

Wisconsin Department of Natural Resources

Wisconsin Air Quality Trends by County

2001-2017

Publication Date: November 2018

Publication Number: AM-566 2018



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Acronyms and Abbreviations

TABLE 1. Acronyms and abbreviations used in this report

Term	Definition
CO	Carbon monoxide
DNR	Wisconsin Department of Natural Resources
EPA	U.S. Environmental Protection Agency
hr	Hour
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen dioxide
PM _{2.5}	Fine particles (particles 2.5 micrometers or smaller in size)
PM ₁₀	Inhalable particles (particles 10 micrometers or smaller in size)
ppb	Parts per billion
ppm	Parts per million
SO ₂	Sulfur dioxide
µg/m ³	Microgram per cubic meter

Air Quality by County

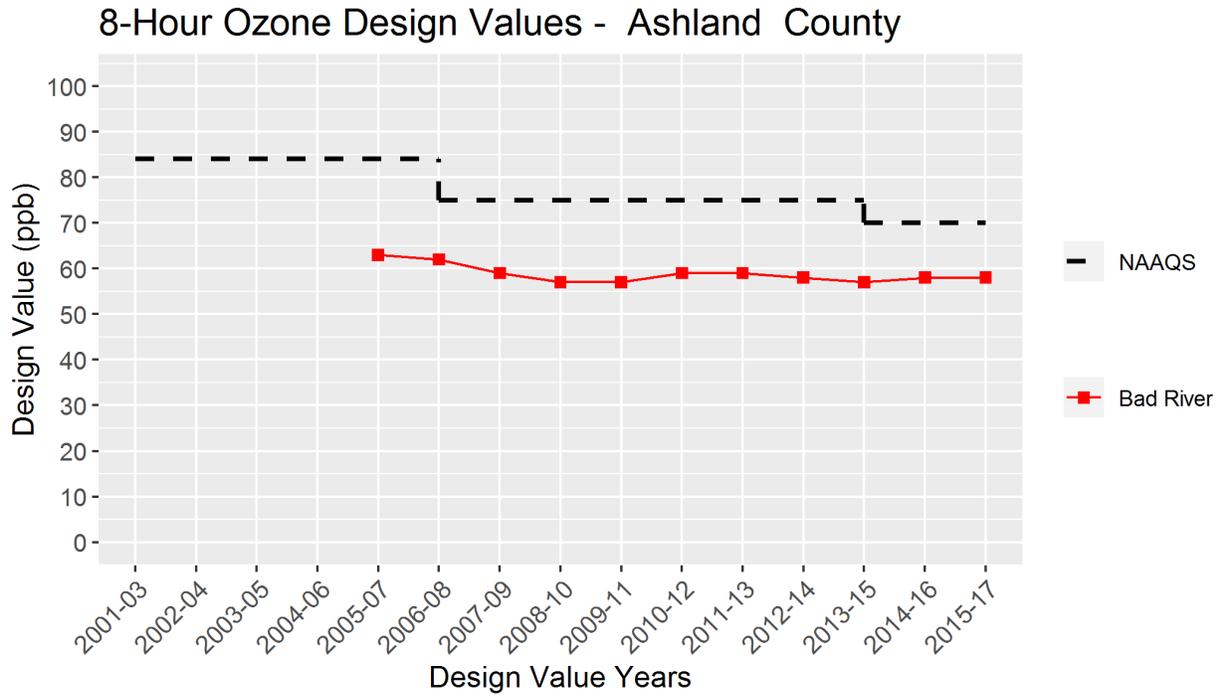
This document is a companion to the [Wisconsin Air Quality Trends Report for 2001-2017](#) (AM-564 2018). The Trends Report provides an introduction to National Ambient Air Quality Standards (NAAQS) and the associated criteria pollutants, emissions data for criteria pollutants and their precursors, and regional or statewide air quality trends compared to the NAAQS. This document (i.e., Trends by County) presents more localized, county-level graphs of air quality trends by pollutant compared to the NAAQS.

Pollution concentrations shown in graphs in this document are design values. Design values are used to assess compliance with the NAAQS and are based on data collected over long periods. Usually, design values are averages of annual values to ensure that typical pollutant concentrations are represented, rather than isolated spikes in concentrations. Design values are published annually on [EPA's Air Quality Design Values webpage](#) in late summer for data through the end of the previous year. More information about the calculation of design values, including examples, can also be found in the [Trends Report](#).

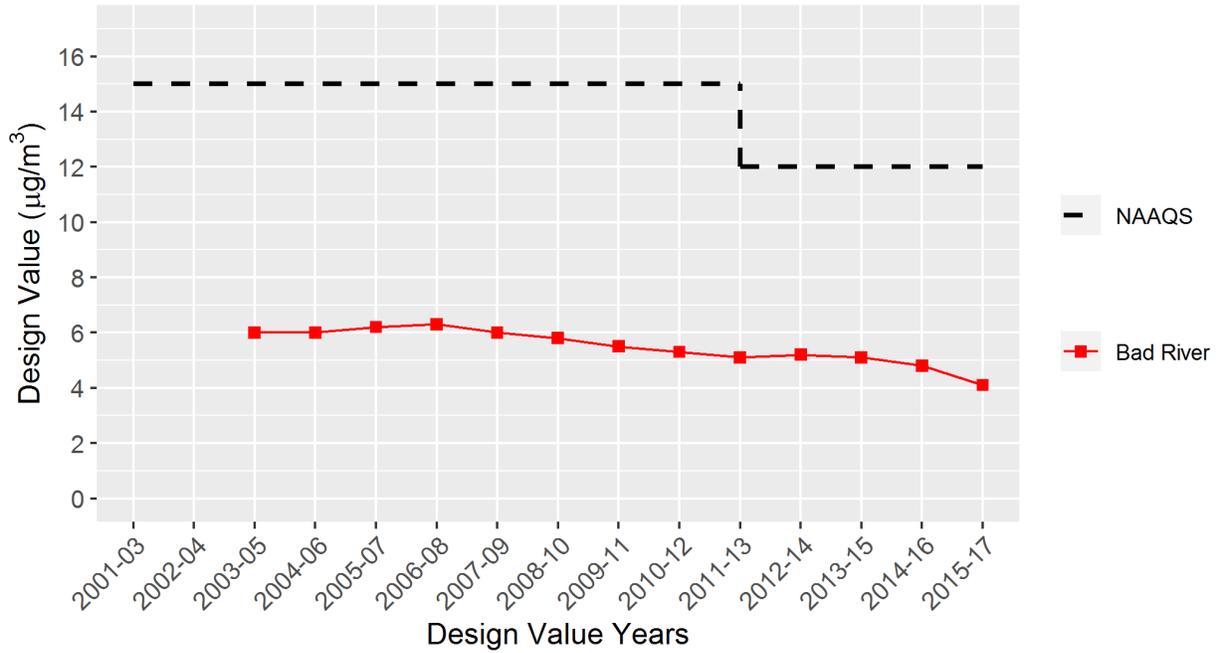
The data presented in this document and in the Trends Report are for pollutants that are currently monitored at active ambient air monitoring sites operated by the Wisconsin Department of Natural Resources (DNR) or tribal partners. If data are not shown for a particular design-value period, it is because the design value was not valid, most often due to data-completeness issues.

Ashland County

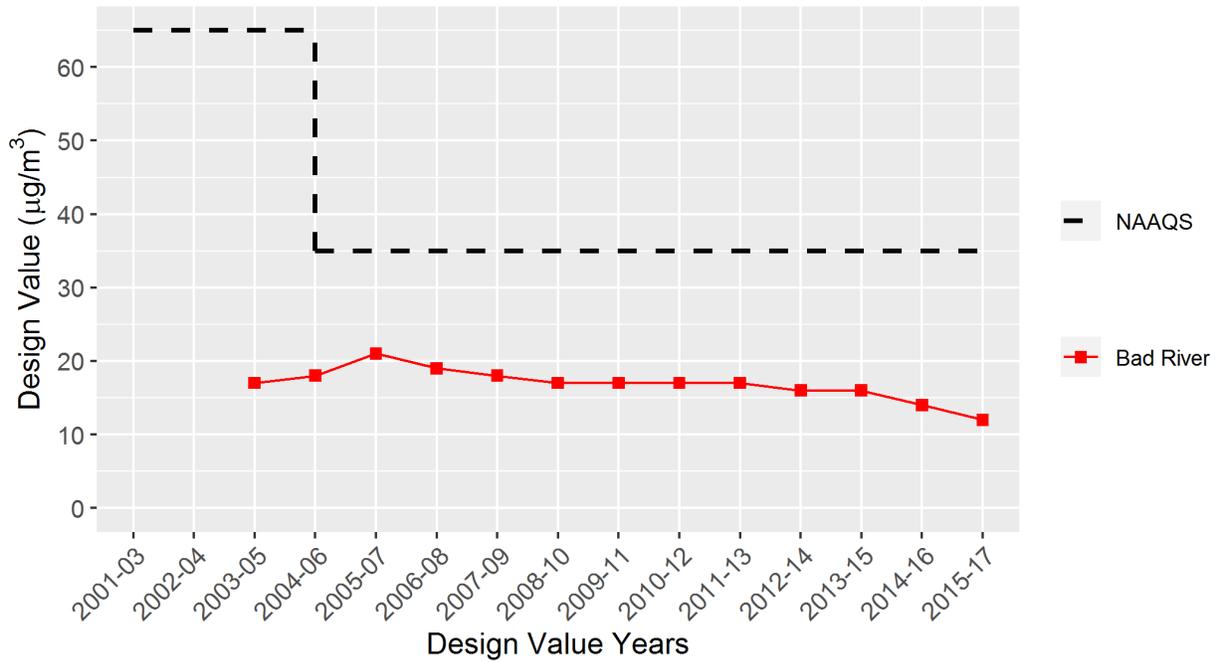
Monitoring for ozone and PM_{2.5} is conducted by the Bad River Tribe at the Bad River Tribal School, which is located at 10 Birch Street in Odanah.



Annual PM2.5 Design Values - Ashland County



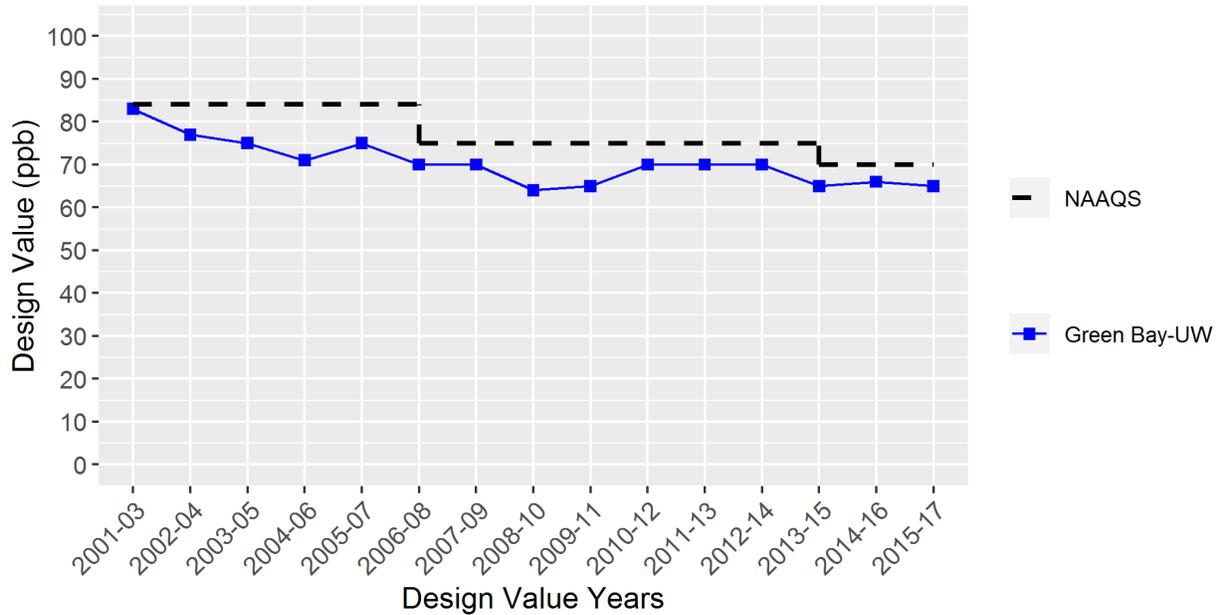
24-Hour PM2.5 Design Values - Ashland County



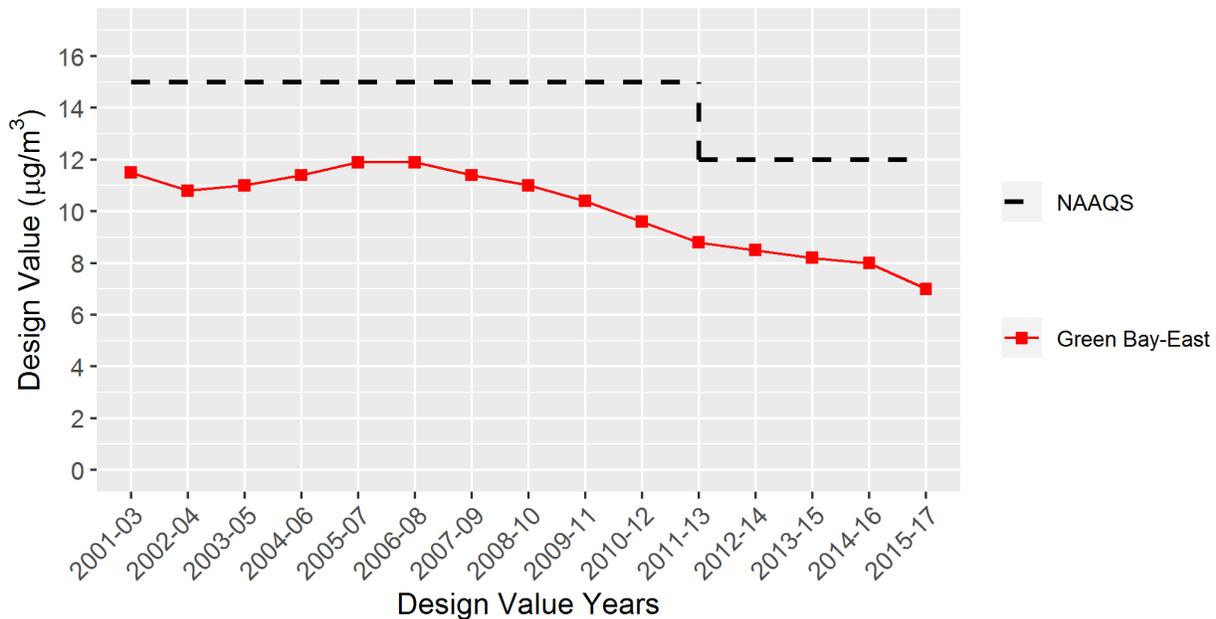
Brown County

Ozone monitoring in Brown County takes place north of Highways 54 and 57 east of the University of Wisconsin–Green Bay campus. Monitoring for PM_{2.5} and SO₂ is conducted at Green Bay East High School, located at 1415 East Walnut Street.

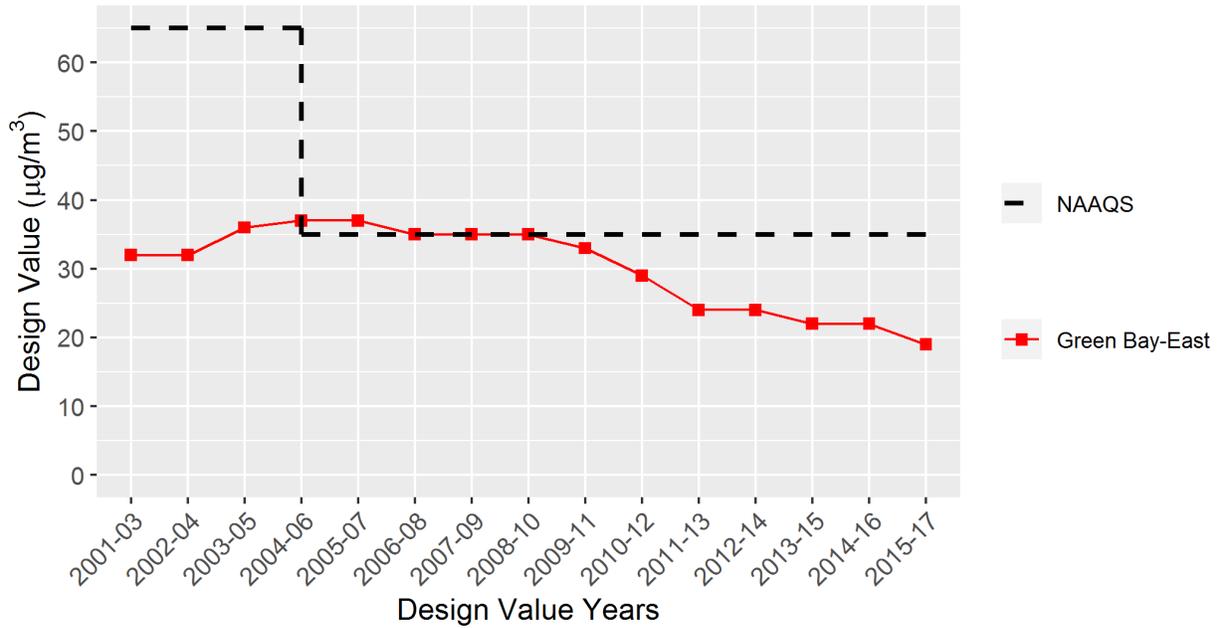
8-Hour Ozone Design Values - Brown County



Annual PM_{2.5} Design Values - Brown County



24-Hour PM2.5 Design Values - Brown County



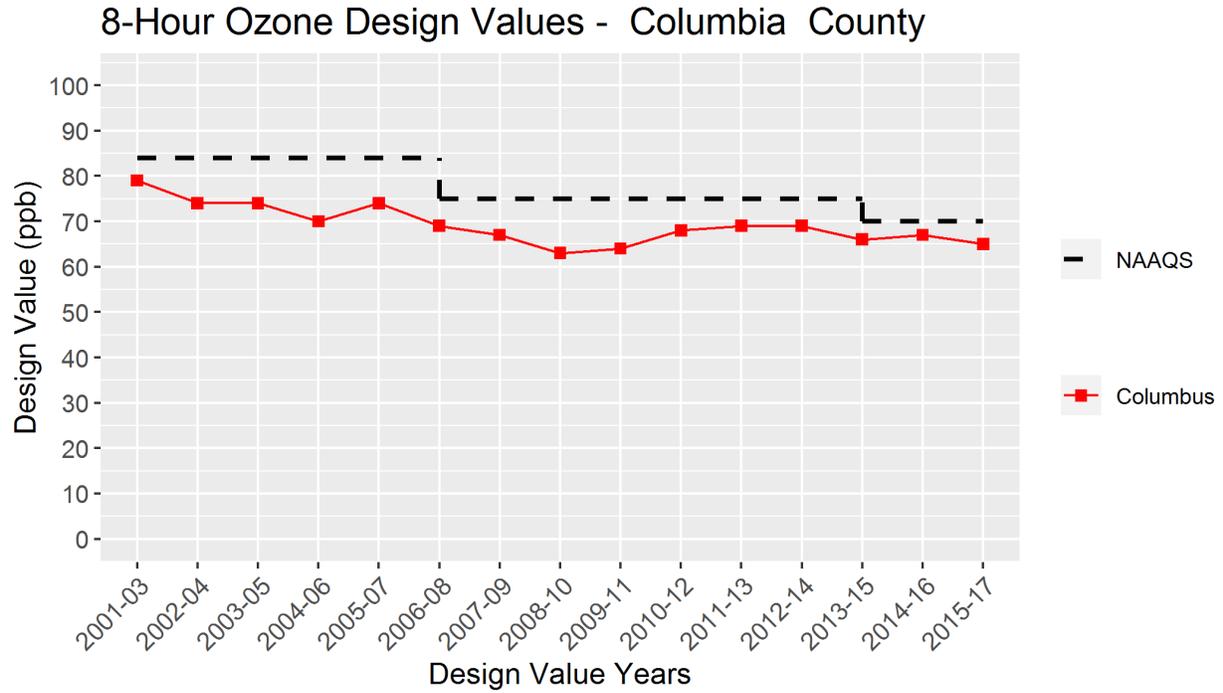
1-Hour SO2 Design Values* - Brown County



*In 2010, EPA established a 1-hr SO₂ standard that replaced the previous annual and 24-hr standards.

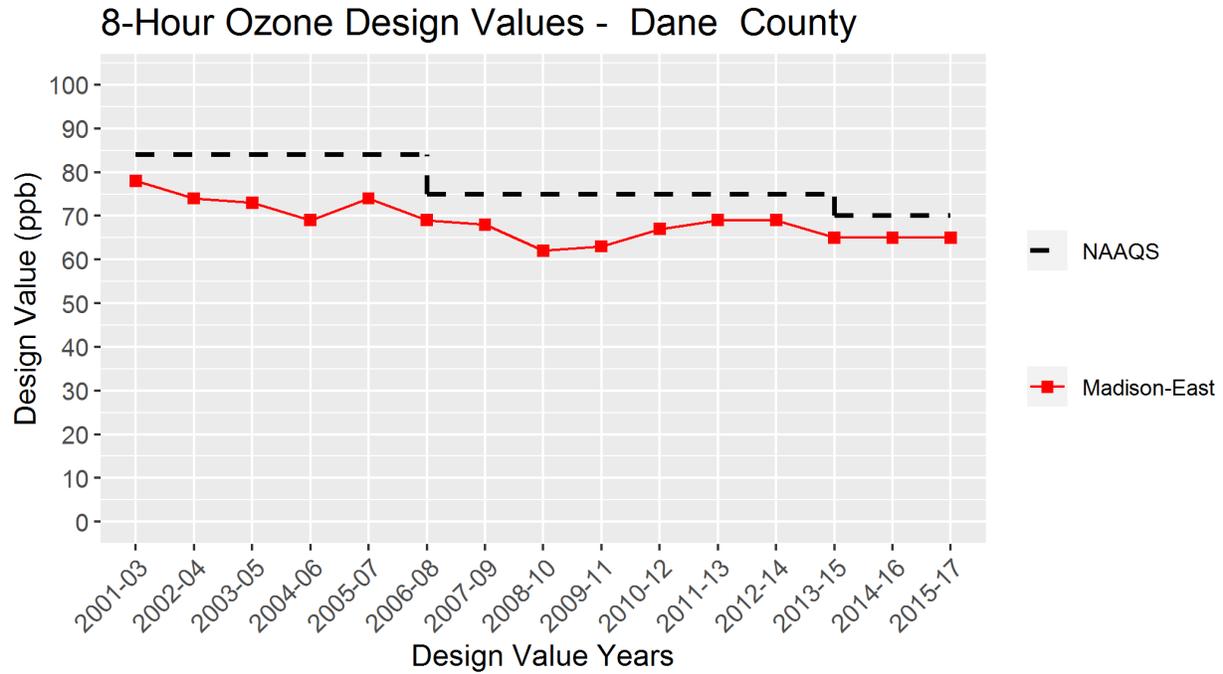
Columbia County

Ozone monitoring in Columbia County takes place at N 1045 Wendt Road, a rural location in Columbus Township. This location serves as the downwind ozone site in the Madison Core Based Statistical Area.

