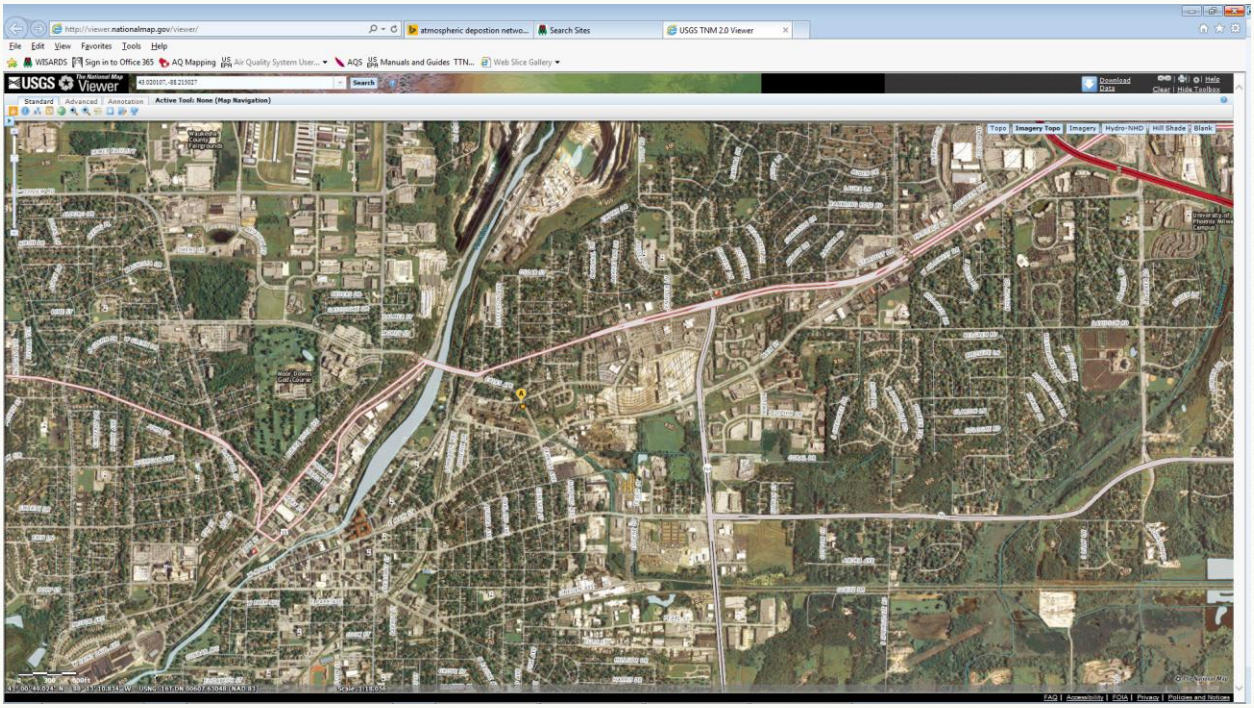
Monitoring Objective: Population exposure. The monitoring objectives are to determine compliance with NAAQS, to detect elevated pollutant levels of ozone, and $PM_{2.5}$ and to provide pollutant levels for daily air quality index reporting.

Monitors:

Monitor	Monitor Equipment	Monitor Type	Analysis Method	Sampling Frequency	Monitor Established
Ozone	Teledyne API	SLAMS	UV Photometry	Continuous	04/27/2004
Acceptable $PM_{2.5}$ AQI & Speciation Mass	Met One BAM-SCC	SLAMS	Beta Attenuation	Continuous	09/26/2011
$PM_{2.5}$	R&P 2025 FRM	SLAMS	Gravimetric	1 in 3	01/01/1999
$PM_{2.5}$ Species	Met One Speciation	SLAMS	Gravimetric	1 in 6	01/01/1998
PM_{10}	Anderson HI-VOL	SLAMS	Gravimetric	1 in 6	02/03/1989
Wind Speed/Direction. Temperature	Met One Meteorological	SLAMS	Mechanical	Continuous	03/17/2004

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.



