Wisconsin
Department of Natural Resources

Air Management Study Group
Quarterly Meeting

Madison
May 24, 2018

Hiring Update

Gail Good
Air Program Director

Proposed Guidance and Rules

Kristin Hart
Permits and Stationary Source Modeling Section Chief

David Bizot
Air Quality Planning and Standards Section Chief

Proposed DNR Guidance

DNR Guidance in Drafting Phase	Description	Target Date
Updates to Air Dispersion Modeling Guidelines	Updates addressing: • MERPs • AERMOD updates • SIL Guidance	Fall 2018
DNR Guidance in Public Comment	**Description**	**Date Posted**
None		
Finalized DNR Guidance	**Location**	**Final Date**
1-hr NO2 NAAQS Implementation	Guidance item 2503	03/26/2018
Updates to Air Dispersion Modeling Guidelines	AM528.pdf	03/26/2018
Collaborative Permit Process	CollaborativePermitProcess.pdf	04/11/2018

Proposed EPA Rules and Guidance

Proposed EPA rule/guidance	Docket	Comments due
Toxic Monitoring TO-11A Organic Methods - Update methods for the collection and analysis of monitoring carbonyl compounds	https://www.epa.gov/measurements-modeling/documents-updating-toxic-organic-methods	April 30, 2018
NESHAPS: Wet-Formed Fiberglass Mat Production Residual Risk and Technology Review	EPA-HQ-OAR-2004-0309-0057	May 21, 2018
NESHAPS and NSPS: Petroleum Refinery Sector	EPA-HQ-OAR-2010-0682-0893	May 25, 2018
Strengthening Transparency in Regulatory Science	EPA-HQ-OAR-2018-0259	May 30, 2018

Finalized EPA Rules and Guidance

Finalized EPA rule/guidance	Link	Date finalized
Guidance and supporting documentation for Significant Impact Levels (SILs) for ozone and PM2.5 for use in PSD permitting program	https://www.epa.gov/nsr/significant-impact-levels-ozone-and-fine-particles	April 17, 2018

Summary of the Act 70 Kickoff Meeting

Kristin Hart
Permits and Stationary Source Modeling Section Chief

Summary of the Act 70 Kickoff Meeting

Background

- Goal of legislation: attract manufacturing to brownfields

Requirements for participation in pilot program

- Brownfields: Voluntary Party Liability Exemption Certification
- Green Tier: Participation in Tier 1 or 2
- Air Program: Qualification for Registration Permit coverage

Incentive for Participation

- 10 year moratorium on requirement to install controls except as required by federal law

Scope of Pilot

- Ideas for innovations

Next Steps

Clean Air Month - PSA Video ALA Report

Amanda Jutrzonka
Public Information Specialist

Gail Good
Air Program Director

Clean Air Month - PSA Video

- Air Program celebrates Clean Air Month in May
  - Focus on celebrating clear air successes and efforts made by Wisconsin businesses and citizens, as well as department staff
  - New this year is a 1-minute video that shows how the department is committed to clear air
  - Video includes air quality successes and statistics on decreased emissions

  - https://youtu.be/atp0_vr5ylc

ALA Report

- ALA releases its State of the Air report every year, which includes a report card with letter grades “A” through “F” by county.
- ALA uses official monitoring data, but grades are not based on compliance with the NAAQS.
  - ALA grades are based on the aggregate number of days in a 3-year period (2014-2016) that were above the federal air quality standards.
- Some Wisconsin counties that are in attainment of the NAAQS – and thereby meeting all federal air quality standards – are consistently given low or failing grades.
- ALA’s grading system does not reflect improvements in air quality that have occurred in recent years.