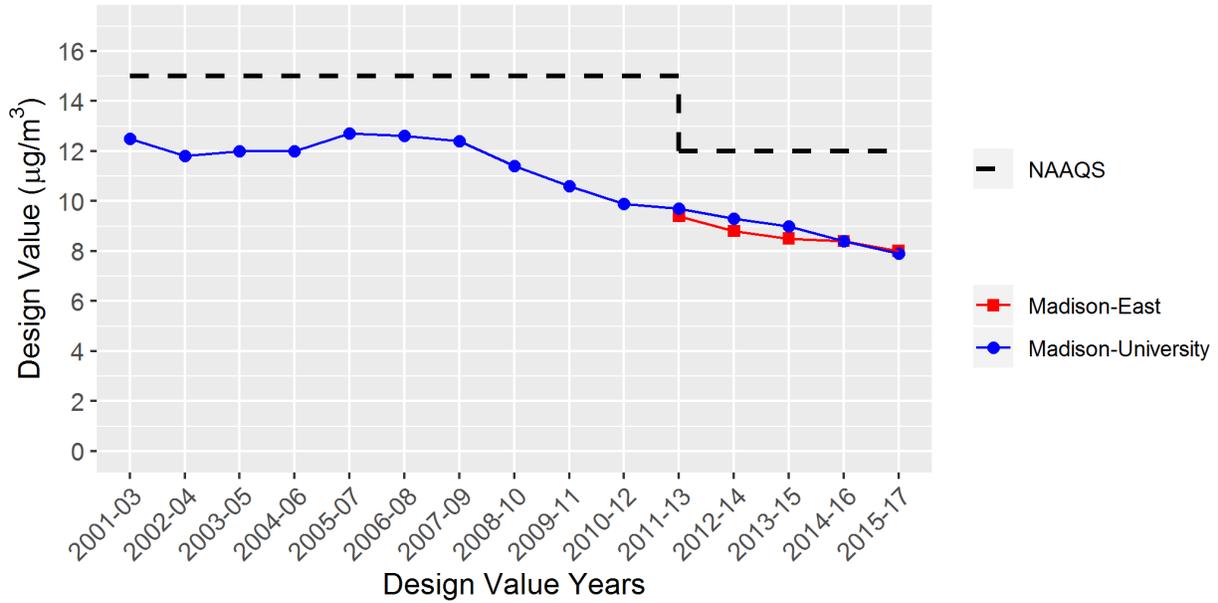


Dane County

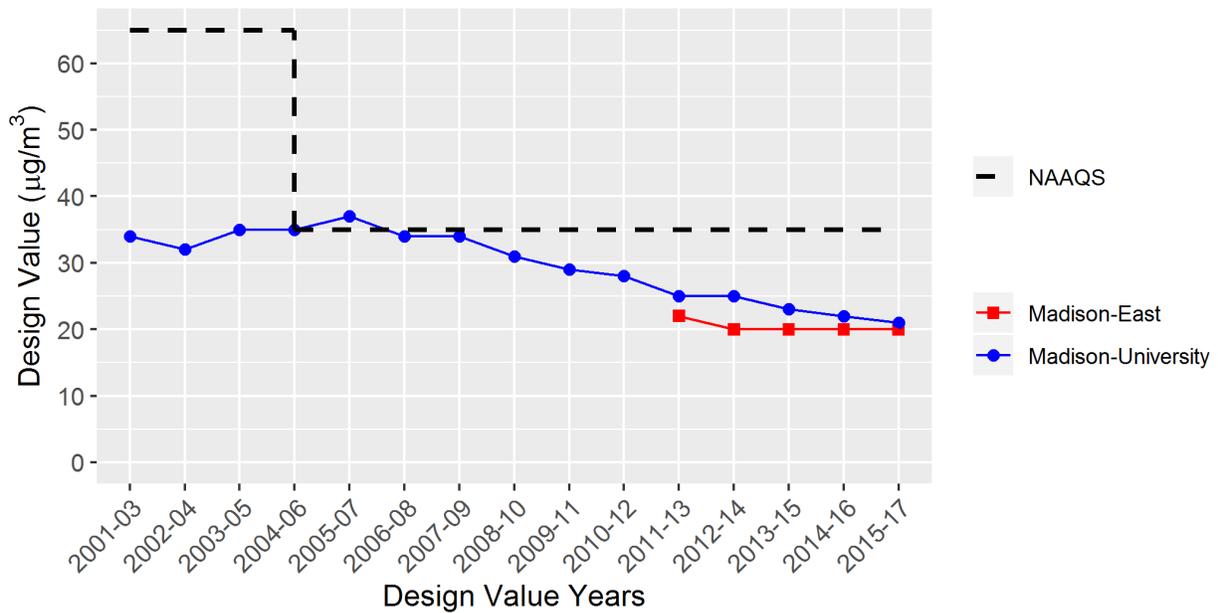
Ozone monitoring in Dane County takes place at Madison East High School, located at 2302 North Hoard Street, next to the Madison East High School sports field. Fine particles are monitored at both the Madison-East site and the Madison-University Avenue site, located at 2757 University Avenue. Monitoring of PM₁₀ takes place at the Madison-University Avenue site. Sulfur dioxide monitoring restarted at the Madison-East site in 2013.

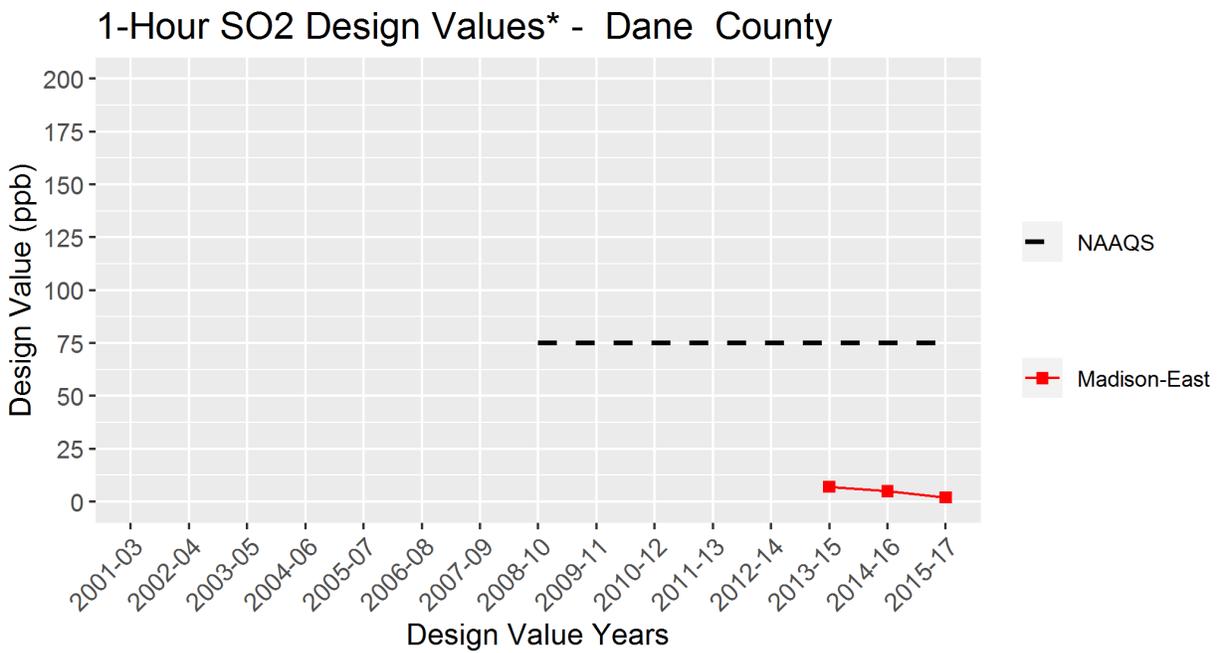
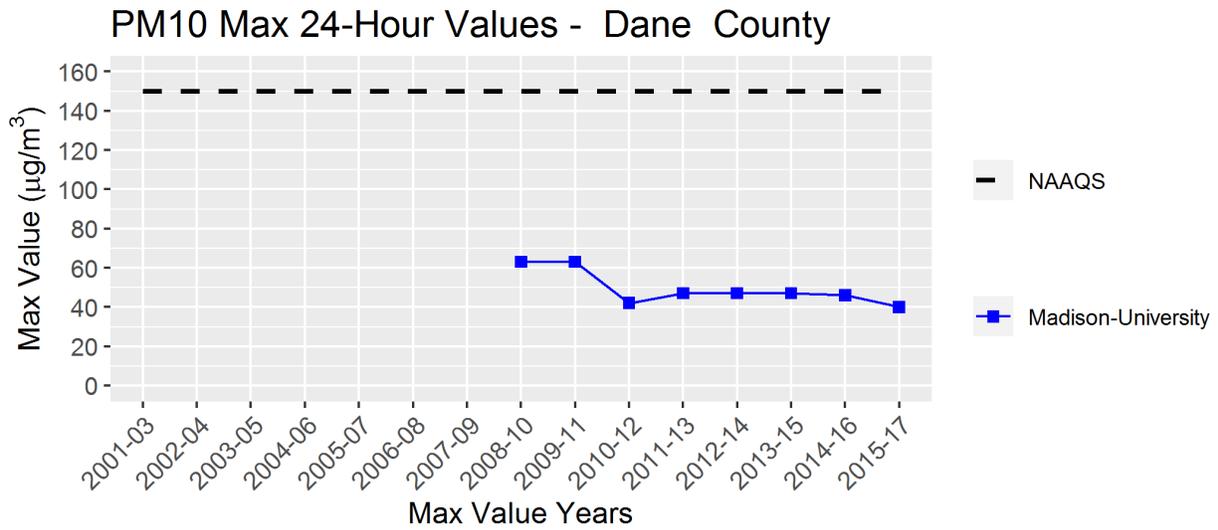


Annual PM2.5 Design Values - Dane County



24-Hour PM2.5 Design Values - Dane County

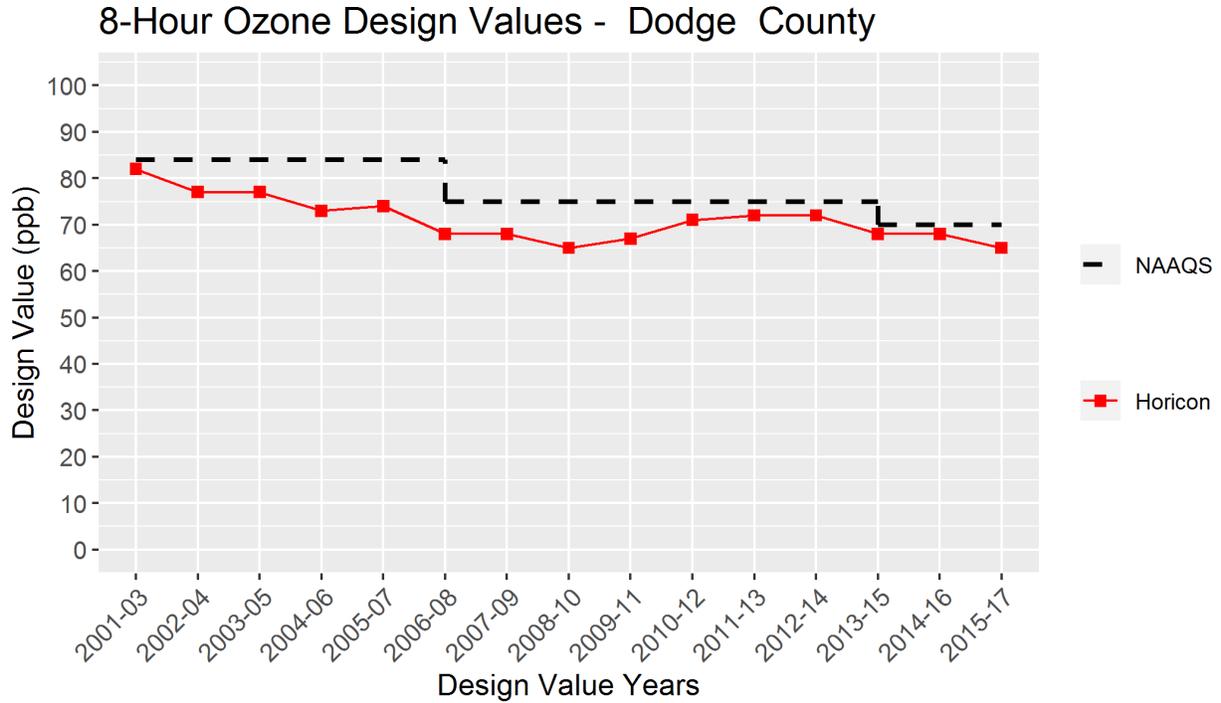




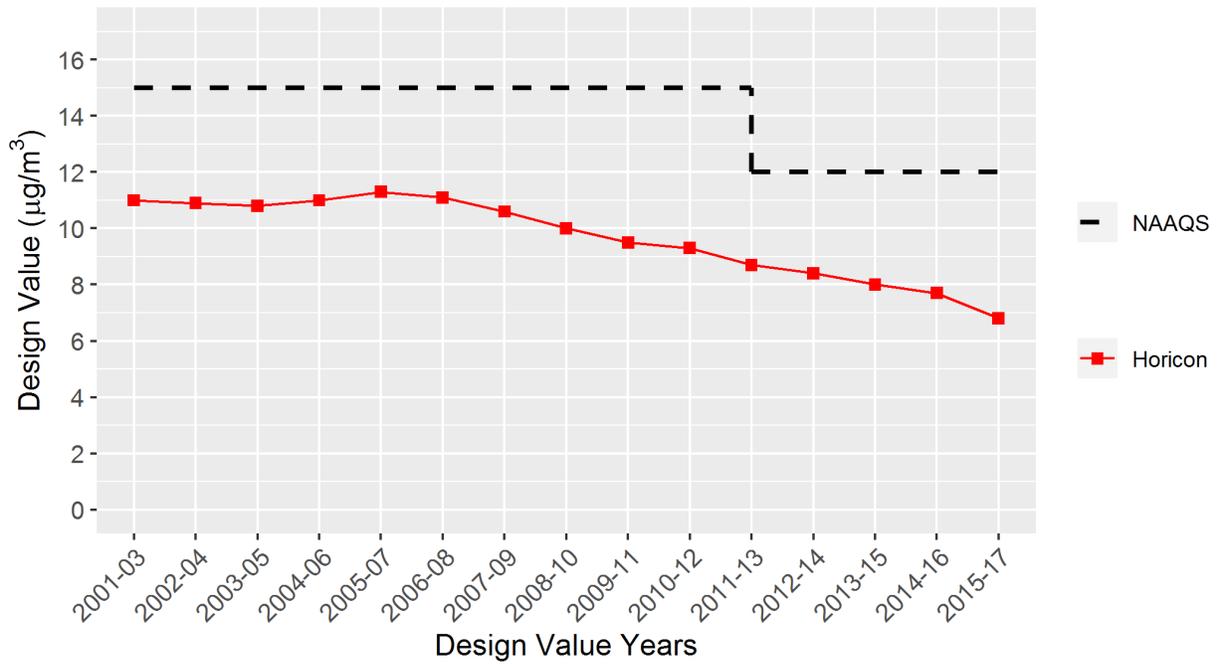
*In 2010, EPA established a 1-hr SO₂ standard that replaced the previous annual and 24-hr standards.

Dodge County

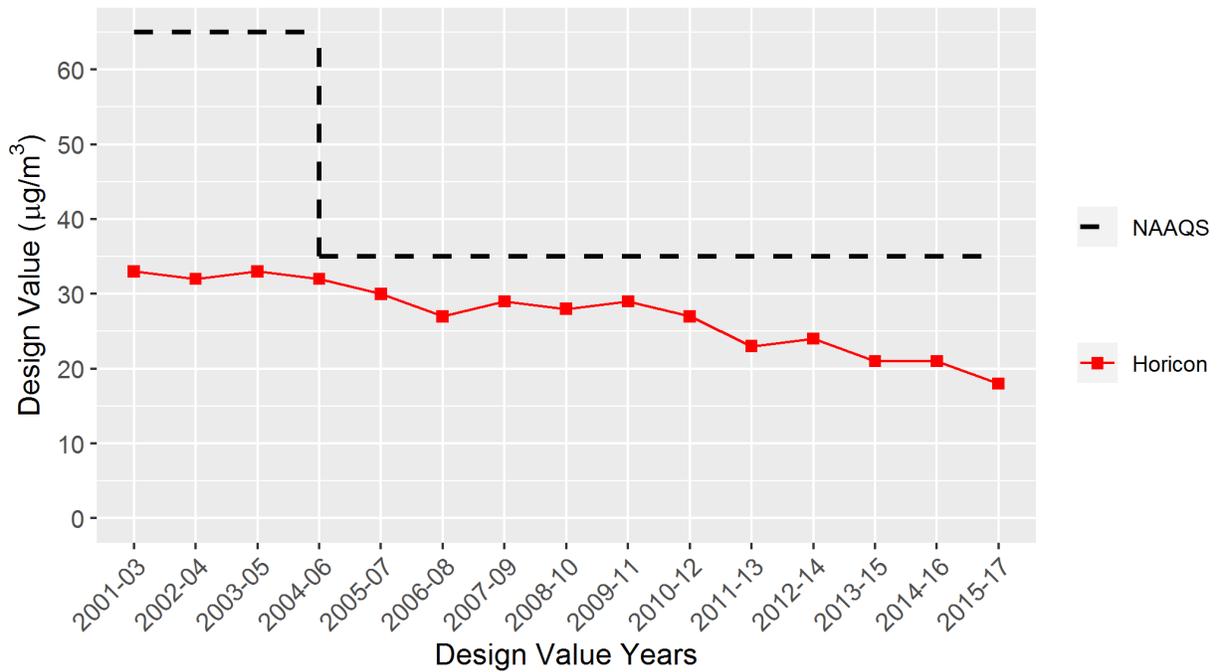
Monitoring for ozone, PM_{2.5}, PM₁₀, SO₂, and CO in Dodge County is conducted at the Horicon Wildlife Area, located at 1210 North Palmonary Street. The Horicon site began sampling for ozone on January 22, 2010 and for 24-hr PM_{2.5} on December 18, 2009. Prior to these dates, sampling in Dodge County was performed at a site near Mayville. Data from both sites are used to calculate design values for 2008-2010, 2009-2011, and 2010-2012.

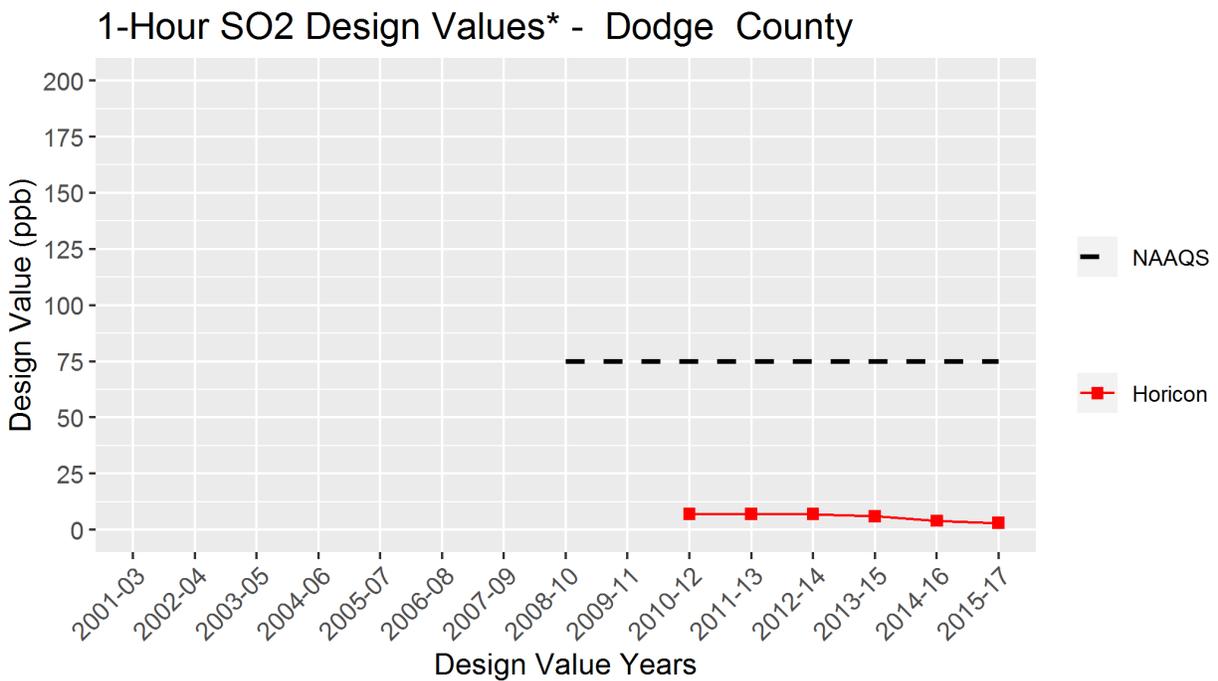
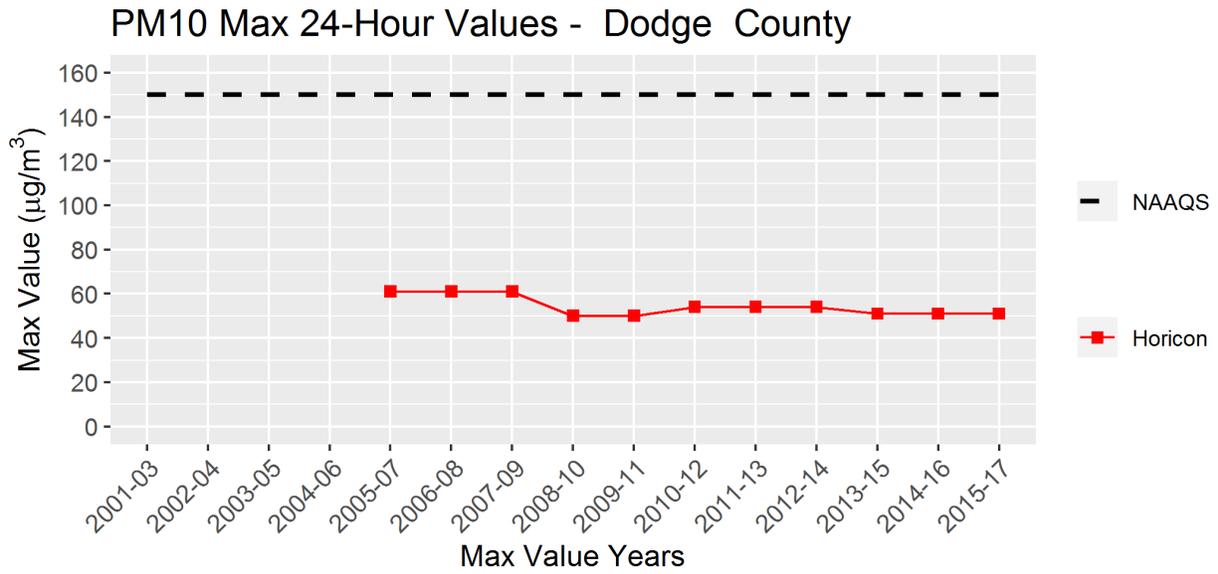


Annual PM2.5 Design Values - Dodge County



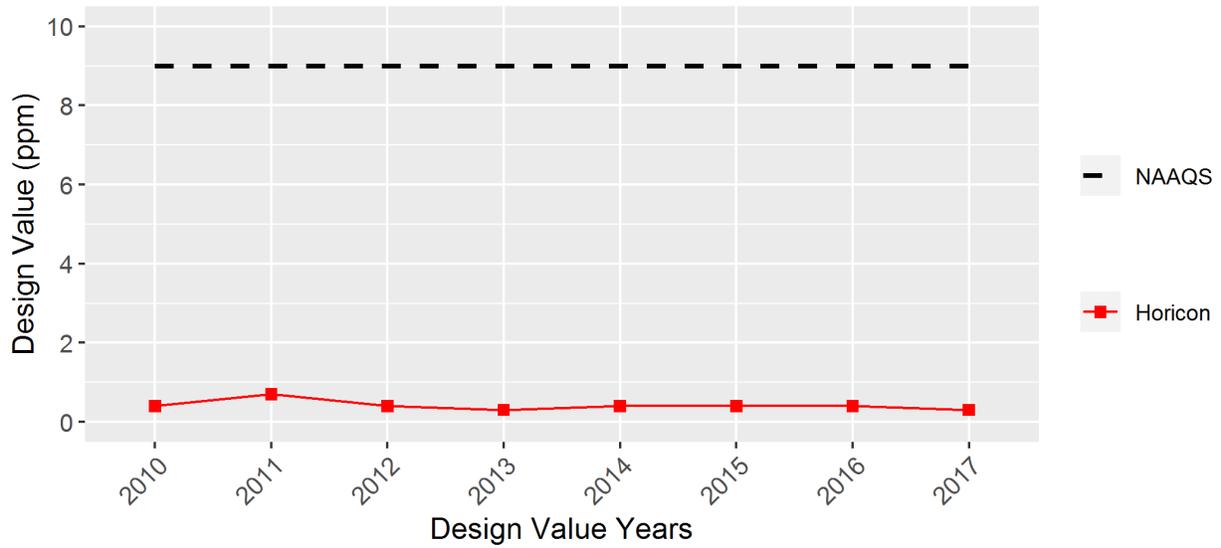
24-Hour PM2.5 Design Values - Dodge County



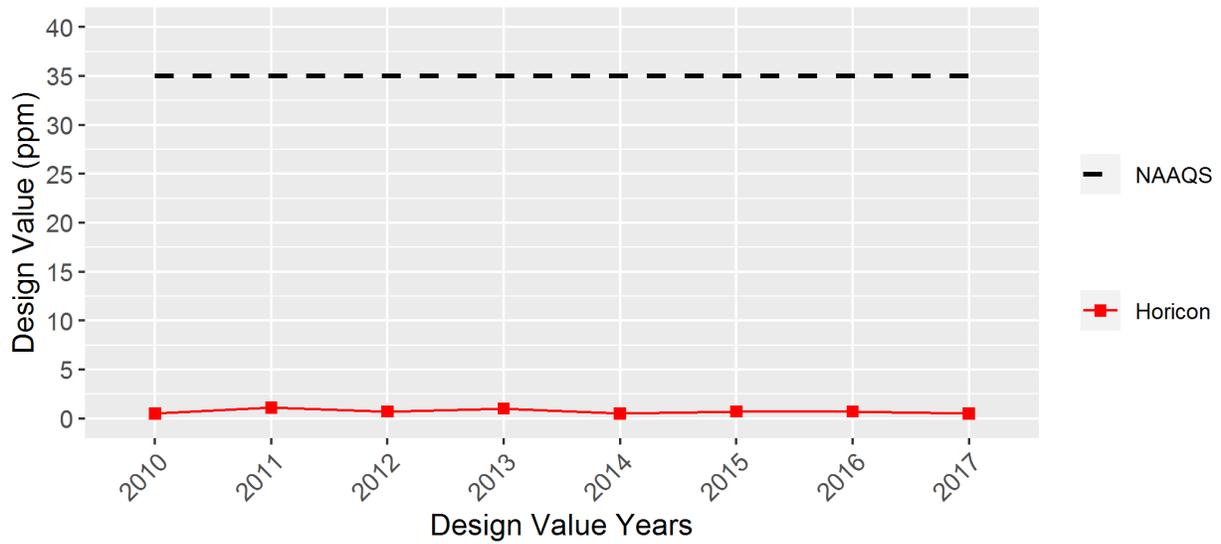


*In 2010, EPA established a 1-hr SO₂ standard that replaced the previous annual and 24-hr standards.