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Appendix A: Industrial Sites*

AQS Site ID	County	Facility	Pollutants
55-005-1001	Barron	Superior Silica Sands - New Auburn	PM_{10}
55-005-1002	Barron	Great Northern Sand	PM_{10}
55-005-1003	Barron	Superior Silica Sands – Barron Plant	PM_{10}
55-005-1004	Barron	Chieftain Sand	PM_{10}
55-005-1005	Barron	Superior Silica Sands – Thompson Hills	PM_{10}
55-005-1006	Barron	Superior Silica Sands – Arland	PM_{10}
55-017-0100	Chippewa	EOG - Canadian Sands	PM_{10}
55-017-1001	Chippewa	Chippewa Sand Co	PM_{10}
55-031-0011	Douglas	Midwest Energy	TSP
55-031-0014	Douglas	Midwest Energy	TSP
55-031-0023	Douglas	BNSF-Railroad	TSP
55-031-0027	Douglas	Midwest Energy	TSP
55-031-0035	Douglas	Cenex Harvest States	TSP
55-031-0036	Douglas	Cenex Harvest States	TSP
55-031-1038	Douglas	Midwest Energy	TSP
55-053-1001	Jefferson	Taylor Frac	PM_{10}
55-081-1001	Monroe	Will Logistics dba Smart Sands	PM_{10}
55-081-1002	Monroe	US Silica	PM_{10}
55-081-1003	Monroe	Unimin - Curran Site #1	PM_{10}
55-081-1004	Monroe	Unimin - Rouse Site #2	PM_{10}
55-081-1005	Monroe	Unimin - Basin Site #3	PM_{10}
55-121-1001	Trempealeau	Preferred Sands	PM_{10}
55-121-1002	Trempealeau	Hi-Crush-Whitehall	PM_{10}
55-133-0039	Waukesha	MetalTek International Wisconsin Centrifugal	PM_{10}

* Industrial monitoring sites may start up or shut down in 2015-2016 as warranted by permits issued/updated and variances granted.

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Appendix B: Methods Summaries

Particulate Matter 10 microns in size, PM_{10} FRM samplers 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 four continuous monitors at three sites that determines hourly concentrations using a beta attenuation monitor.

Particulate Matter 2.5 microns in size ($PM_{2.5}$) 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 (µg/m3).

$PM_{2.5}$ Continuous Sampling (non-FEM) Continuous $PM_{2.5}$ samplers provide hourly average sample concentrations for AQI reporting. The continuous fine particle samplers operated by the Air Monitoring Program are Beta Attenuation Monitors (BAMs). Data are transmitted by telemetry for entry into the automated central data acquisition system (WISARDS).

$PM_{2.5}$ Speciation sampling and analysis In addition to operating $PM_{2.5}$ samplers that determine only $PM_{2.5}$ mass values, WDNR also operates $PM_{2.5}$ speciation samplers that collect samples that are analyzed to determine the chemical composition of $PM_{2.5}$. 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 method. 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 at 4.5 ppm using a gas standard and dilution system.

Ozone Ozone is monitored using the UV photometry method. 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 method is 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_{10} (Pb-PM_{10}) low-volume for limited situations where it will be permitted, (3) lowered the Pb concentration range required during Pb-TSP and Pb-PM_{10} 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 mercury 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 350 sites are in operation nationwide.

Air Toxics Air toxic pollutants are determined in four categories: metals, volatile organic compound (VOC), semi volatile organic compounds (SVOC) and carbonyls.

- Metal samples are collected as either PM_{10} or TSP using high volume air sampling methods. Filter used include quartz (PM_{10}) and glass fiber filters (TSP). The entire 8" by 10" 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 ($\mu g/m^3$). After weighing the filter is sectioned and a $1/24^{th}$ piece is digested and then analyzed by inductively coupled plasma/mass spectrometer analysis to determine the concentration of metals in ng/m^3.
- Volatile organic Compounds (VOC) are collected as whole air samples in passivated stainless steel canisters. At the laboratory, an aliquot is removed from the canister, concentrated and then analyzed by gas chromatography with mass selective detection. VOCs are typically reported in units of ppb (parts per billion).
- Semivoltaile organic Compounds (SVOC) are collected using high volume air sampling on a PS-1 sampler. The sampling media include a 100mm circular quartz filter backed by polyurethane foam plug. The plug may also be split to sandwich a layer of adsorbent resin. At the laboratory the media is solvent extracted with a soxhlet apparatus. The extract is cleaned and concentrated and analyzed by gas chromatography. Detection is with either a mass selection detector or with an electron capture detector. SVOCs are typically reported in units of ng/m3.
- Carbonyls are collected on commercially prepared silica gel cartridges impregnated with diphenylhydrazine (DNPH). At the laboratory the cartridges are solvent extracted with acetonitrile and the extract is analyzed by high performance liquid chromatography. Detection is with UV spectrophotometry. Carbonyls are typically reported in units of ug/m3.

Wisconsin State Laboratory of Hygiene Division for Environmental Services (DES) is the main analysis laboratory for Wisconsin's air toxics monitoring program.

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 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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