ALA Report

- In the report, ALA mentions that Sheboygan is 1 of the 25 most ozone-polluted cities in the U.S. (ranked 24) and 1 of 15 that had an increase in the number of unhealthy days.
  - The report notes that Sheboygan is a city that experienced high ozone days due to upwind sources of air pollution.
- The 2018 report gives 5 Wisconsin counties that are attaining both the 2008 and 2015 ozone standards poor grades.
  - Walworth and Rock counties received “F” grades.
  - Jefferson, Kewaunee and Dodge counties received “D” grades.
- The 2018 report gives all Wisconsin counties a passing grade for annual particle pollution. Most Wisconsin counties received an “A” for daily (24-hour) particle pollution.

Member Updates

E-signature Update

Maria Hill
Compliance, Enforcement and Emission Inventory Section Chief

Andy Stewart
Field Operations Director

E-signature Update

- The Air Program began accepting electronic signatures for source monitoring reports and compliance certifications on April 9, 2018.

- Over 1900 facilities now have the option to submit via either paper copy with ink signature or electronically with e-signature.

- EPA's Cross-Media Electronic Reporting Rule (CROMERR) provides the legal framework for electronic reporting under the regulatory programs. Approval was finalized in August 2017.

E-signature Update

- The Air Program is the first program at DNR to use the new service and is the first federally authorized program to accept electronic signatures for official reports.

- The program has made a few additions to the webpages, based on repeat questions coming in from externals.

- The Air Program plans to offer additional e-signature opportunities in the future. Thoughts on priority areas?

EPA Memos
NSR Reforms, Once In Always In, Common Control

Kristin Hart
Permits and Stationary Source Modeling Section Chief

EPA Memos and Guidance

Permitting Guidance	Link	Date Finalized
Enforceability and Use of Actual to Projected Actual Applicability Test in Determining Major Modification Applicability	Enforceability and Use of A2A Applicability Test	Dec. 7, 2017
Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act	Once In Always In Memo	Jan. 25, 2018
Project Emissions Accounting	Project Emissions Accounting Memo	March 13, 2018
Presidential memo regarding efficient implementation of NAAQS programs	Presidential Memo on Implementation of NAAQS Program	April 12, 2018

EPA Memos and Guidance

Permitting Guidance	Link	Date Finalized
Significant Impact Levels for Ozone and Fine Particles	PM2.5 and O3 SILs Guidance	April 17, 2018
Single Source Determinations – Clarification of Common Control	Meadowbrook Decision	April 30, 2018

EPA Anticipates Releasing Further Rules/Guidance

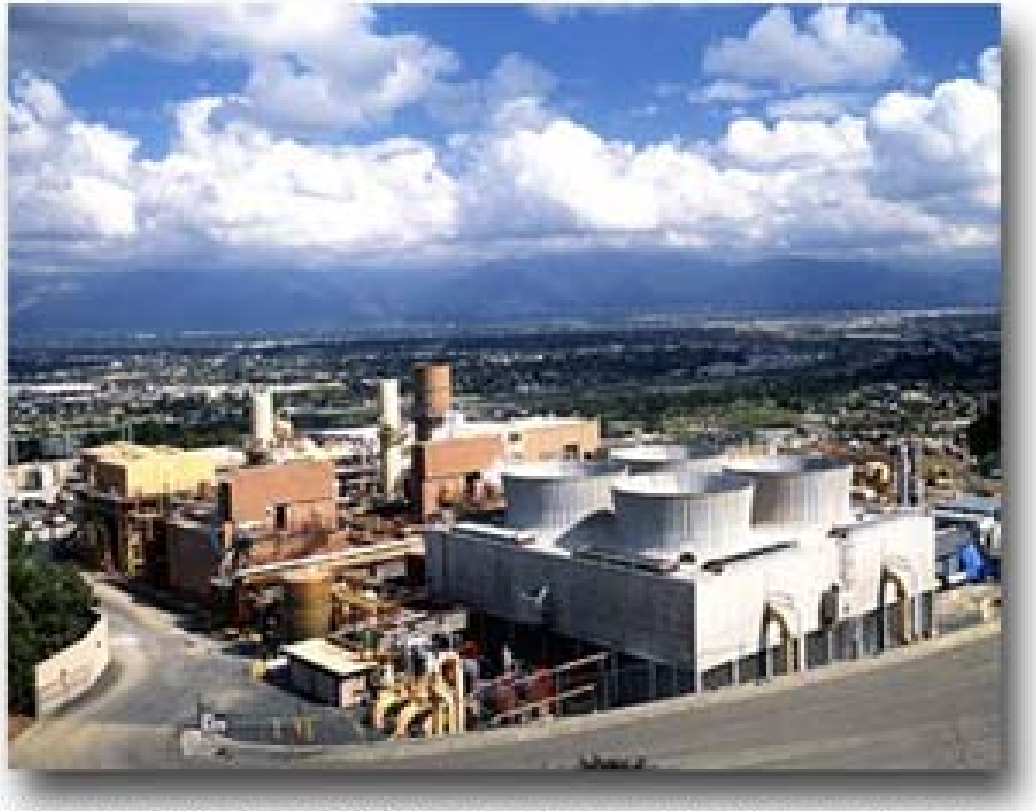
- Rulemaking to clarify project emissions accounting/project netting memo (Fall 2018)
- Planning to take final action on the 2009 project aggregation rulemaking
  - The proposed 2009 rule was previously subject to reconsideration and stayed
- Guidance on defining ambient air