8-Hour CO Design Values - Dodge County



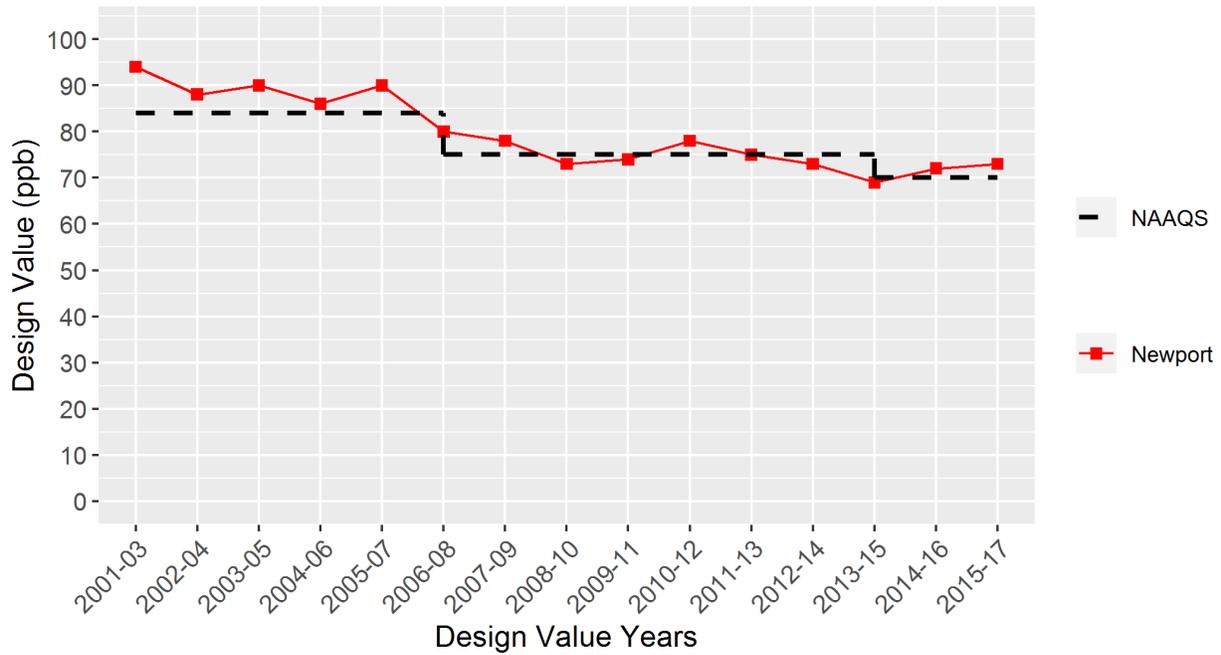
1-Hour CO Design Values - Dodge County



Door County

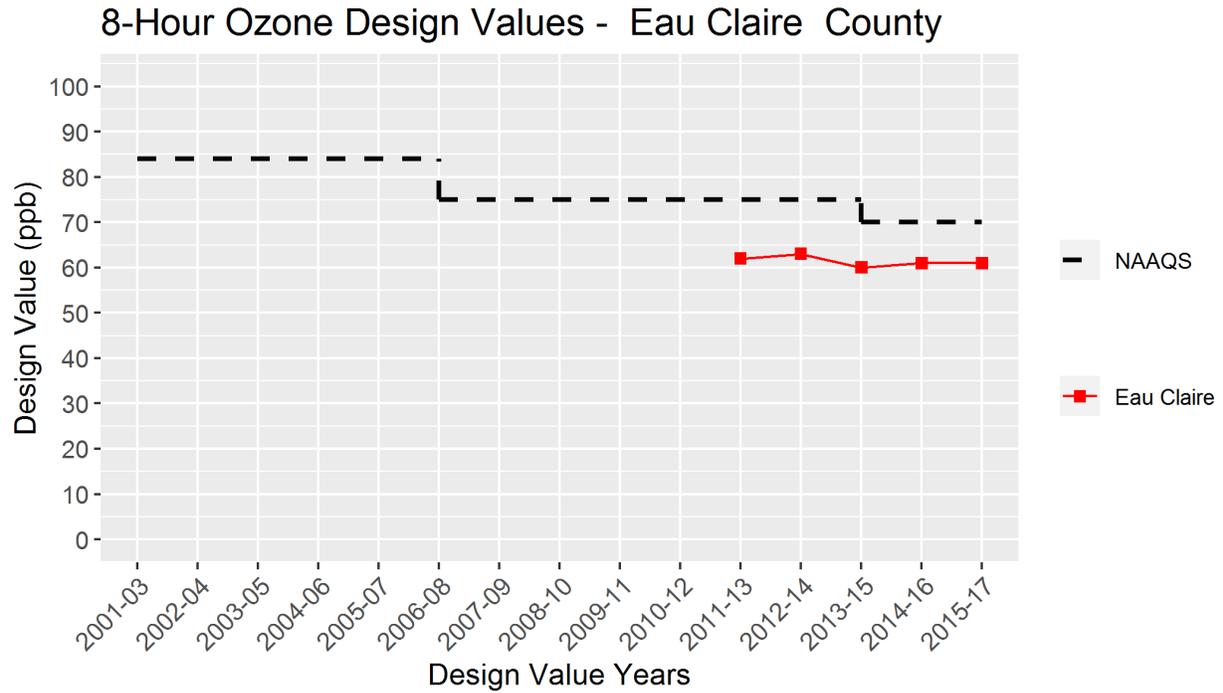
Ozone monitoring in Door County takes place at Newport State Park at 475 County Trunk Highway NP in Ellison Bay. The site is located inside the state park.

8-Hour Ozone Design Values - Door County

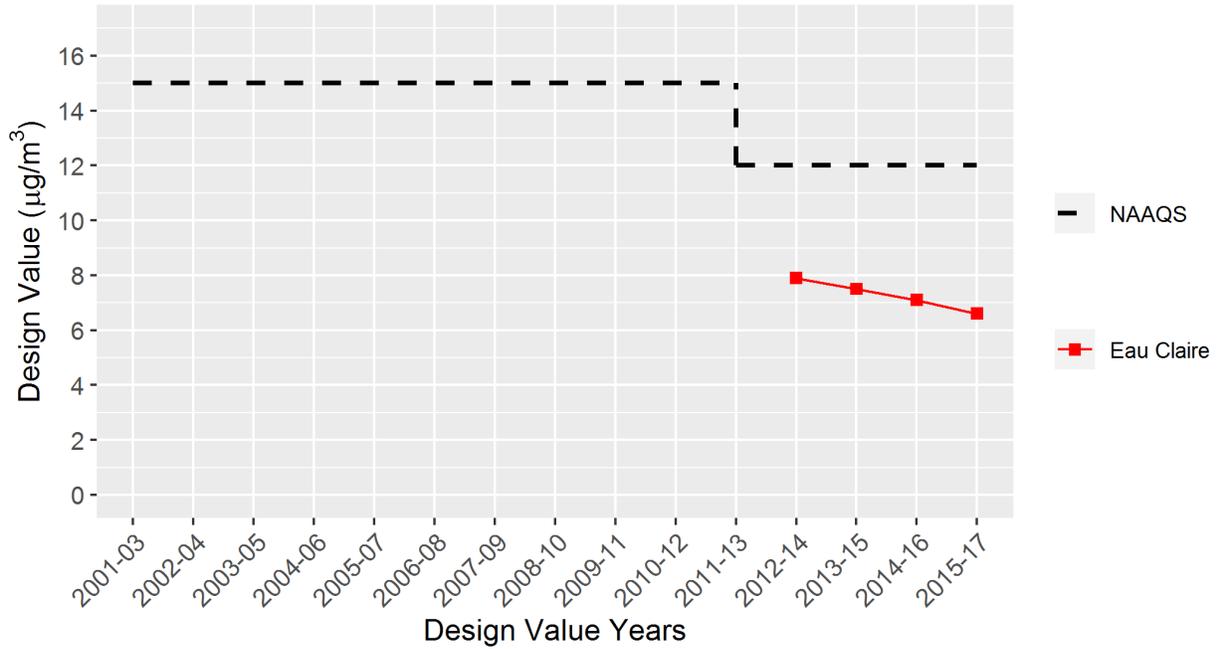


Eau Claire County

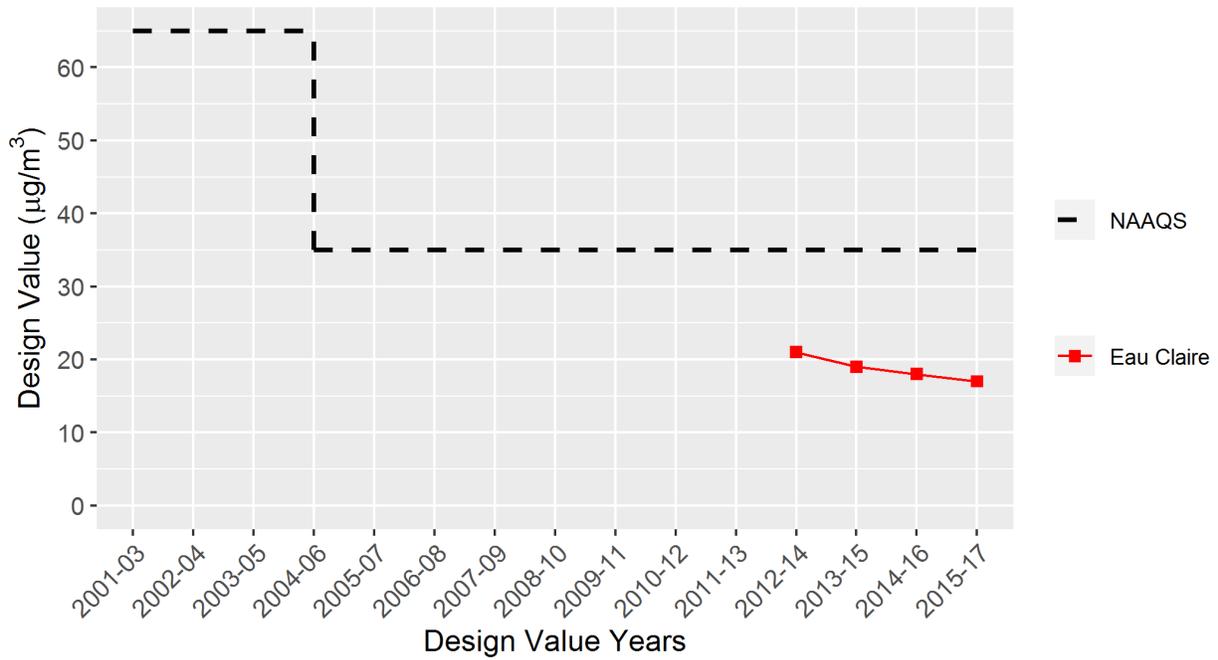
Monitoring for ozone and PM_{2.5} in Eau Claire County takes place near the Department of Transportation Sign Shop, located at 5509 Highway 53 South on the outskirts of Eau Claire. Monitoring at this site began April 1, 2011.



Annual PM2.5 Design Values - Eau Claire County

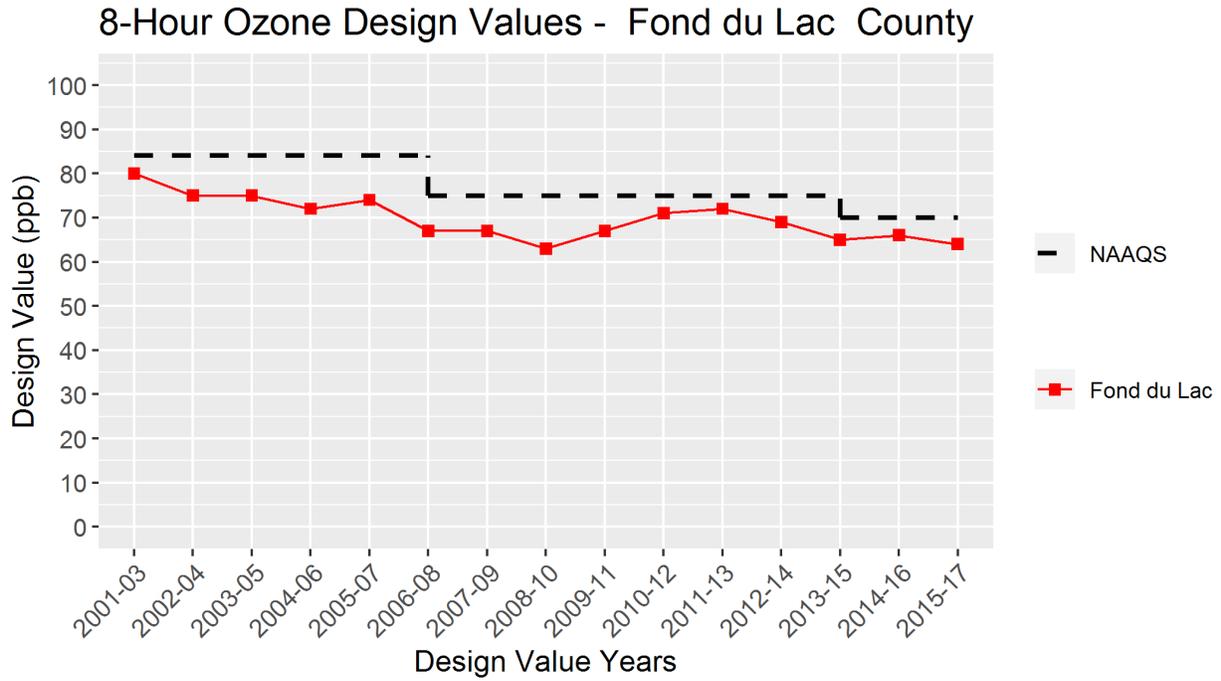


24-Hour PM2.5 Design Values - Eau Claire County



Fond du Lac County

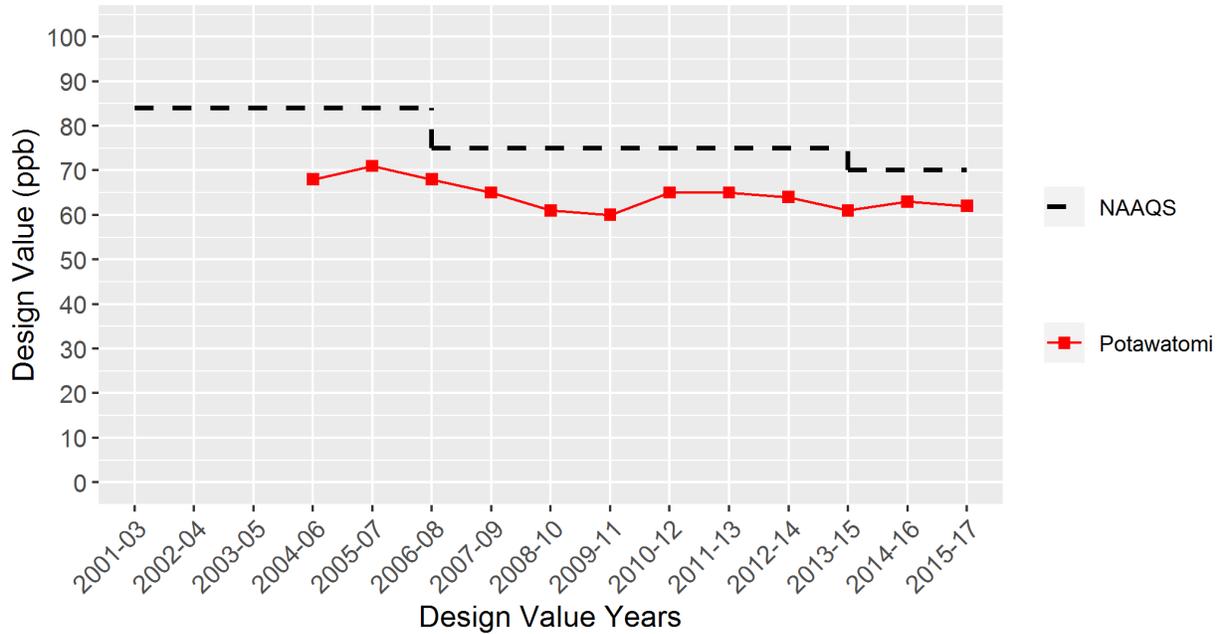
Ozone monitoring in Fond du Lac County is performed at N3996 Kelly Road in the Town of Byron. The site is located at the edge of a farm field.



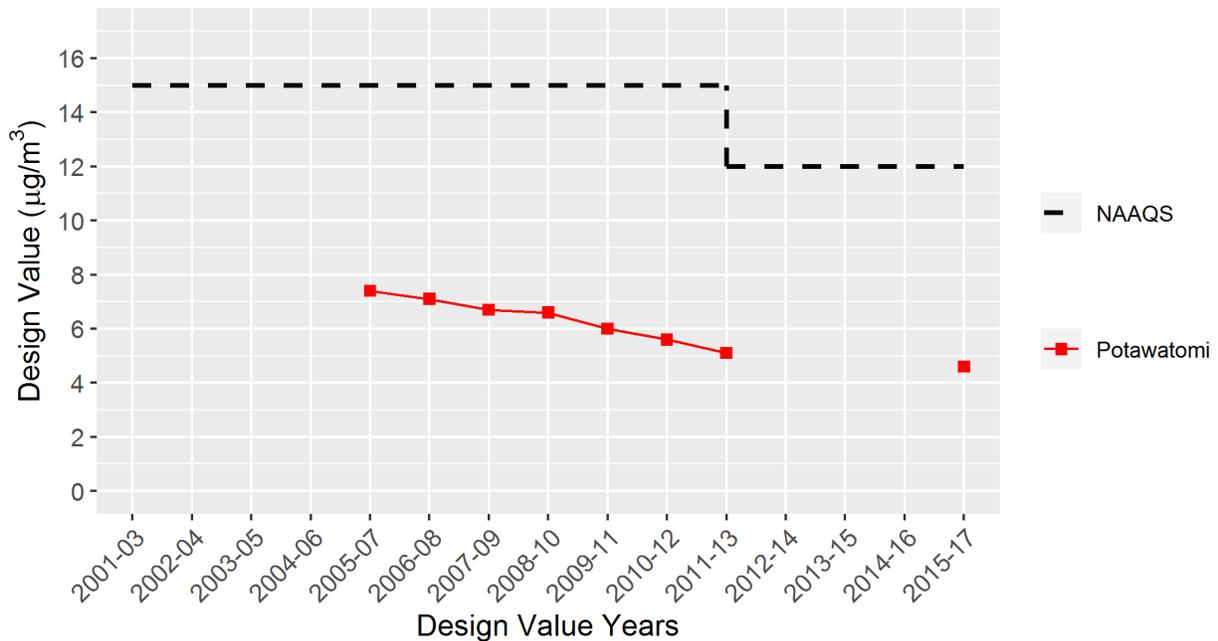
Forest County

Monitoring for ozone, PM_{2.5}, and SO₂ is conducted by the Forest County Potawatomi Tribe along Fire Tower Road in Crandon. Data completeness issues for PM_{2.5} in 2014 resulted in invalid design values for 2012-2014 through 2014-2016, therefore design values for those years are not included in the graphs.

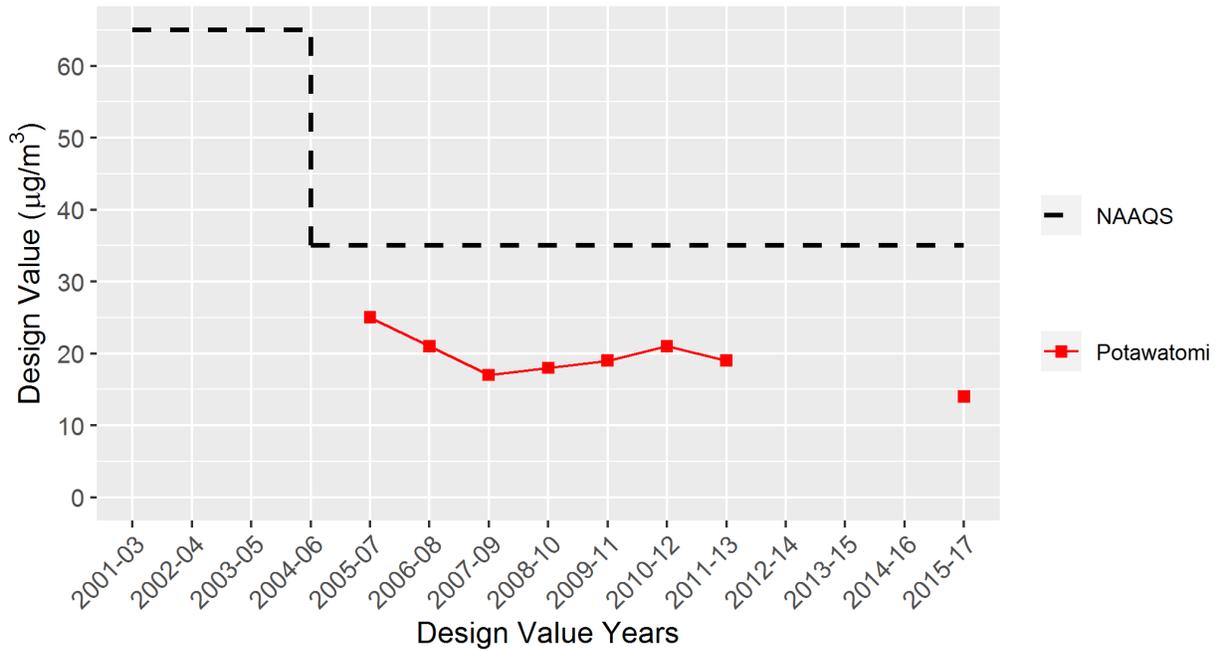
8-Hour Ozone Design Values - Forest County



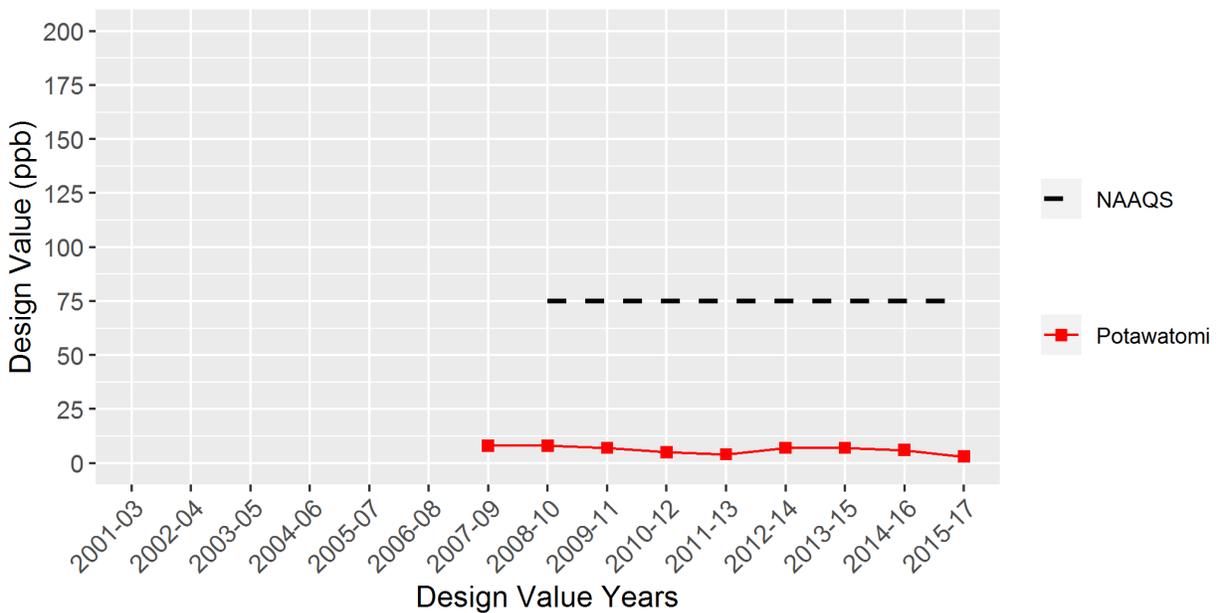
Annual PM_{2.5} Design Values - Forest County



24-Hour PM2.5 Design Values - Forest County



1-Hour SO2 Design Values* - Forest County

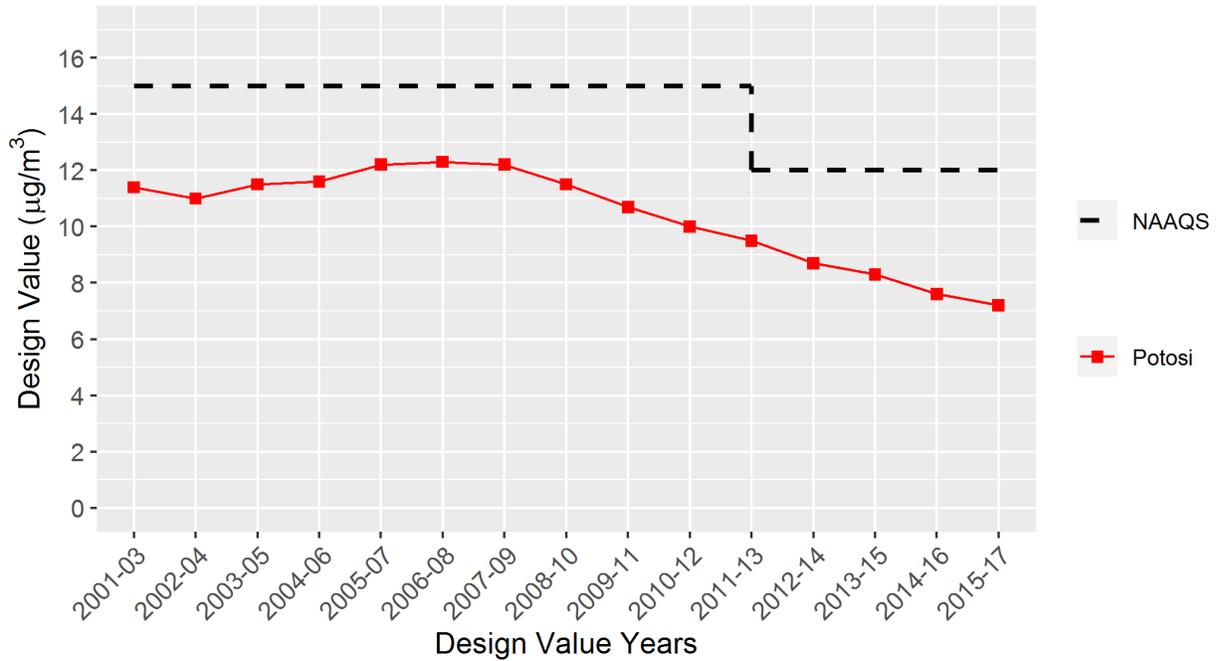


*In 2010, EPA established a 1-hr SO₂ standard that replaced the previous annual and 24-hr standards.

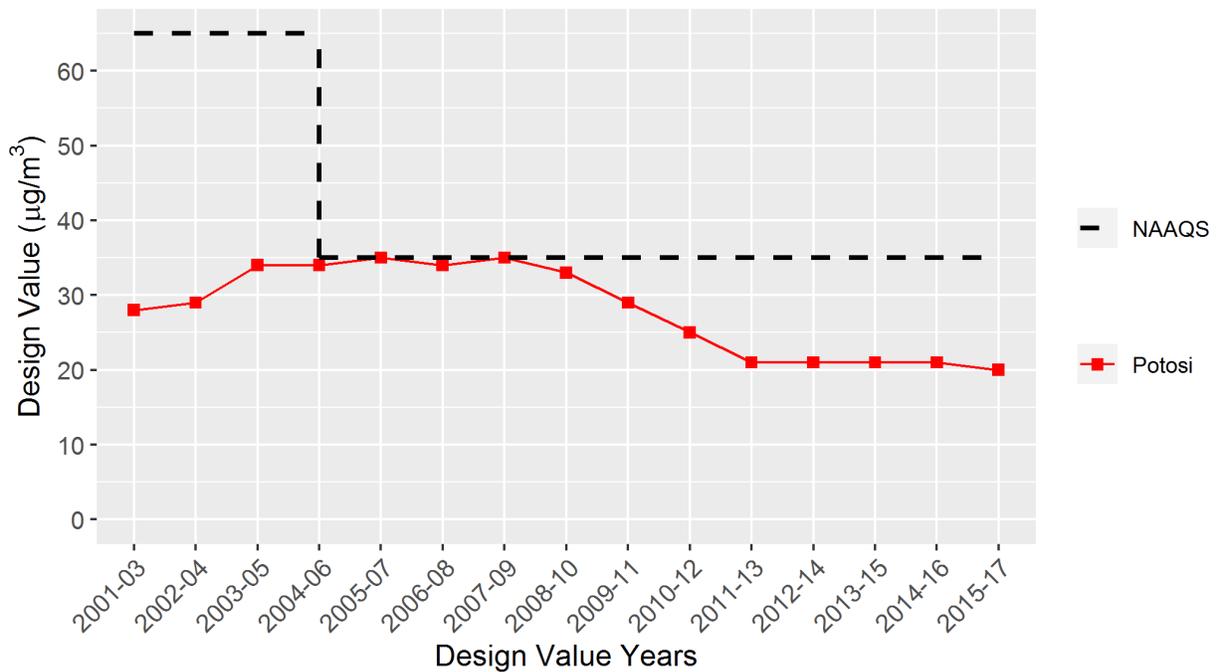
Grant County

Fine particle monitoring in Grant County takes place at 128 Highway 61 on Potosi High School property.

Annual PM2.5 Design Values - Grant County

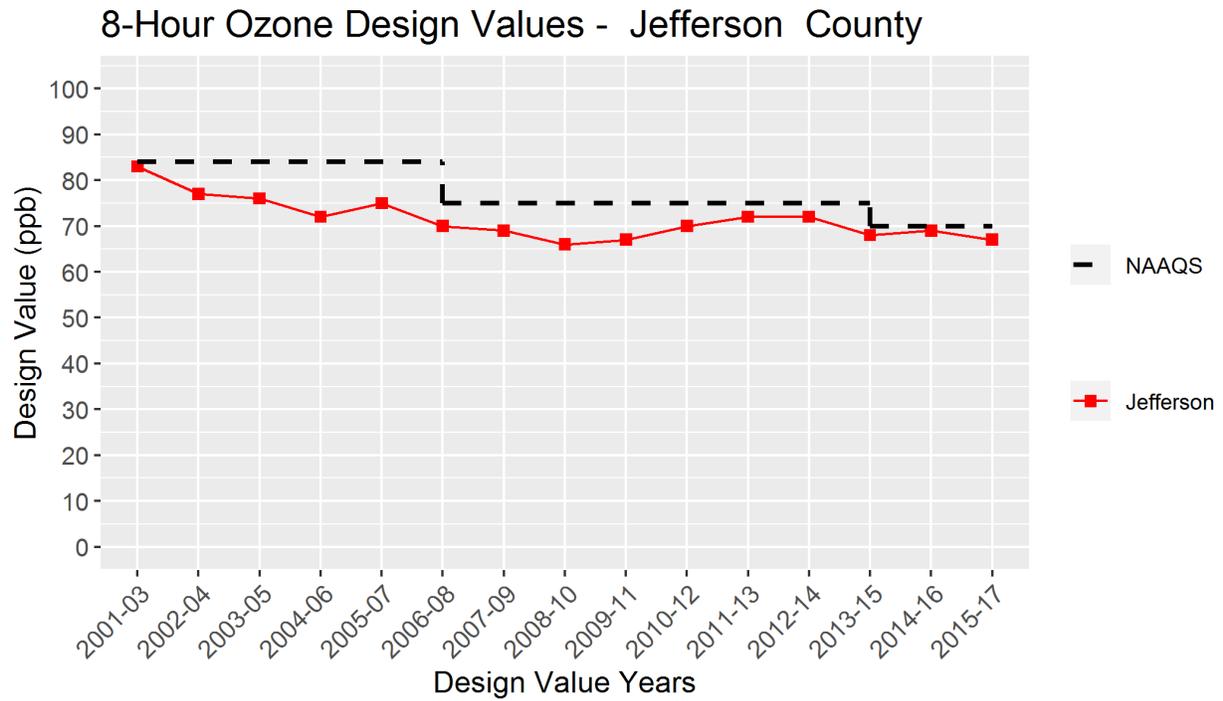


24-Hour PM2.5 Design Values - Grant County



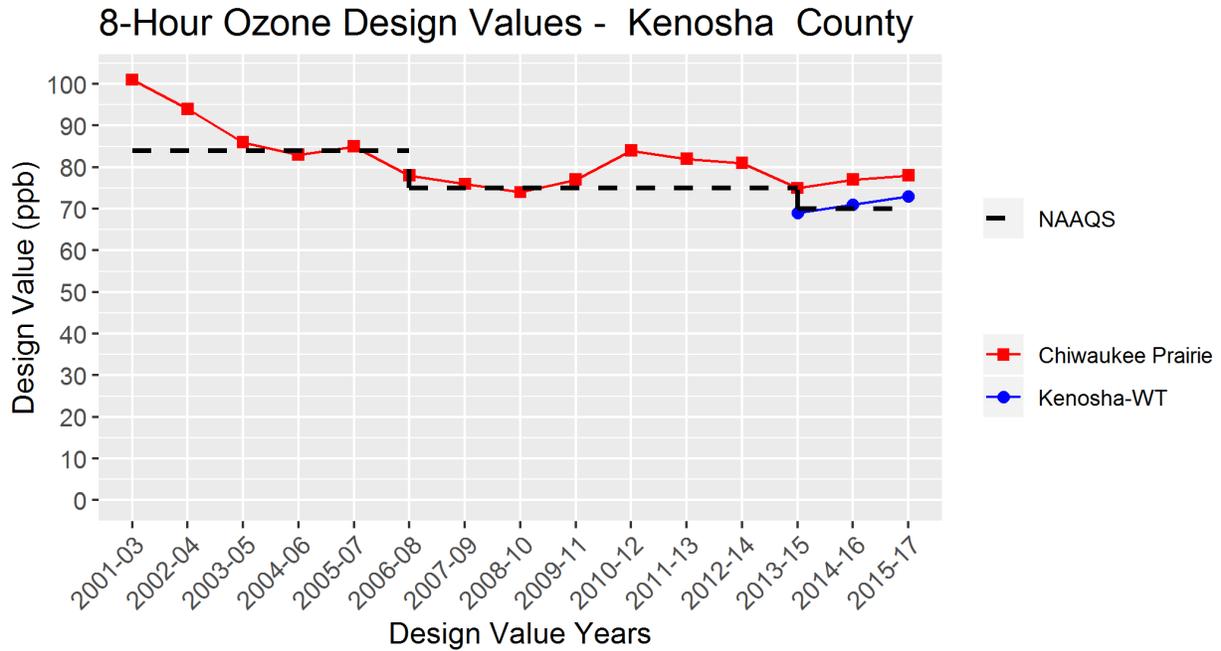
Jefferson County

Ozone monitoring in Jefferson County is currently conducted near the elementary school grounds at N4440 Laatsch Lane in the city of Jefferson. Prior to 2013, monitoring took place at Jefferson High School next to the sports field grounds at 634 West Linden Drive, approximately ¾ mile from the current site. Data from both sites are used to calculate design values for 2011-2013 and 2012-2014.

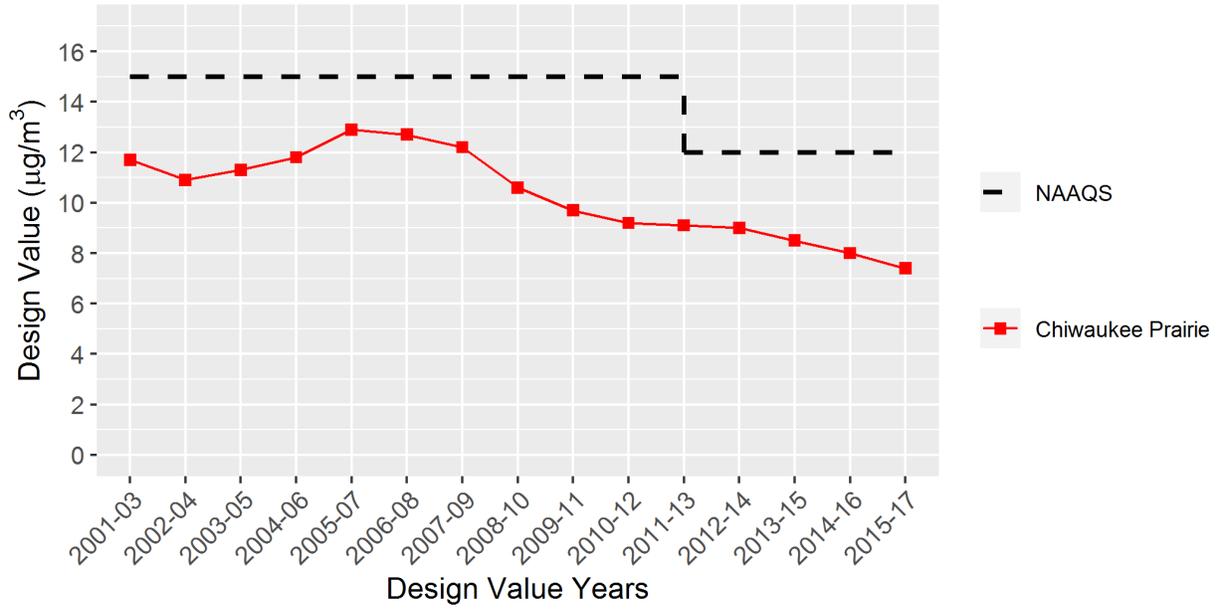


Kenosha County

Monitoring for ozone and PM_{2.5} in Kenosha County is performed at 11838 First Court in the Chiwaukee Prairie, which is a rural area near the Wisconsin – Illinois border. A second ozone monitoring site in Kenosha County (Kenosha-WT) was added in 2013 at the water tower, located at 4504 64th St. in Kenosha. The Kenosha-WT site is designated as a special-purpose monitor; data from this monitor can also be compared against the NAAQS.



Annual PM2.5 Design Values - Kenosha County

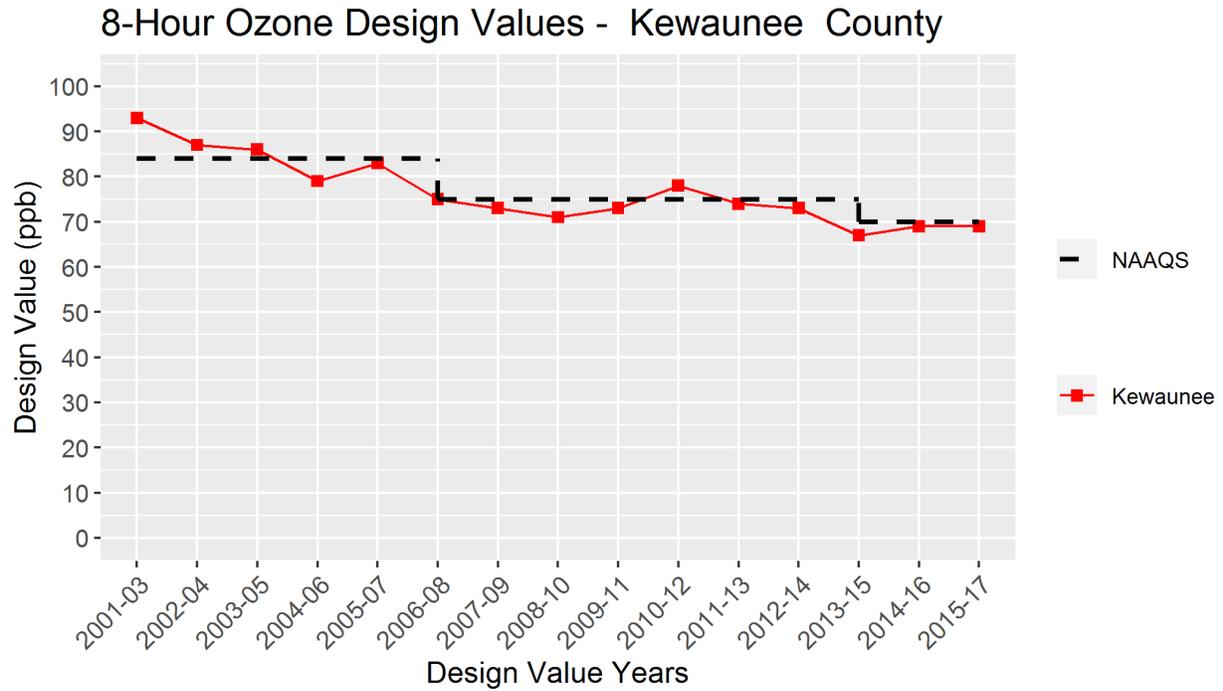


Annual PM2.5 Design Values - Kenosha County



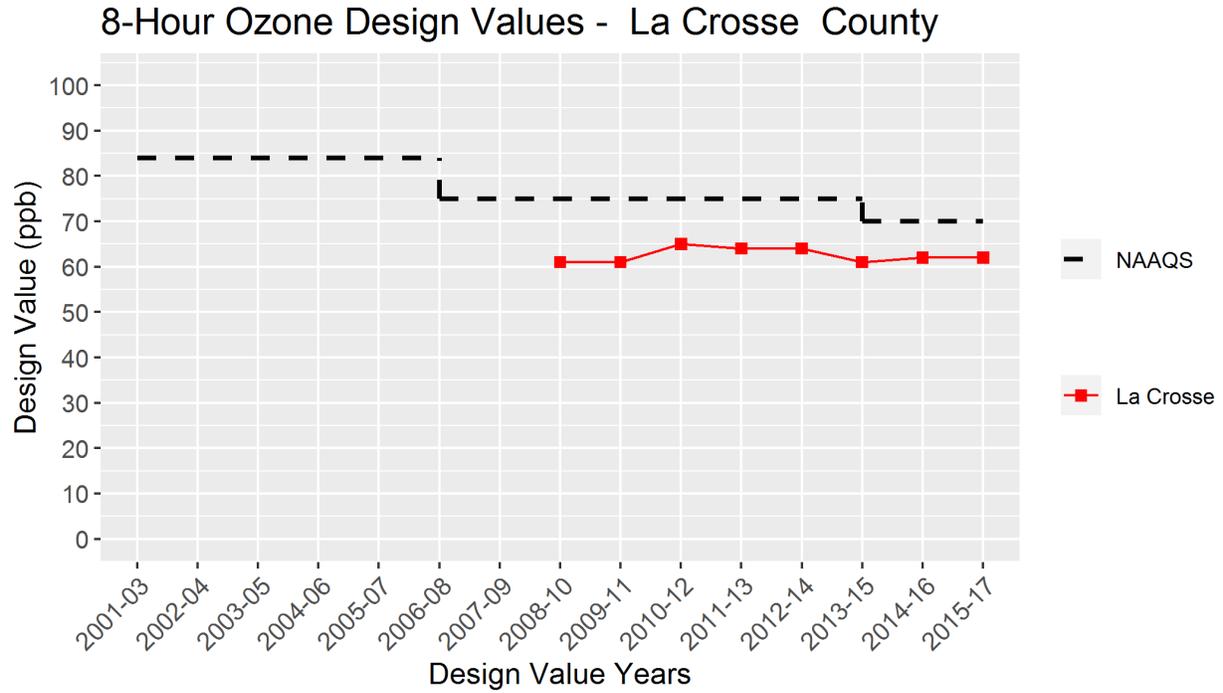
Kewaunee County

Ozone monitoring in Kewaunee County takes place at Rural Route 1, Highway 42 on a bluff overlooking Lake Michigan.