Once In Always In

- Considerations for facilities contemplating removal of MACT requirements
  - Permit action needed
    - If removal of MACT requirements allows an increase in potential emissions, a construction permit is needed
    - If emissions are not affected, a permit revision is needed
  - State Hazardous Air Pollutant Rule – ch. NR 445 may apply
  - Timing – March 26th Petition for Review was made by Earth Justice, et. al.
  - WDNR's Fact Sheet on EPA's Once in Always In policy https://dnr.wi.gov/files/PDF/pubs/am/AM562.pdf

Clarification of Common Control

- Common Ownership or Control - One of three factors for determining if two facilities are a single source for applicability of major source permitting
- Pennsylvania DEP asked EPA to review a single source determination for Meadowbrook Energy and Keystone Sanitary Landfill
- EPA's response on Meadowbrook is new governing guidance



Puente Hills Landfill Gas-to-Energy Facility produces close to 50 megawatts of electricity.
Photo courtesy: Sanitation District of Los Angeles

Clarification of Common Control

- EPA has realigned its approach to common control determinations in order to better reflect a “common sense notion of a plant”.
- “Common control” focuses on *the power or authority of one entity to dictate decisions of the other that could affect the applicability of, or compliance with, relevant air pollution regulatory requirements.*
- Single source determinations, including determinations of what constitutes “common control,” will continue to be made on a case-by-case basis by the applicable permitting authority.

Air Quality Sensors, Dylos Study

Katie Praedel
Air Monitoring Section Chief

Air Quality Sensors

- Future of ambient monitoring
- Citizen science and low cost sensor technology
- EPA making an effort to support citizen science efforts
  - Sensor toolbox
  - Standards for sensor technology

Waukesha $PM_{2.5}$ Instrument Comparison Study

Conducted by

- DNR – monitoring field and data staff

Instruments

- Thermo 2025i (FRM)
- Met One 1020 (BAM)
- TAPI T640X (T640X)
- Dylos DC 1100 PRO-PC (low-cost sensor)