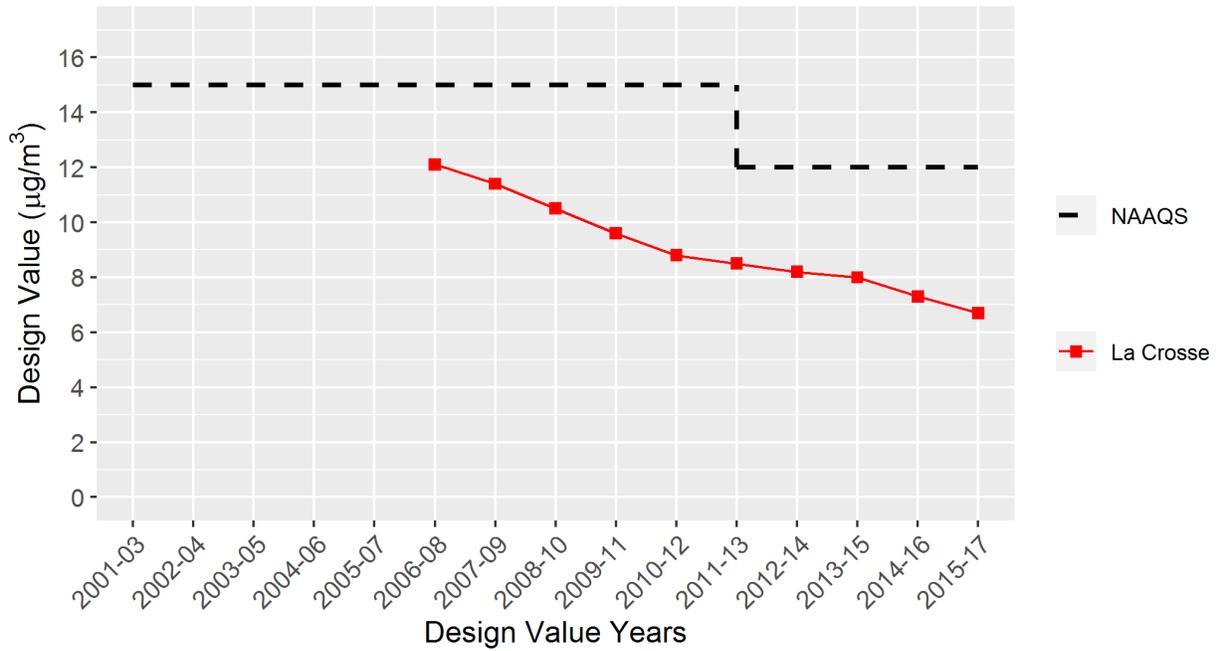


La Crosse County

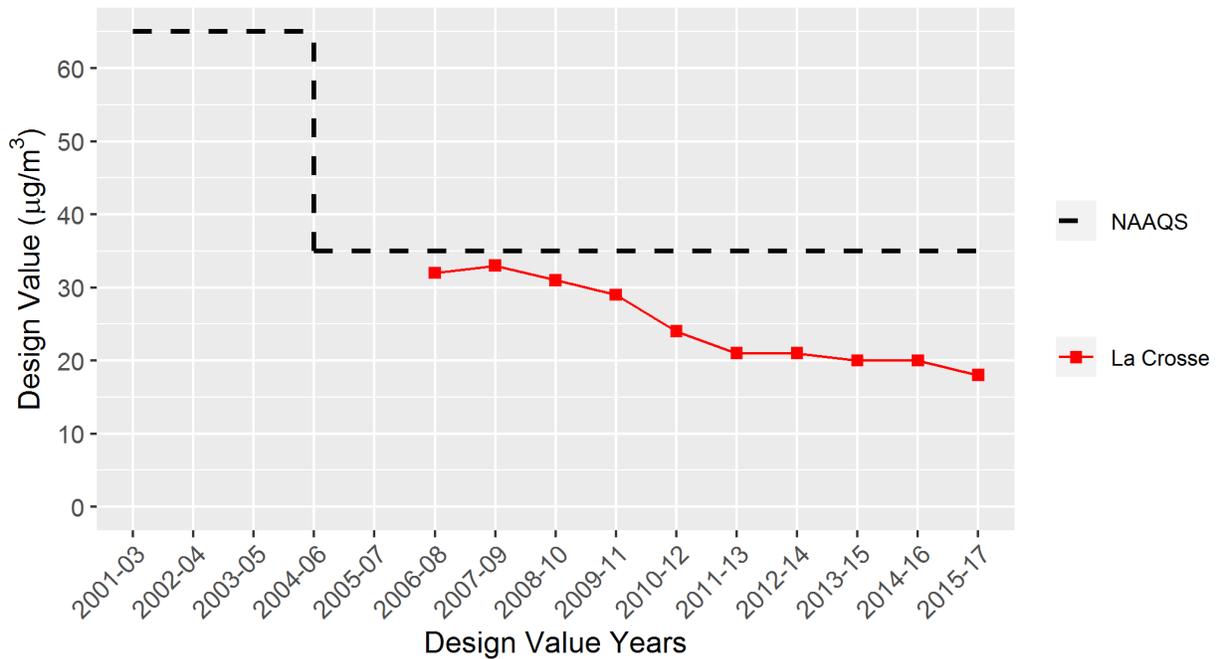
Monitoring for ozone and PM_{2.5} in La Crosse County is conducted at the Department of Transportation office, located at 3350 Mormon Coulee Road in La Crosse.



Annual PM2.5 Design Values - La Crosse County

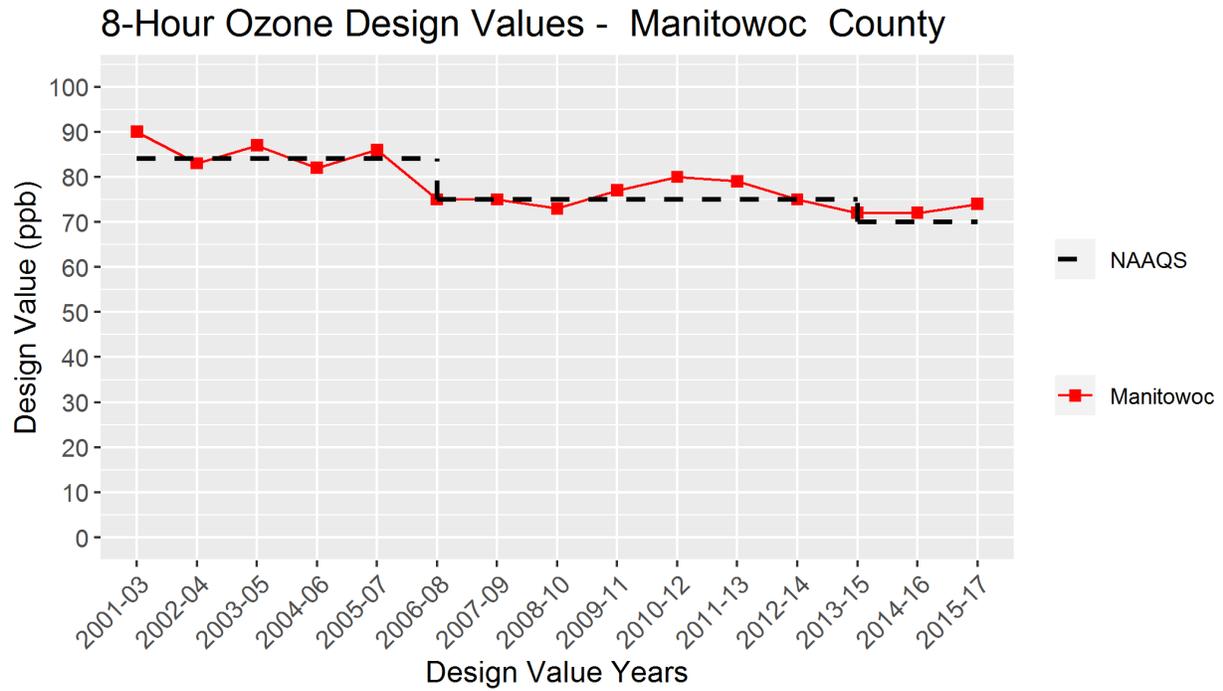


24-Hour PM2.5 Design Values - La Crosse County



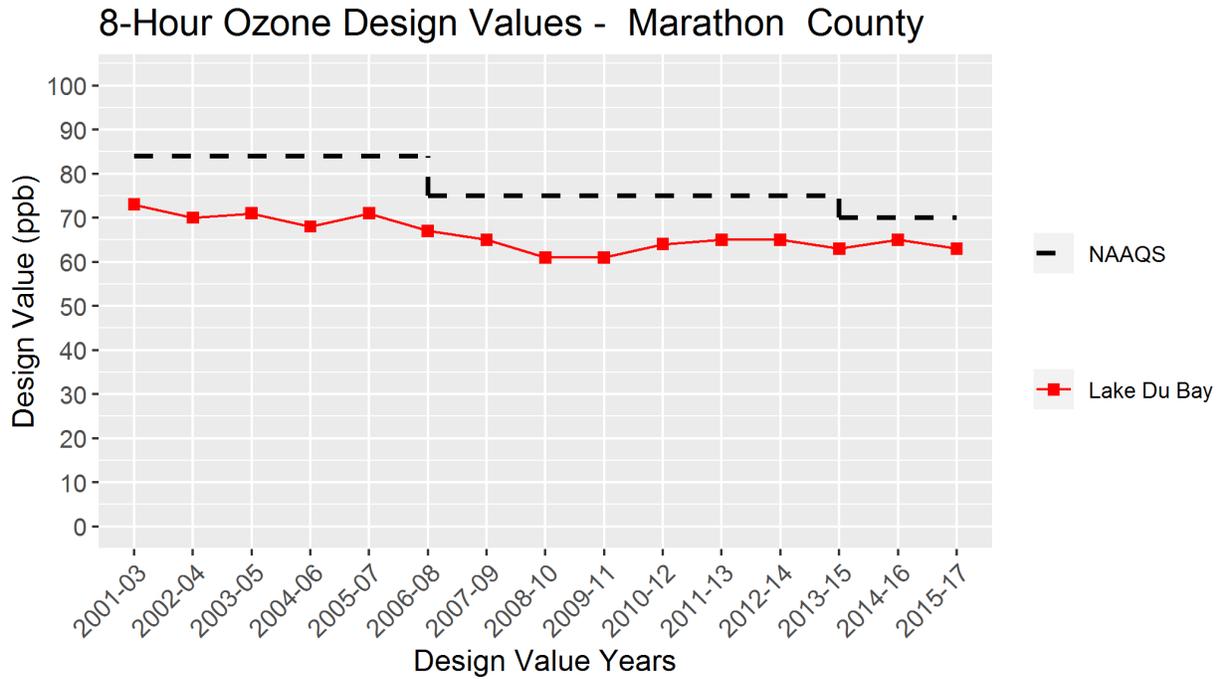
Manitowoc County

Ozone monitoring for Manitowoc County is performed at 2315 Goodwin Road in Two Rivers at the Woodland Dunes Nature Center and Preserve.



Marathon County

Ozone monitoring in Marathon County is conducted at a rural location at 1780 Bergen Road near Lake Du Bay in Bergen Township.



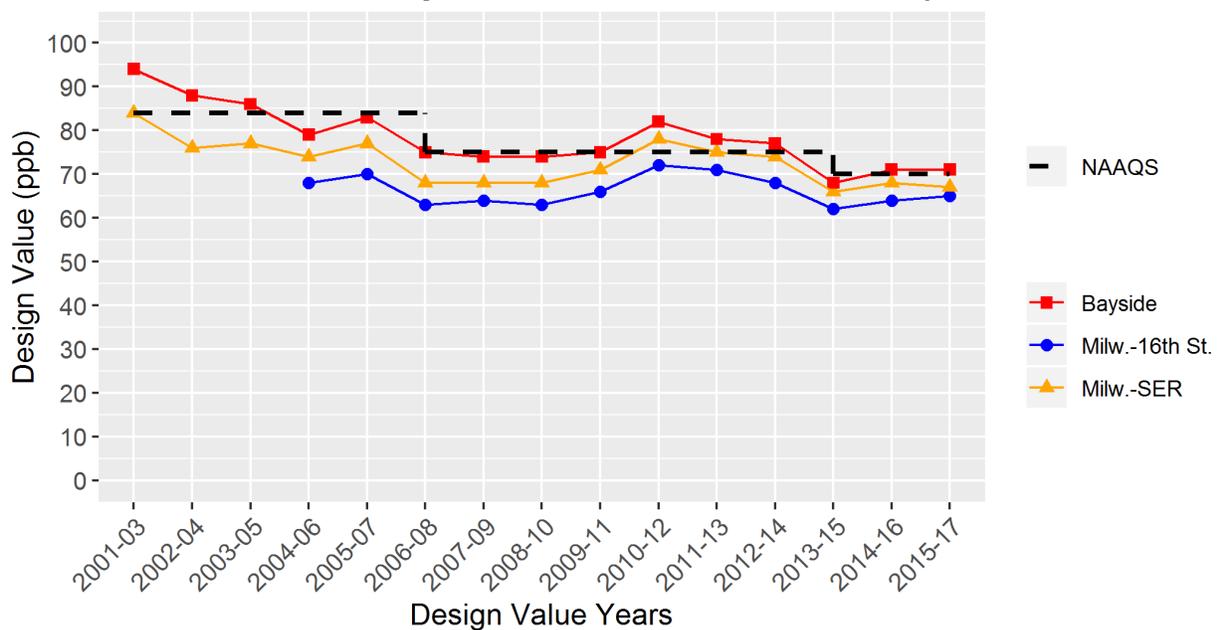
Milwaukee County

Monitoring for ozone, PM_{2.5}, and PM₁₀ in Milwaukee County takes place at multiple sites which are shown together in graphs below for comparison. Sites include Bayside (601 E Ellsworth Lane in Bayside), Milwaukee-16th St. (1337 S Cesar E Chavez Dr at the Health Center Building), Milwaukee-College Avenue Park & Ride (1550 W. College Avenue in the park and ride area), Milwaukee – College Avenue Near Road site (established in October 2013 also at 1550 W. College Avenue, but adjacent to the highway), Milwaukee-Fire Department (711 W. Wells St, on top of a fire department), and Milwaukee-SER (2300 N. Dr. Martin Luther King Jr. Drive at the DNR Southeast Region Headquarters office).

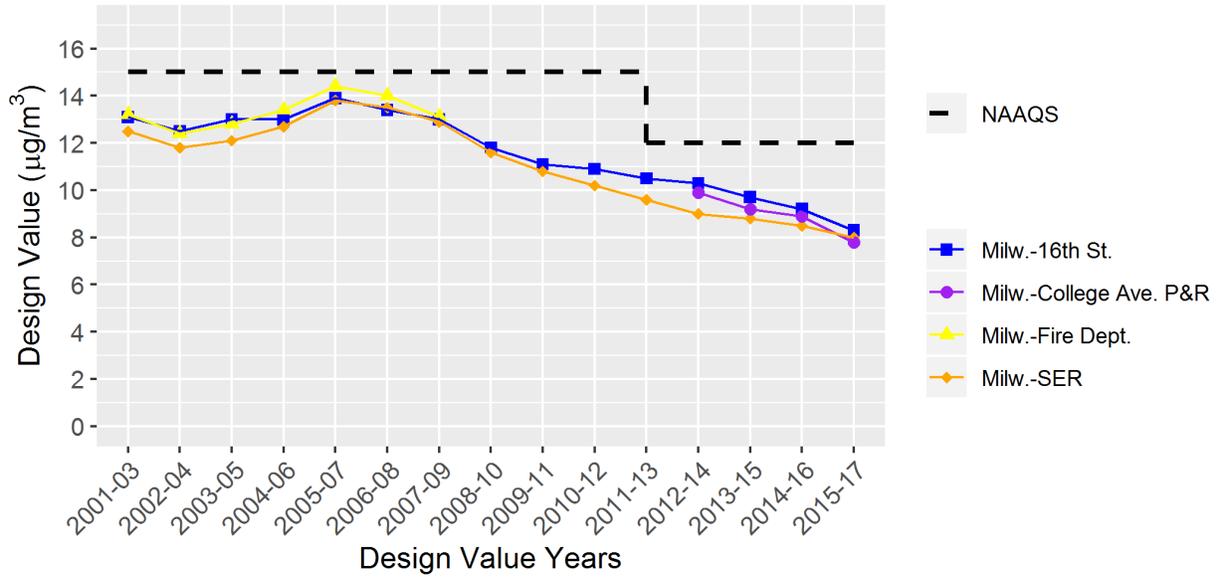
In 2017, PM_{2.5} monitoring at the Milwaukee – Fire Department site concluded to allow instrumentation to be used at the Milwaukee – College Avenue Near Road site. Because the PM_{2.5} monitor was shut down at the Milwaukee – Fire Department site and started up at the Milwaukee – College Avenue Near Road site, neither site had valid PM_{2.5} design values for the 2015-2017 period.

Sulfur dioxide is measured only at the Milwaukee-SER site. Monitoring at this site was not conducted from 2007 to 2010. Nitrogen dioxide is monitored at the Milwaukee-SER site as well as at the Milwaukee-College Avenue Near Road site. Monitoring for CO, which started in 2014, takes place at the Milwaukee-College Avenue Near Road site.

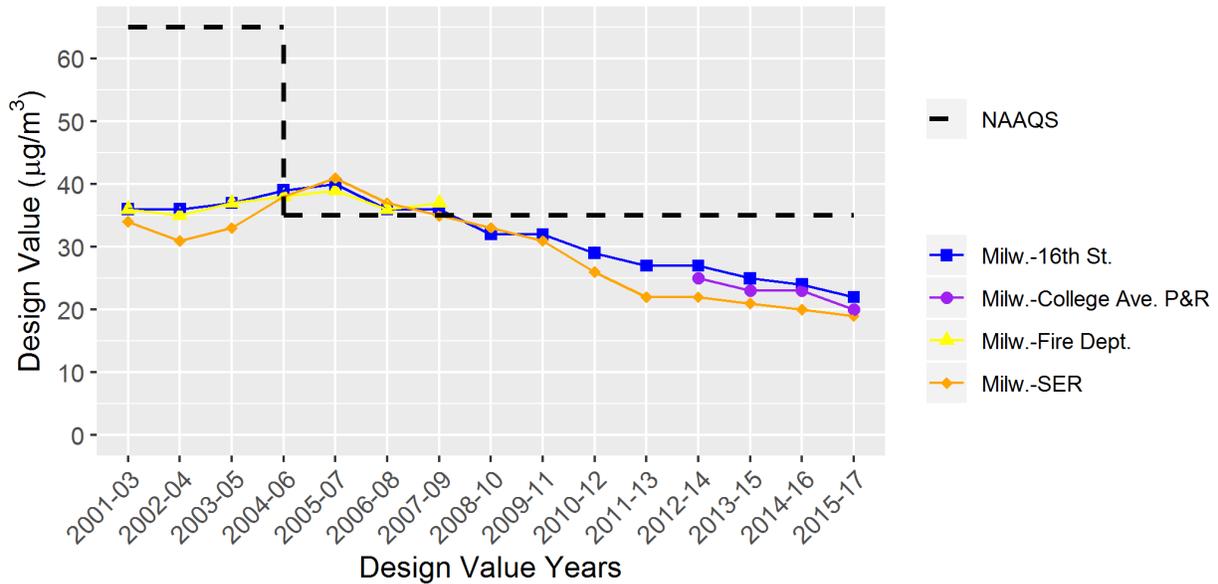
8-Hour Ozone Design Values - Milwaukee County

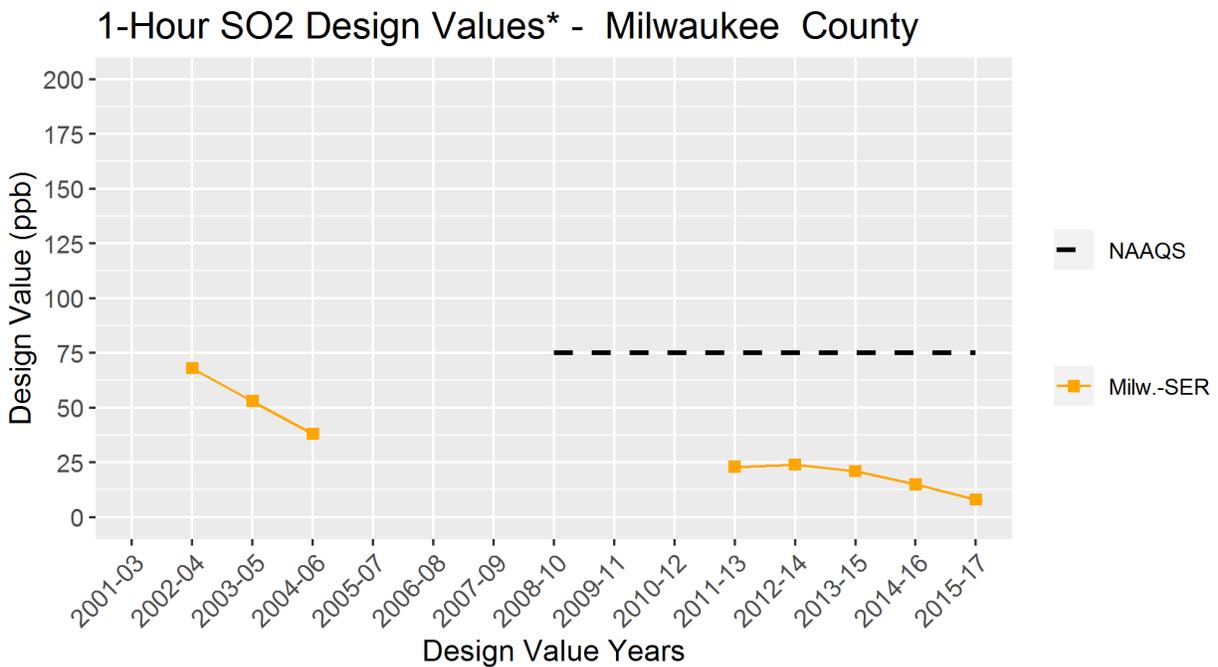
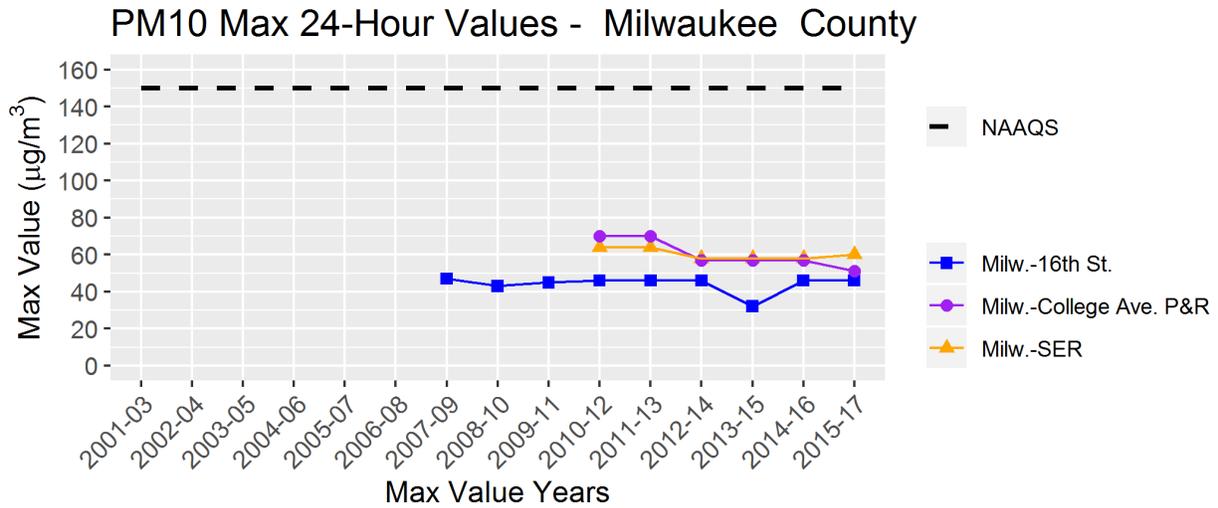


Annual PM2.5 Design Values - Milwaukee County



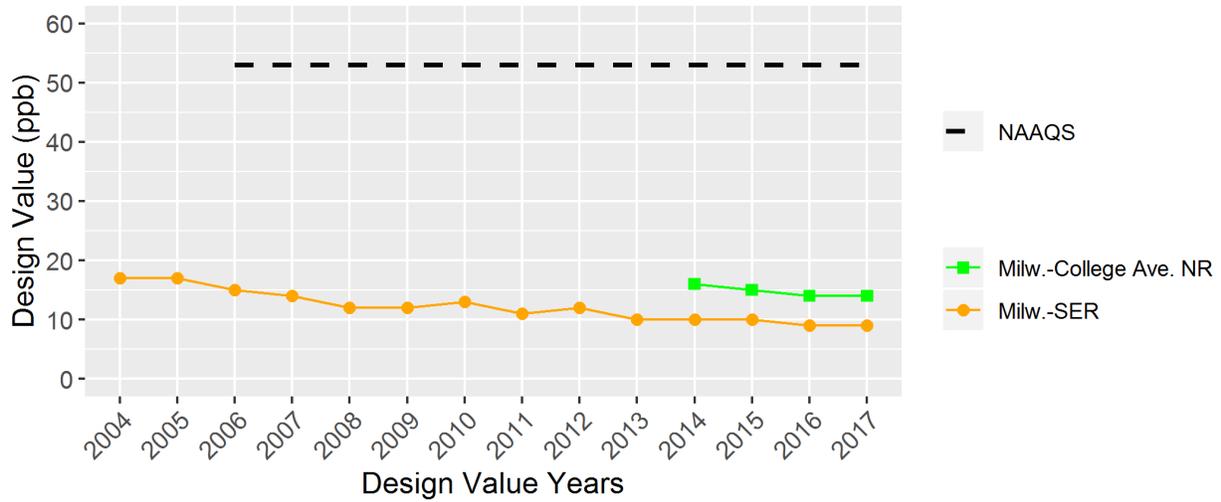
24-Hour PM2.5 Design Values - Milwaukee County



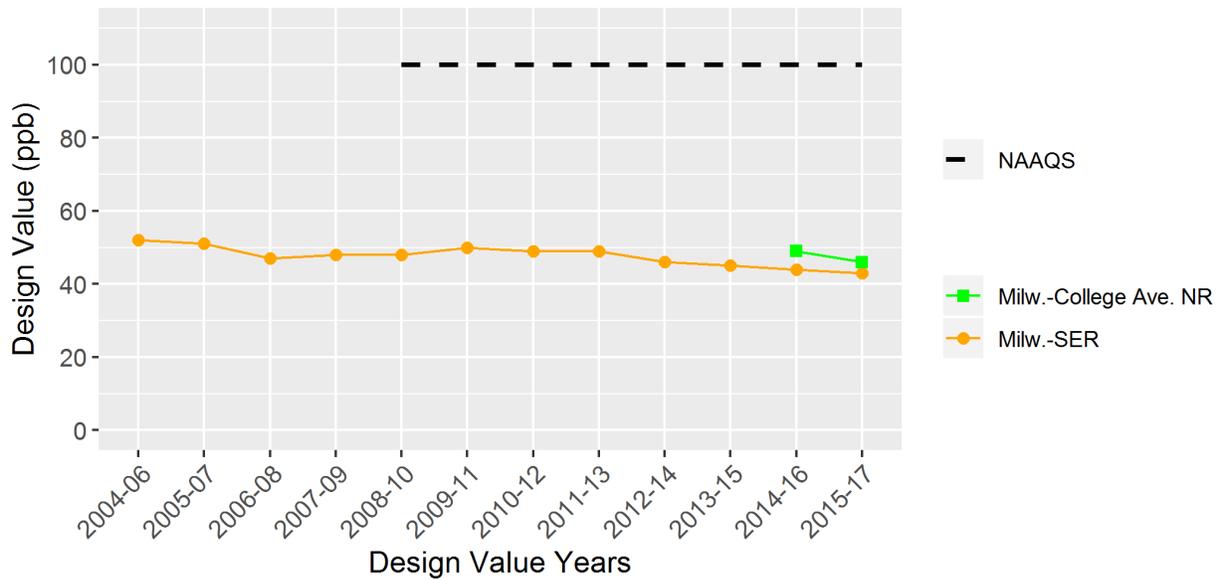


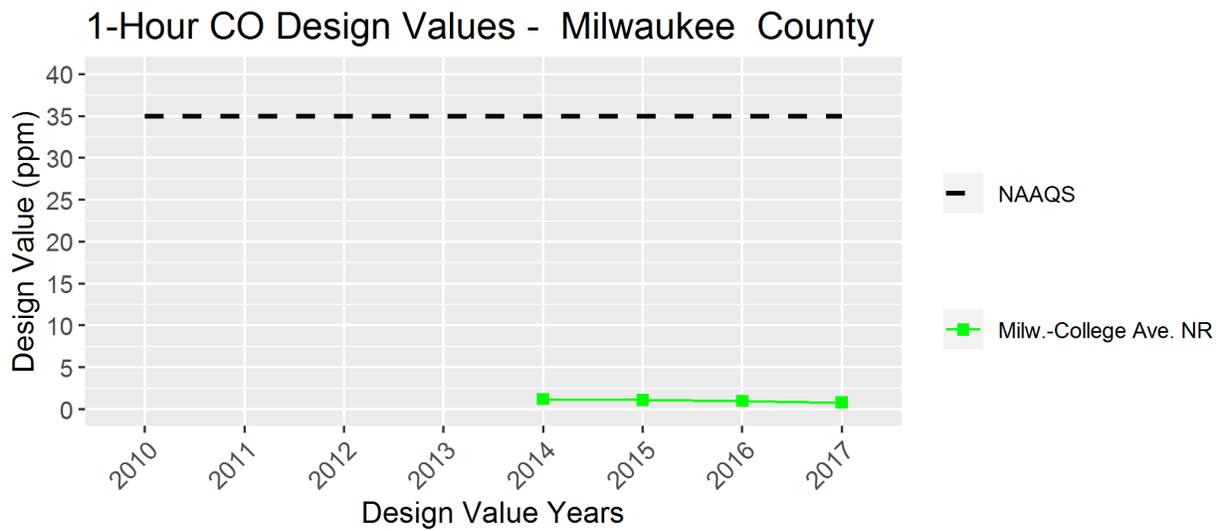
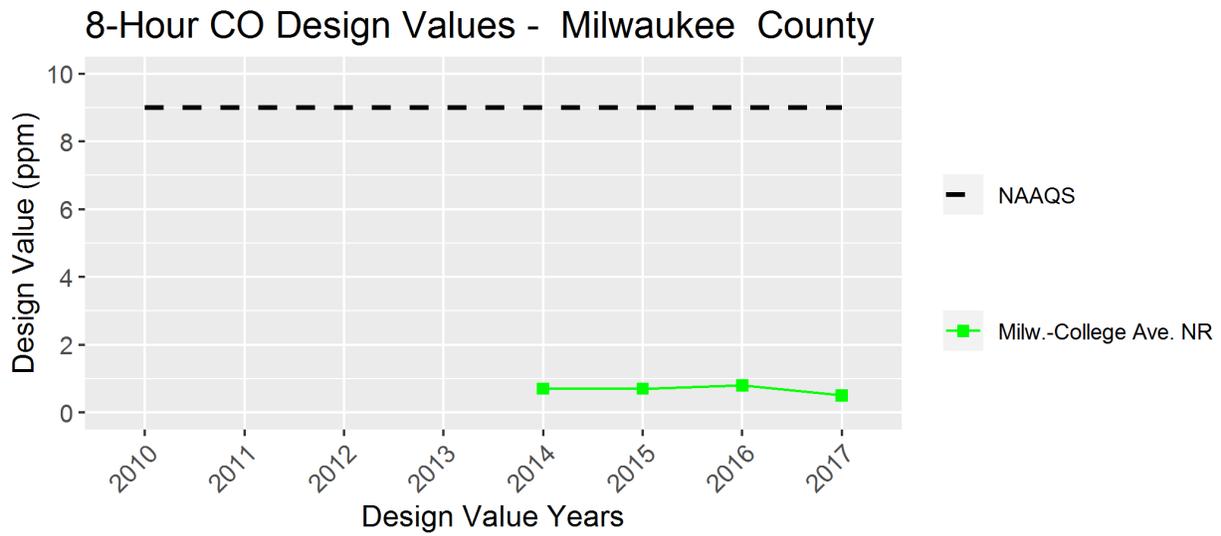
*In 2010, EPA established a 1-hr SO₂ standard that replaced the previous 24-hr and annual standards.

Annual NO2 Design Values - Milwaukee County



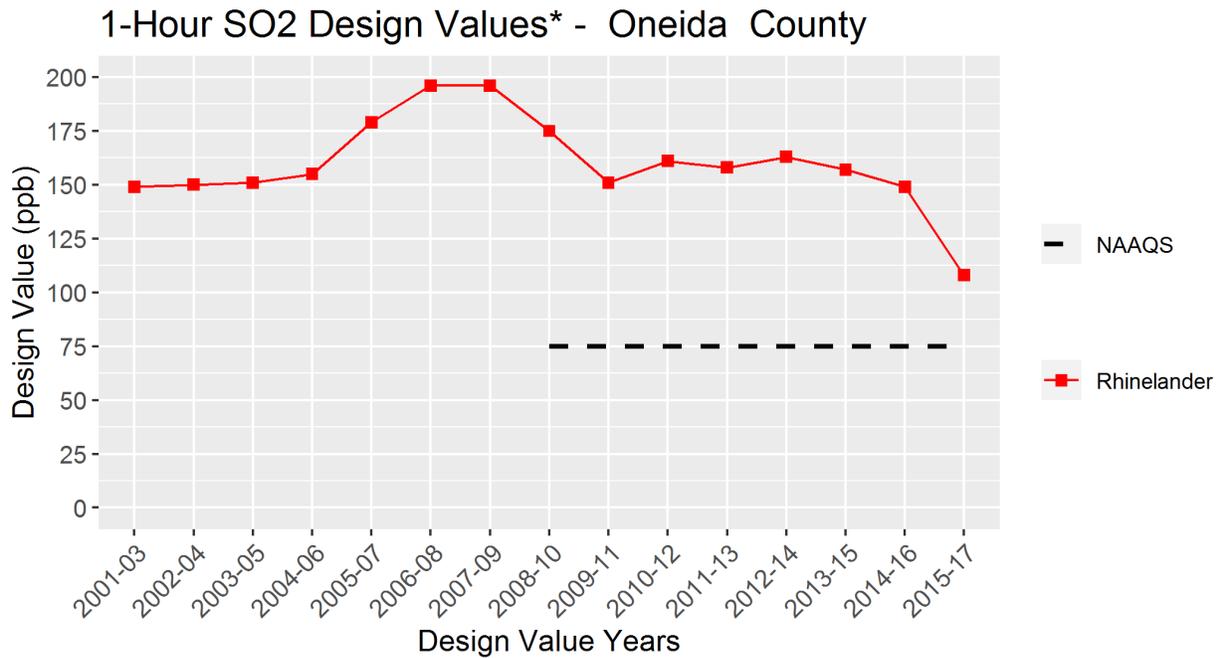
1-Hour NO2 Design Values - Milwaukee County





Oneida County

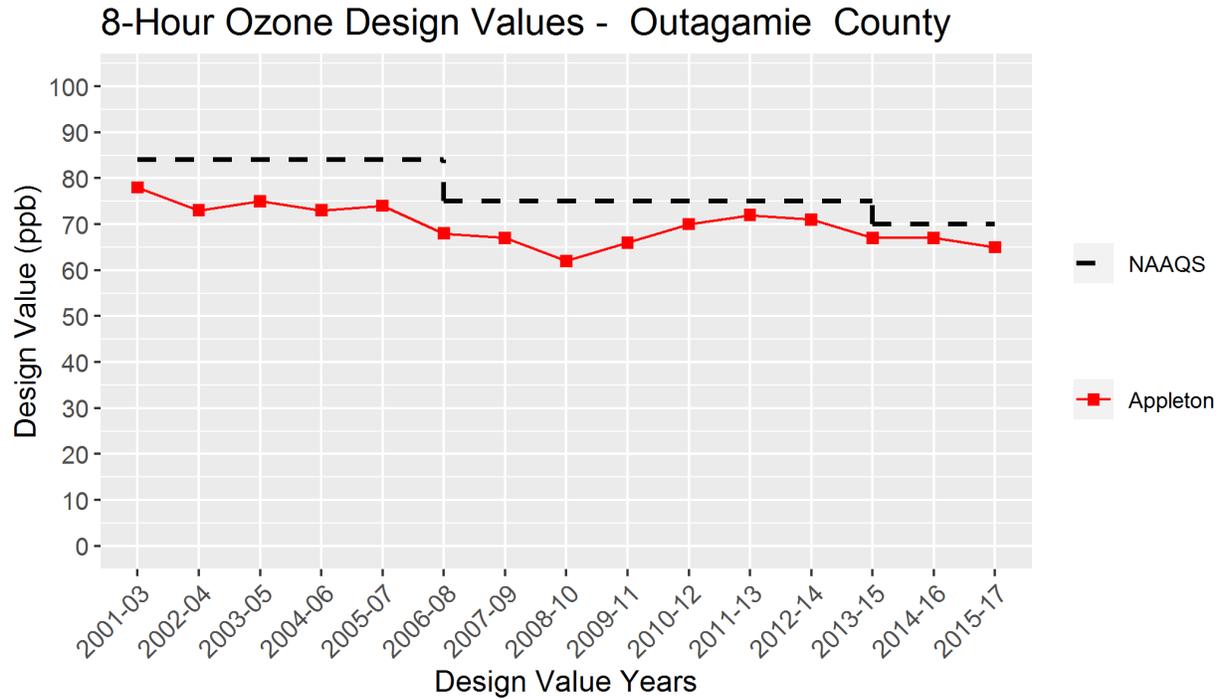
Monitoring for SO₂ in Oneida County takes place at 434 High Street next to the Rhinelander water tower. This site is source-oriented and is sited to assess compliance with the SO₂ NAAQS. A portion of Oneida County around this monitor was designated as nonattainment for the 2010 1-hour SO₂ NAAQS in 2013. To bring this area into attainment, DNR submitted an attainment plan to EPA that established permanent and enforceable SO₂ requirements on the facility primarily responsible for the monitored values. EPA found the attainment plan to be complete, and the facility has implemented the requirements contained in the plan.



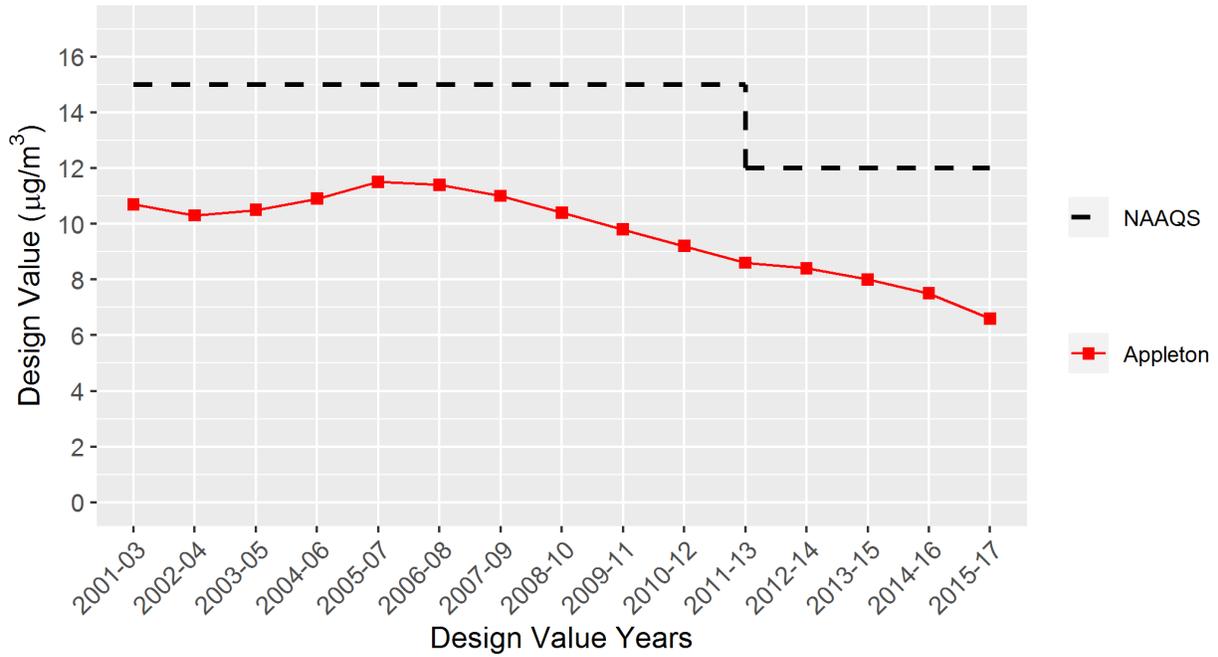
*In 2010, EPA established a 1-hr SO₂ standard that replaced the previous annual and 24-hr standards.

Outagamie County

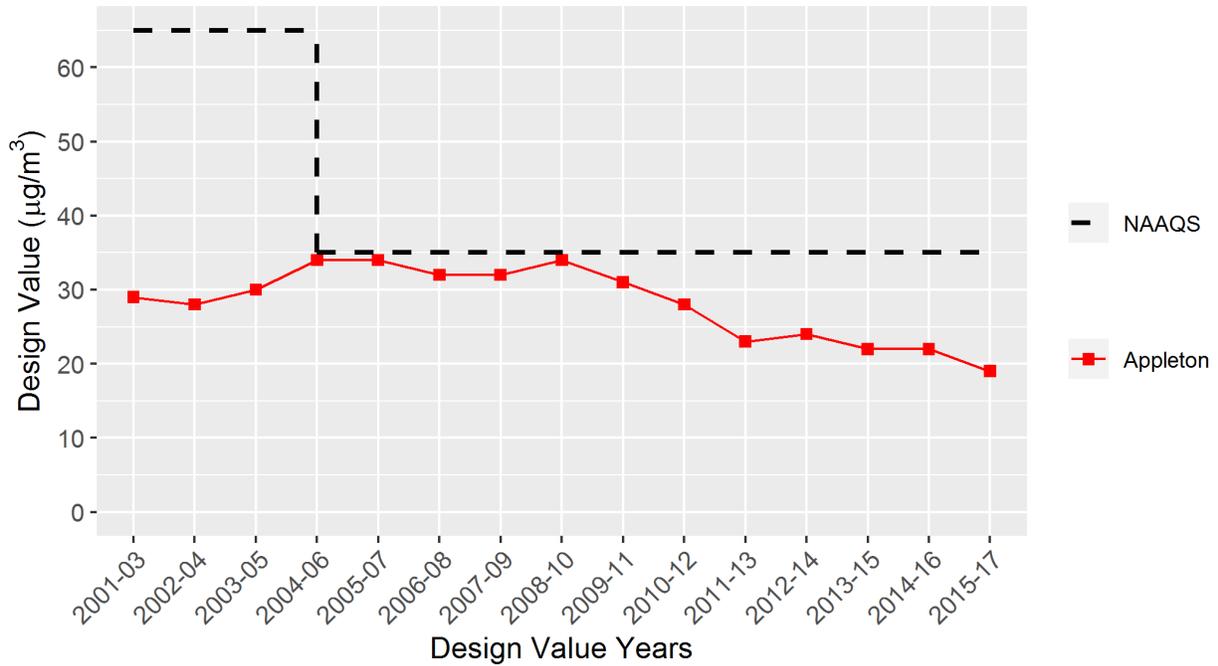
Monitoring for ozone and PM_{2.5} in Outagamie County is performed at 4432 North Meade Street in Appleton near a residential area.



Annual PM2.5 Design Values - Outagamie County

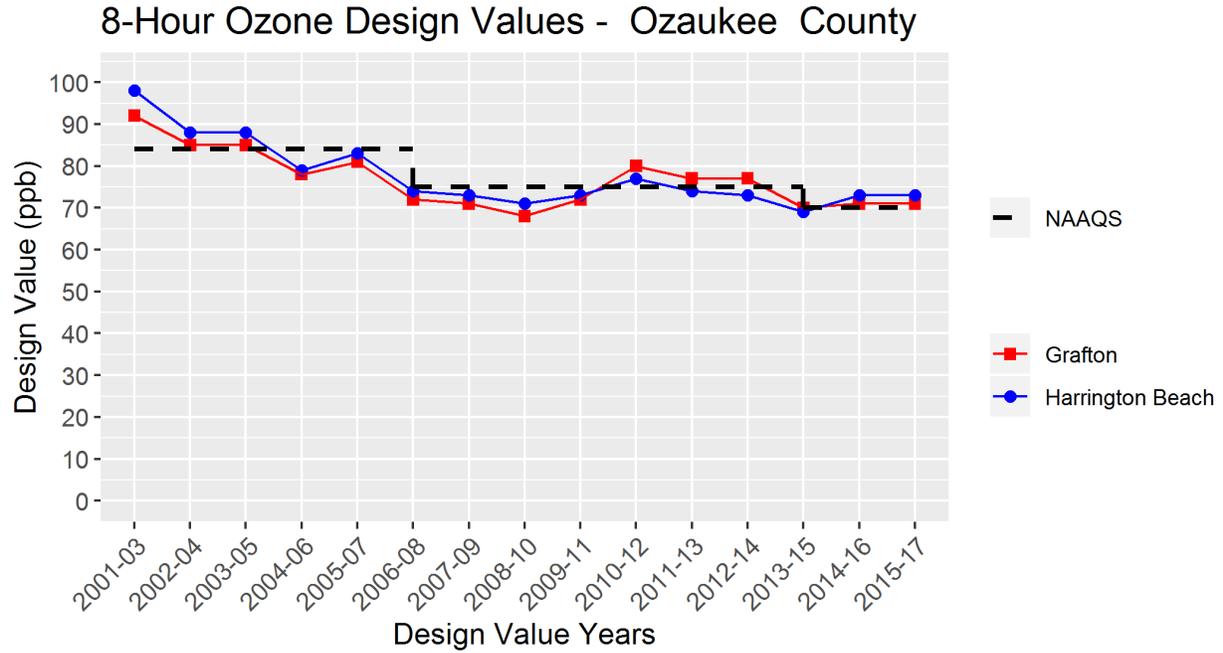


24-Hour PM2.5 Design Values - Outagamie County

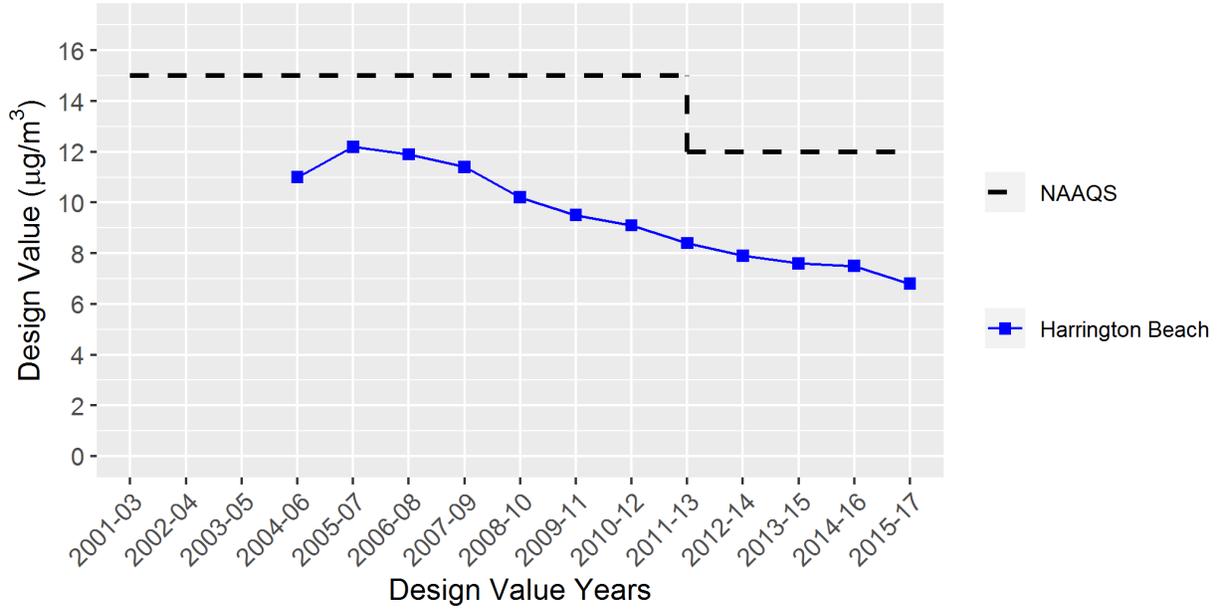


Ozaukee County

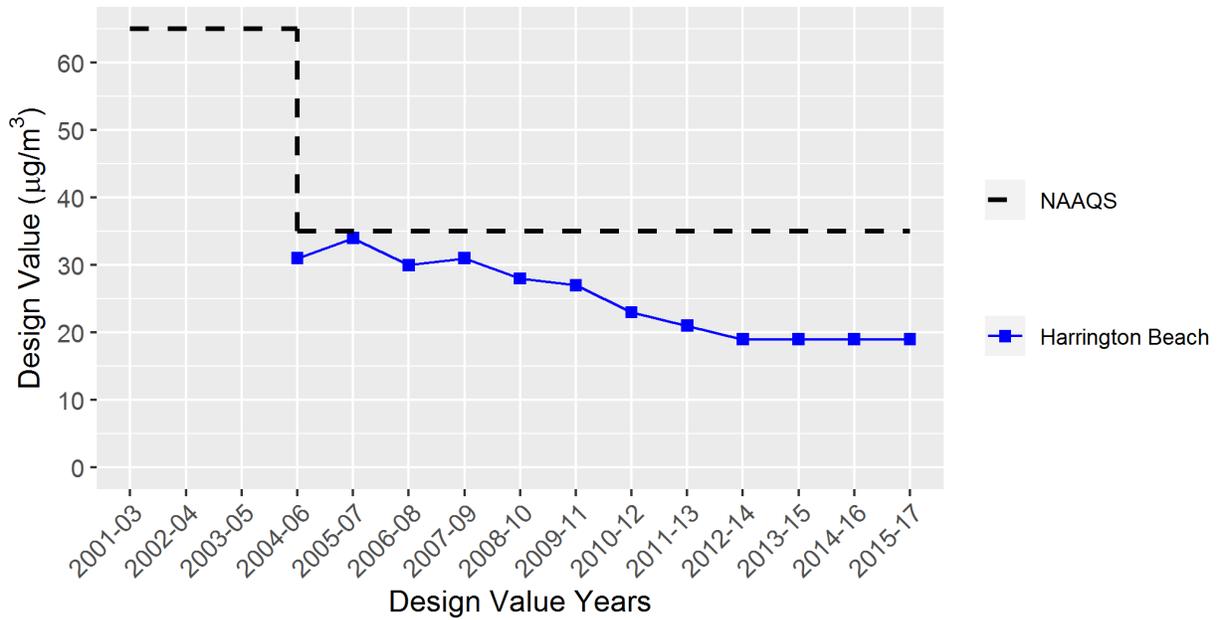
Ozone monitoring in Ozaukee County takes place at the intersection of Highway 57 and Interstate 43 in Grafton, and at Harrington Beach State Park located at 531 Highway D. Fine-particle monitoring takes place at the Harrington Beach site.



Annual PM2.5 Design Values - Ozaukee County

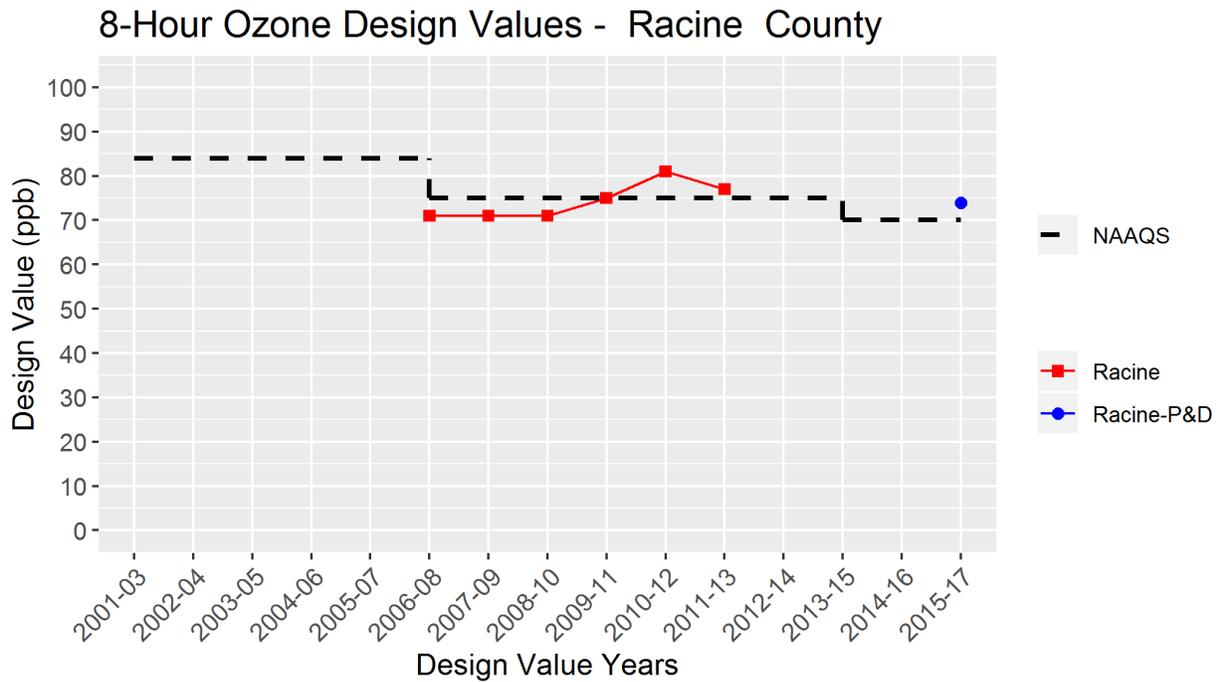


24-Hour PM2.5 Design Values - Ozaukee County



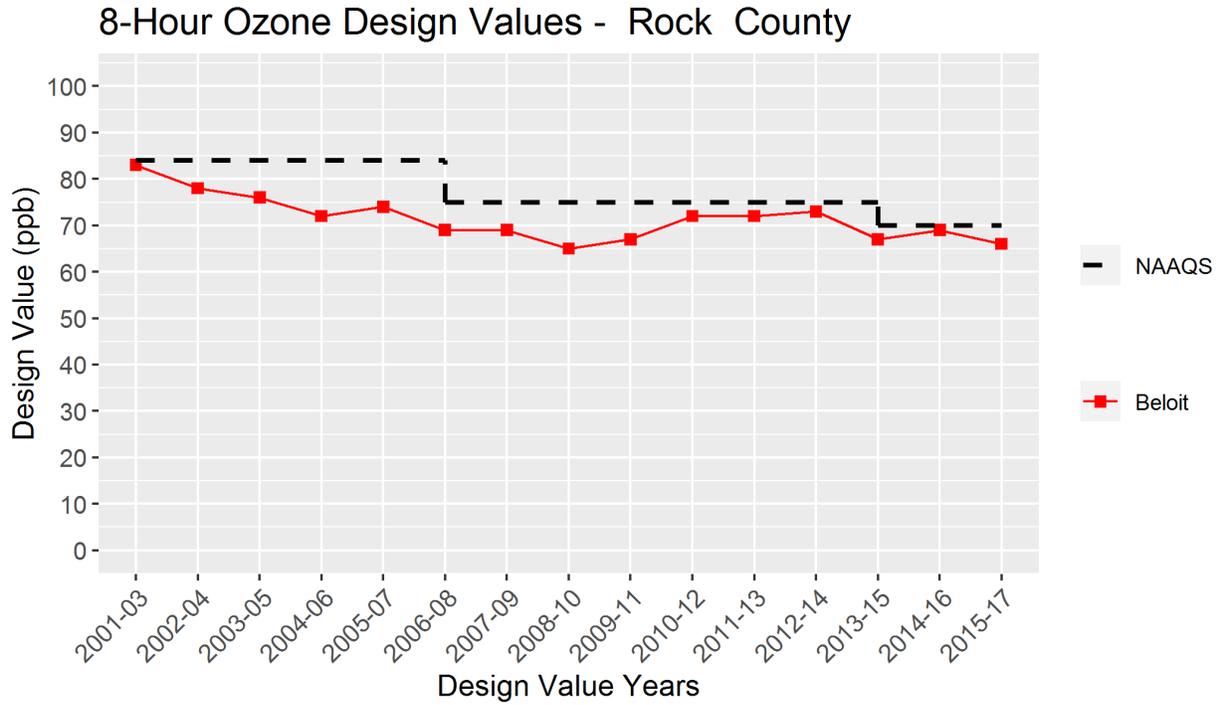
Racine County

Ozone monitoring in Racine County is conducted at 4227 Charles Street in a farm field in the rural village of Caledonia (Racine-Payne & Dolan site). Sampling began at this site on April 3, 2015. Prior to this date, sampling for ozone in Racine County was performed at 1519 Washington Avenue above a local business in the downtown area of Racine. Due to extensive safety issues, this site was shut down at the end of 2013. Federal rules determine that data from the old and new sites cannot be combined; however, design values from the historic site are included here to provide context for the data currently available from the new site.



Rock County

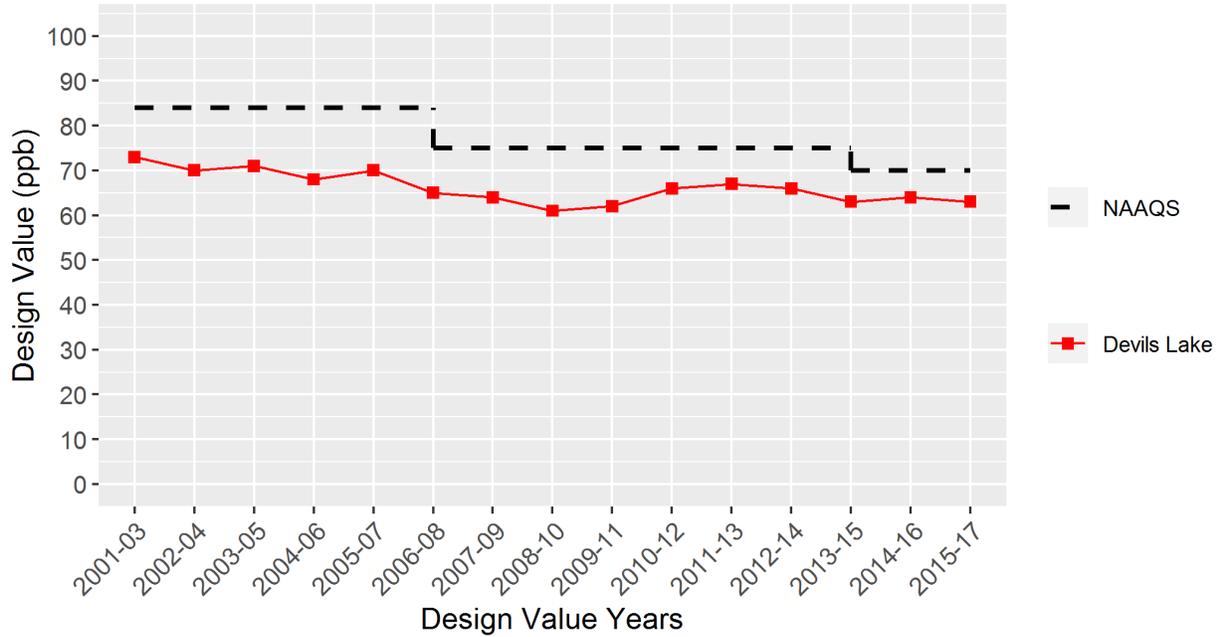
Ozone monitoring in Rock County is conducted at 1948 Merrill Street in Beloit. The site is located at the Cunningham School.



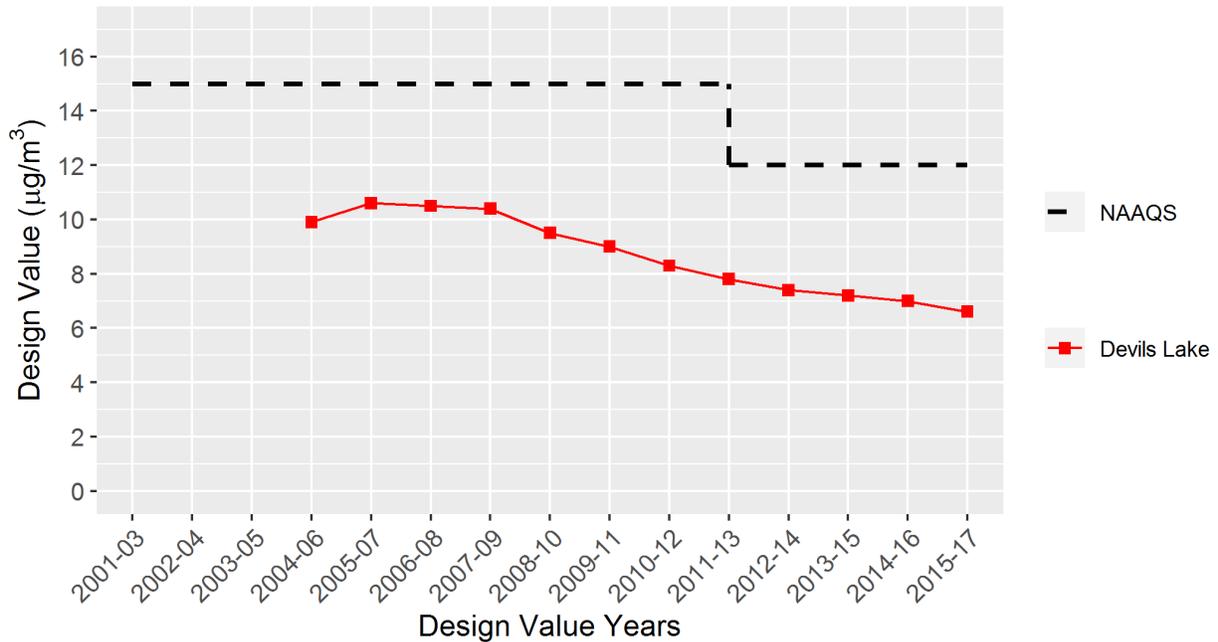
Sauk County

Monitoring for ozone, PM_{2.5}, and PM₁₀ in Sauk County takes place at Devils Lake State Park at E12886 Tower Road in Baraboo.

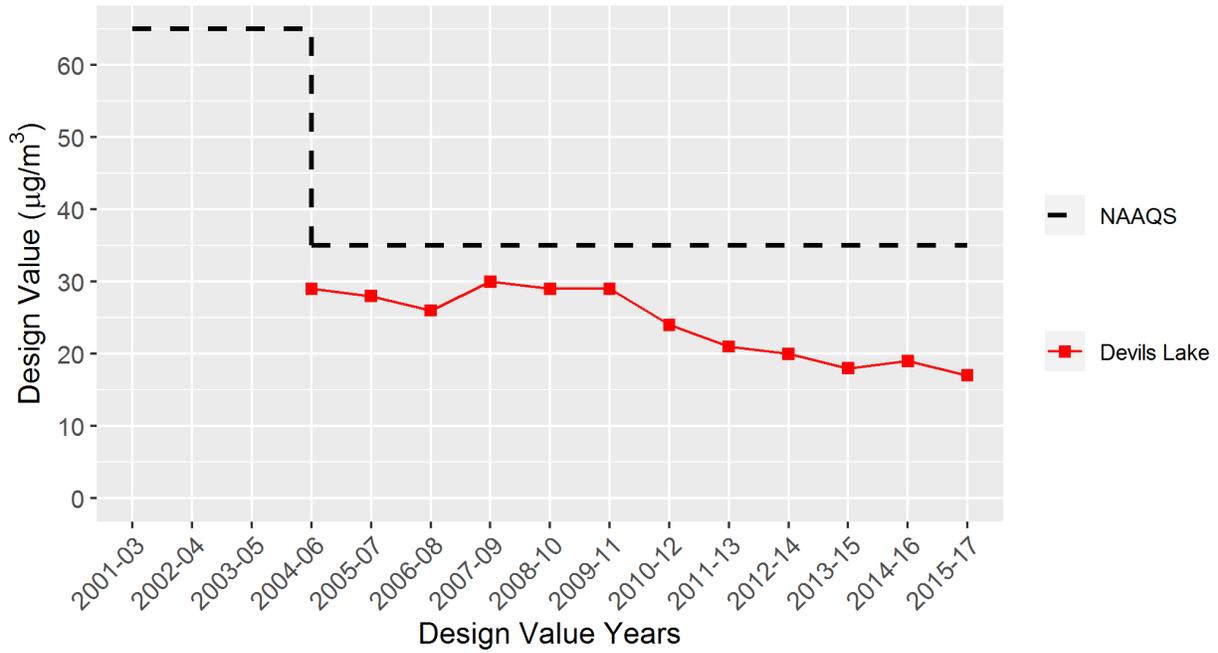
8-Hour Ozone Design Values - Sauk County



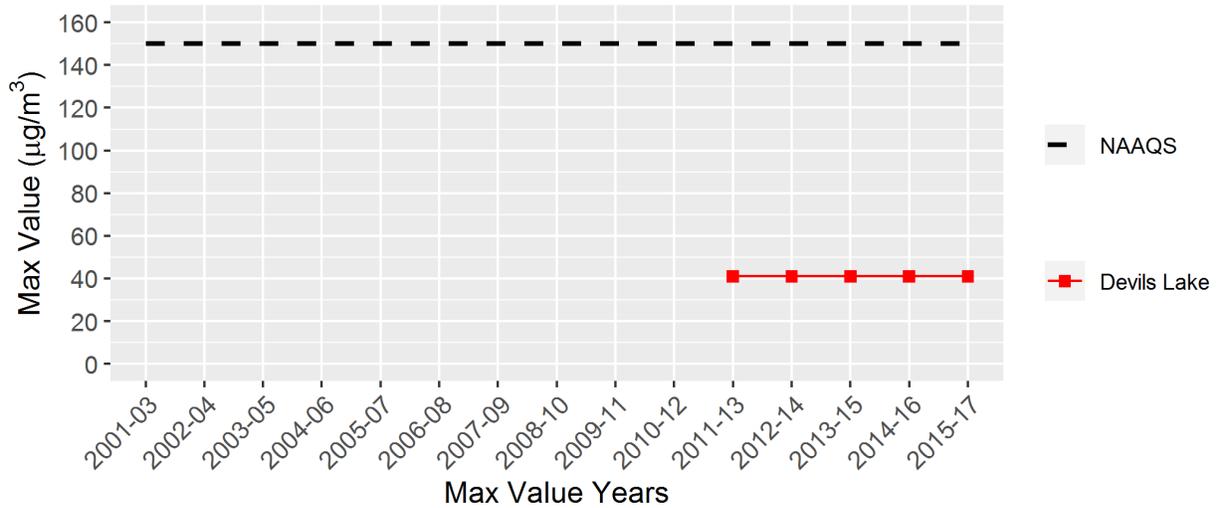
Annual PM_{2.5} Design Values - Sauk County



24-Hour PM2.5 Design Values - Sauk County



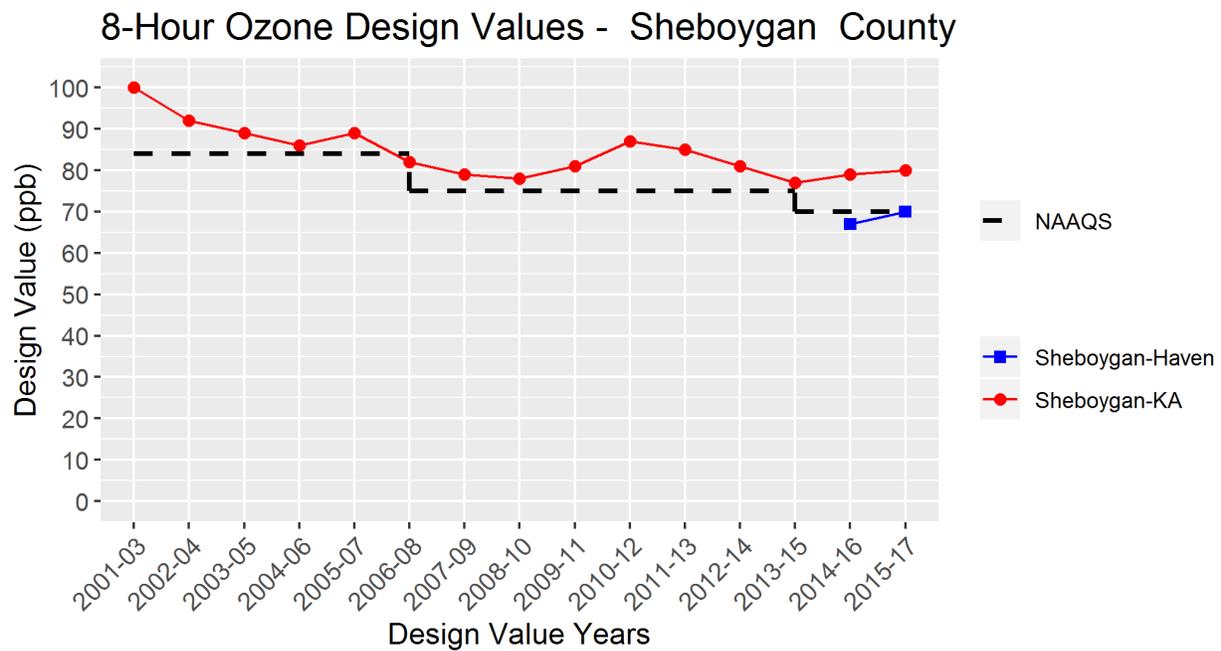
PM10 Max 24-Hour Values - Sauk County

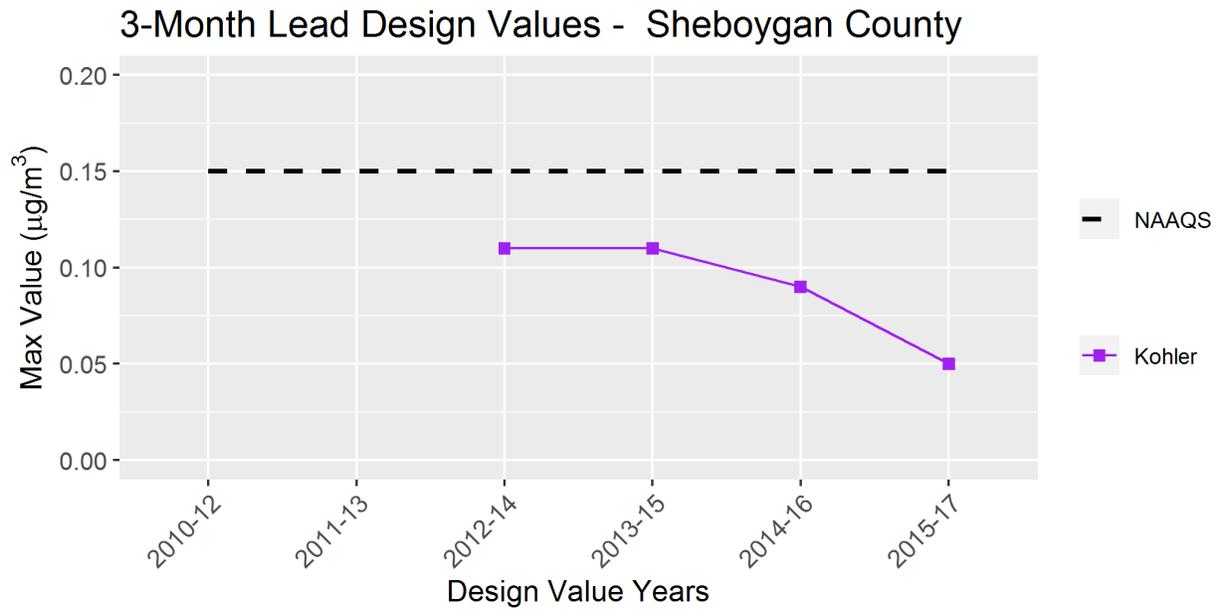


Sheboygan County

Ozone monitoring in Sheboygan County is performed at the Sanderling nature center within Kohler-Andrae State Park. This Lake Michigan shoreline site is located at 1520 Beach Park Road. A second ozone monitoring site was added during the 2014 ozone season (Sheboygan-Haven); it is located at N7563 Highway 42 near the intersection with County Road JJ. The Sheboygan-Haven site is designated as a special-purpose monitor; data from this monitor can also be compared against the NAAQS.

Lead monitoring in Sheboygan County began in December 2009 at the Kohler site. This source-oriented site is located at 444 Highland Drive at the Kohler Company fence line.

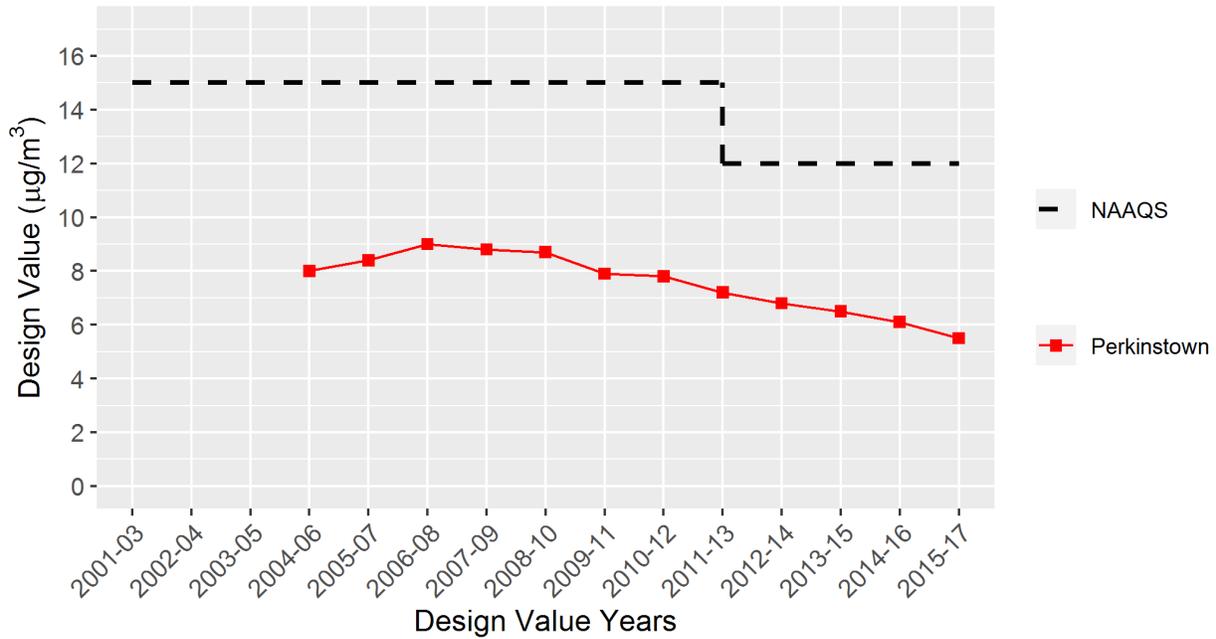




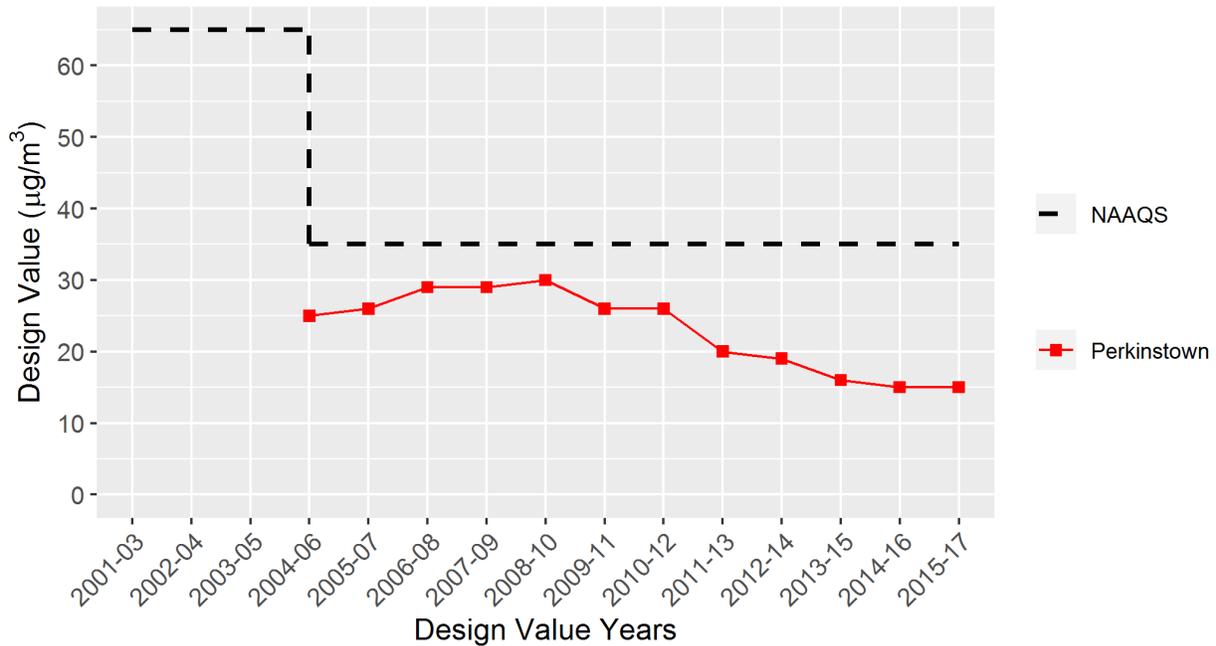
Taylor County

Fine-particle monitoring in Taylor County takes place at W10746 County Highway M, a rural site one mile east of Perkinstown.

Annual PM2.5 Design Values - Taylor County

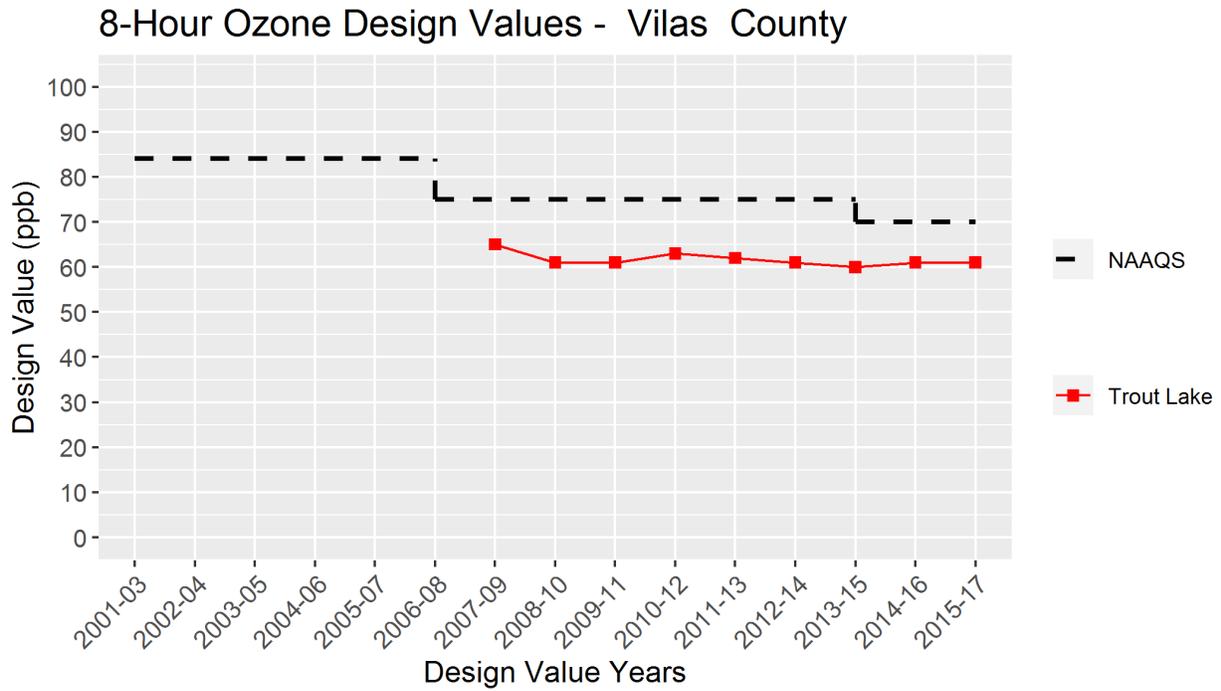


24-Hour PM2.5 Design Values - Taylor County

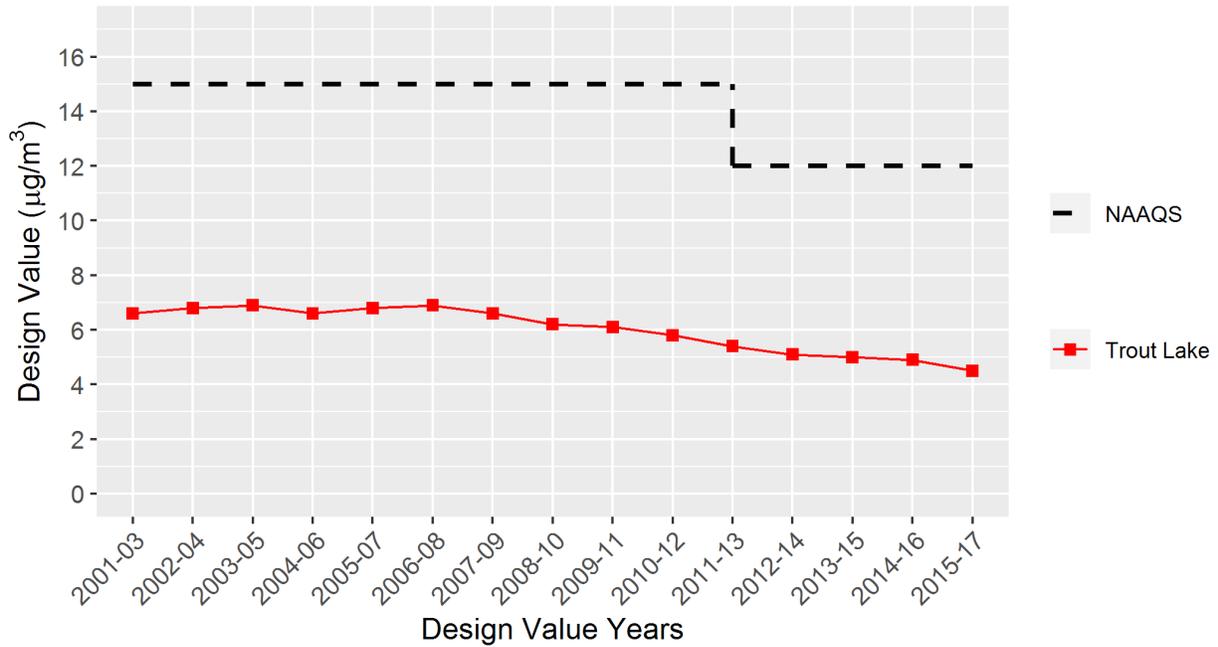


Vilas County

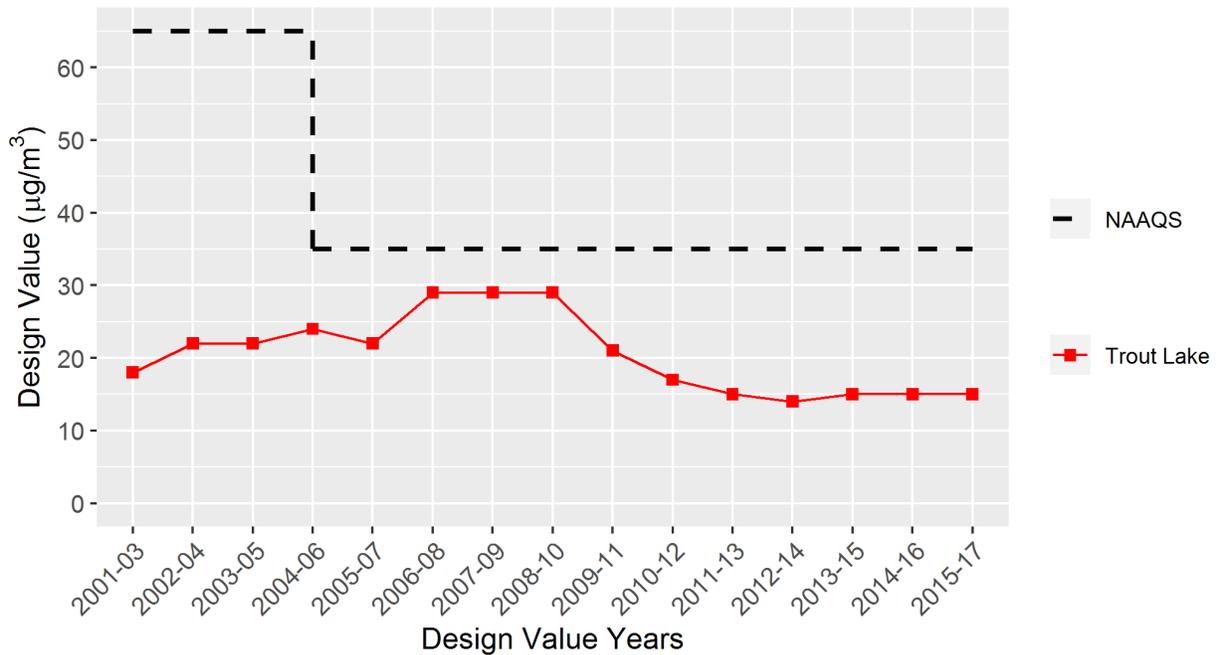
Monitoring for ozone and PM_{2.5} in Vilas County is conducted in a field at the DNR-University of Wisconsin Trout Lake Station at 10810 County Highway M in Boulder Junction.



Annual PM2.5 Design Values - Vilas County

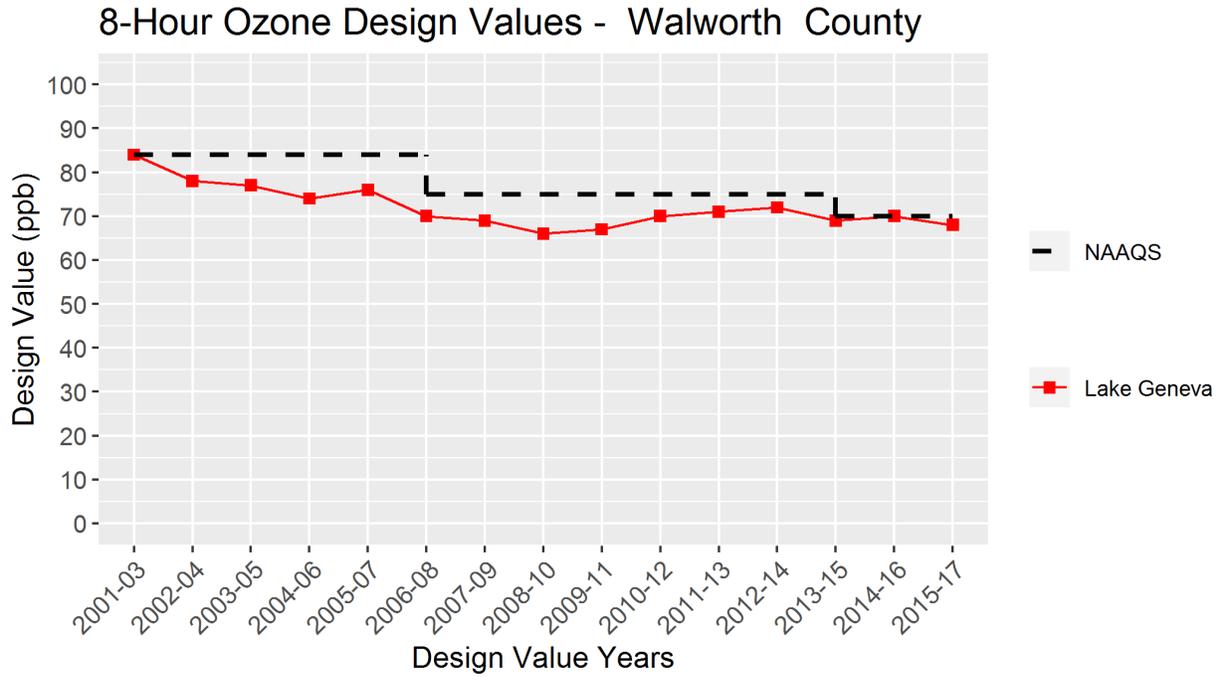


24-Hour PM2.5 Design Values - Vilas County



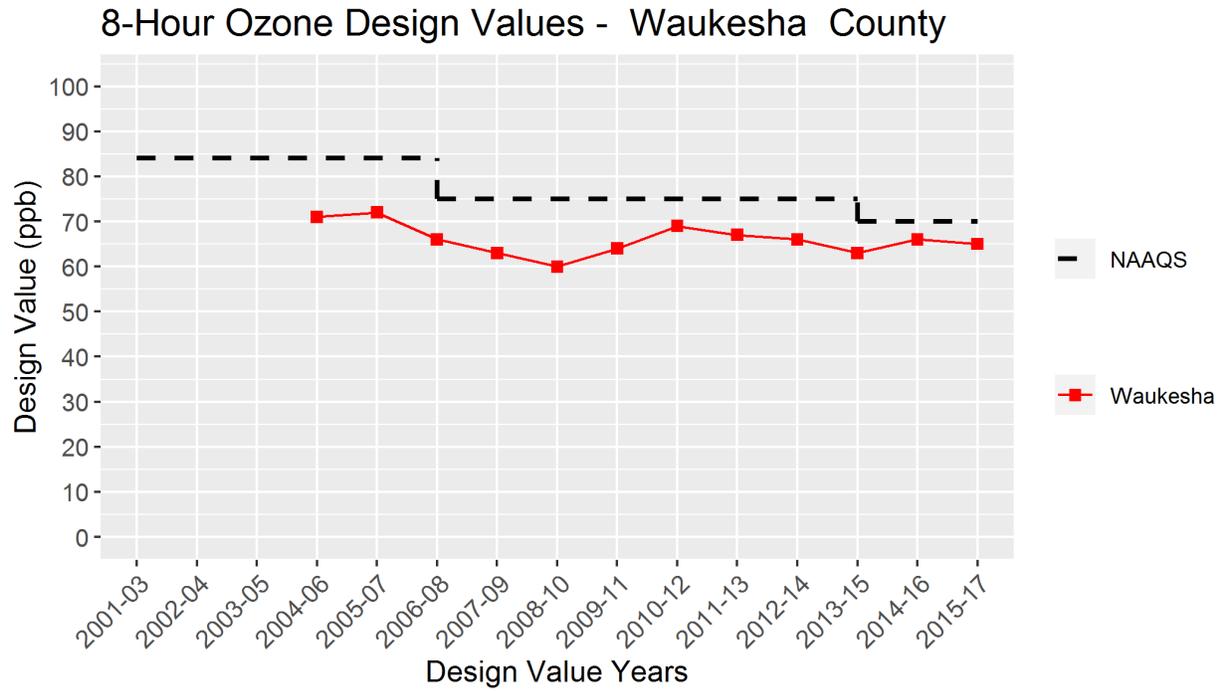
Walworth County

Ozone monitoring in Walworth County is performed at a rural site on the outskirts of the city of Lake Geneva. The address for the site is Rural Route 4 Elgin Club Road.

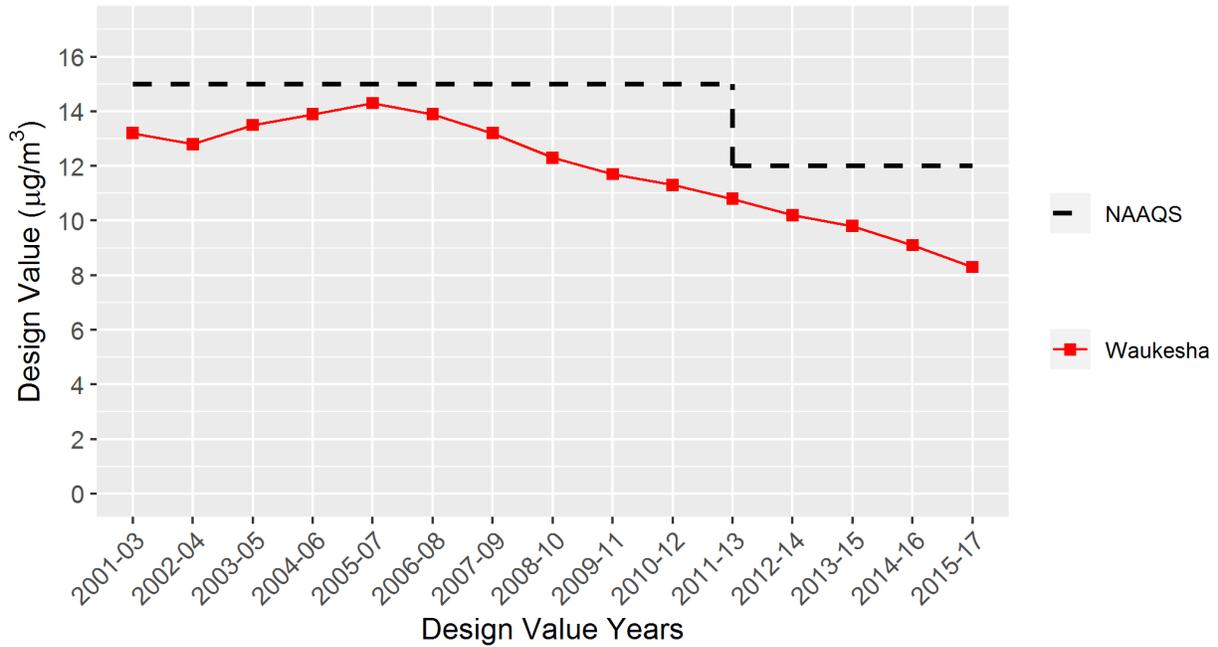


Waukesha County

Monitoring for ozone, PM_{2.5}, and PM₁₀ in Waukesha County is conducted at 1310 Cleveland Avenue in the city of Waukesha. Sampling for concentrations of ozone and PM_{2.5} began on April 29, 2004 and January 22, 2004, respectively. Prior to these dates, sampling for ozone in Waukesha County was performed at a site on the Carroll College campus.



Annual PM2.5 Design Values - Waukesha County



24-Hour PM2.5 Design Values - Waukesha County