Dates

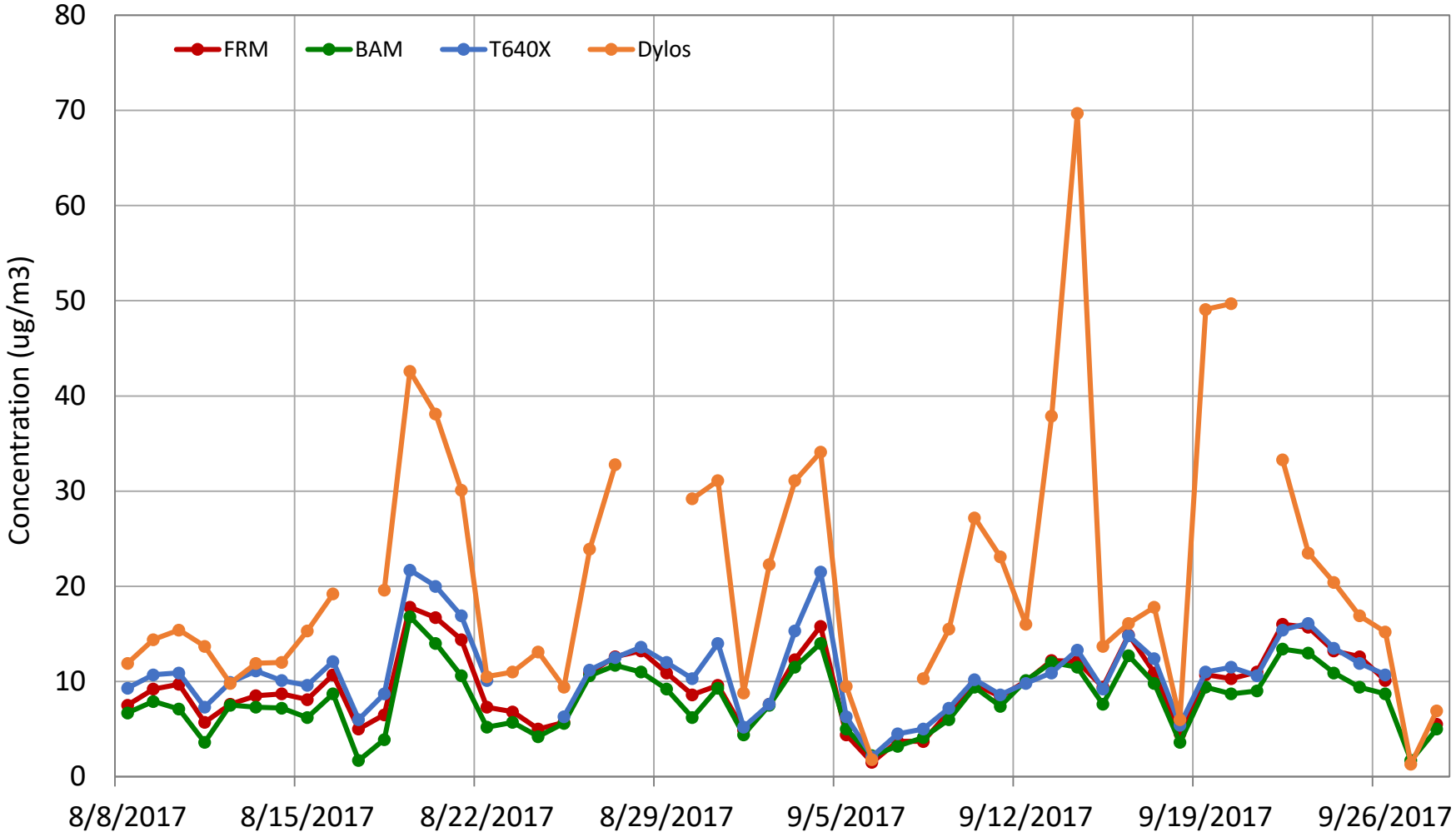
- Aug. 4 – Sept. 27, 2017

Dylos Study – Instrument Methodology

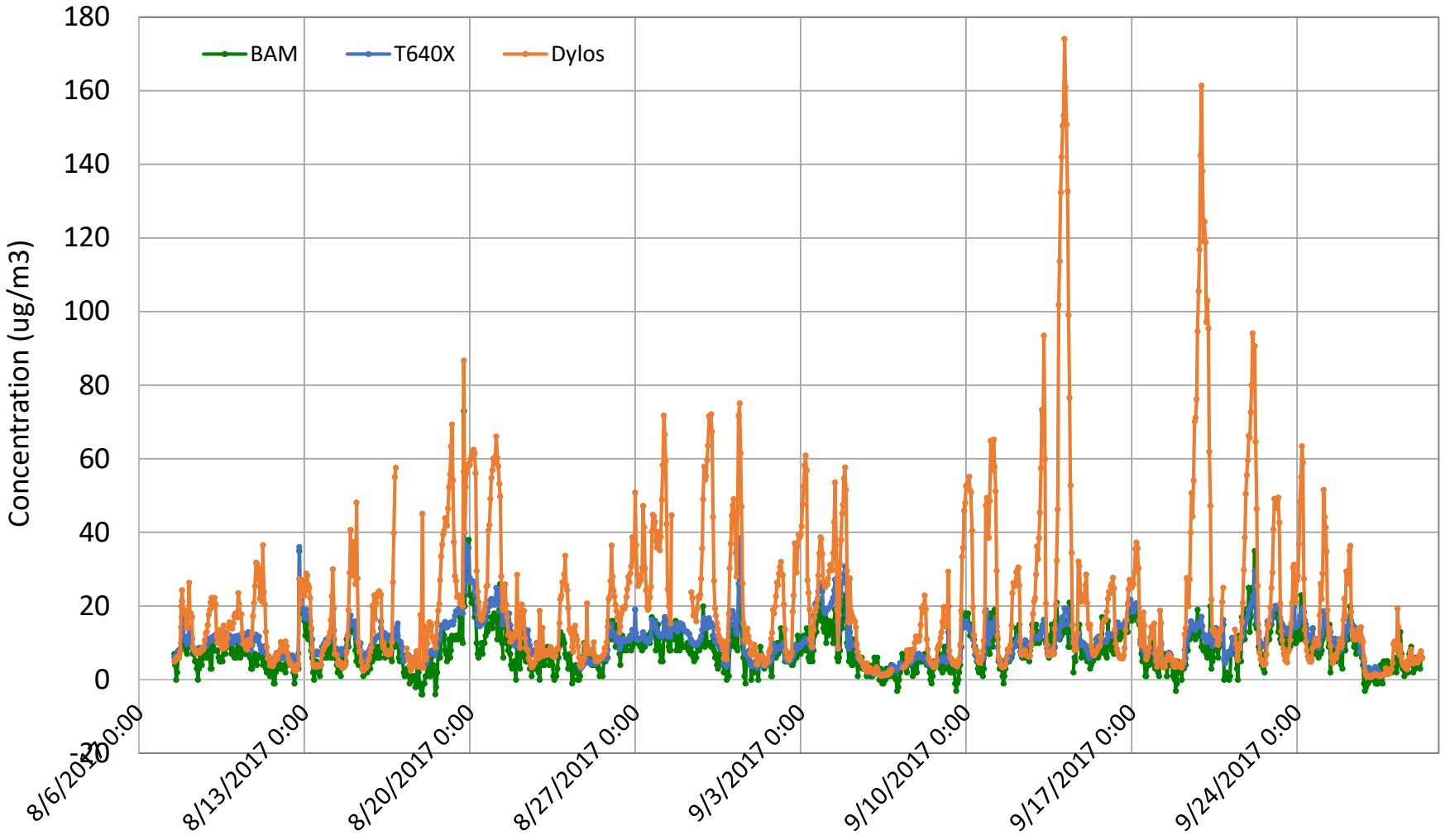
Evaluation of the Dylos DC 1100 PRO-PC

Instr.	FRM/ FEM?	Meas. Increment	Data Units	Measurement Principle
FRM	Y	1 day	µg/m^3	Mass of particles on a filter
BAM	Y	1 hr	µg/m^3	Radiation transmission through filter containing particles
T640X	Y	5 sec	µg/m^3	Light scatter from particles in sample chamber
Dylos	N	1 min	# particles / 0.01 ft^3	Light scatter from particles in sample chamber

$PM_{2.5}$ Instrument Concentrations - Daily Averages



$PM_{2.5}$ Instrument Concentrations - Hourly Averages



$PM_{2.5}$ Concentration - Means and Bias

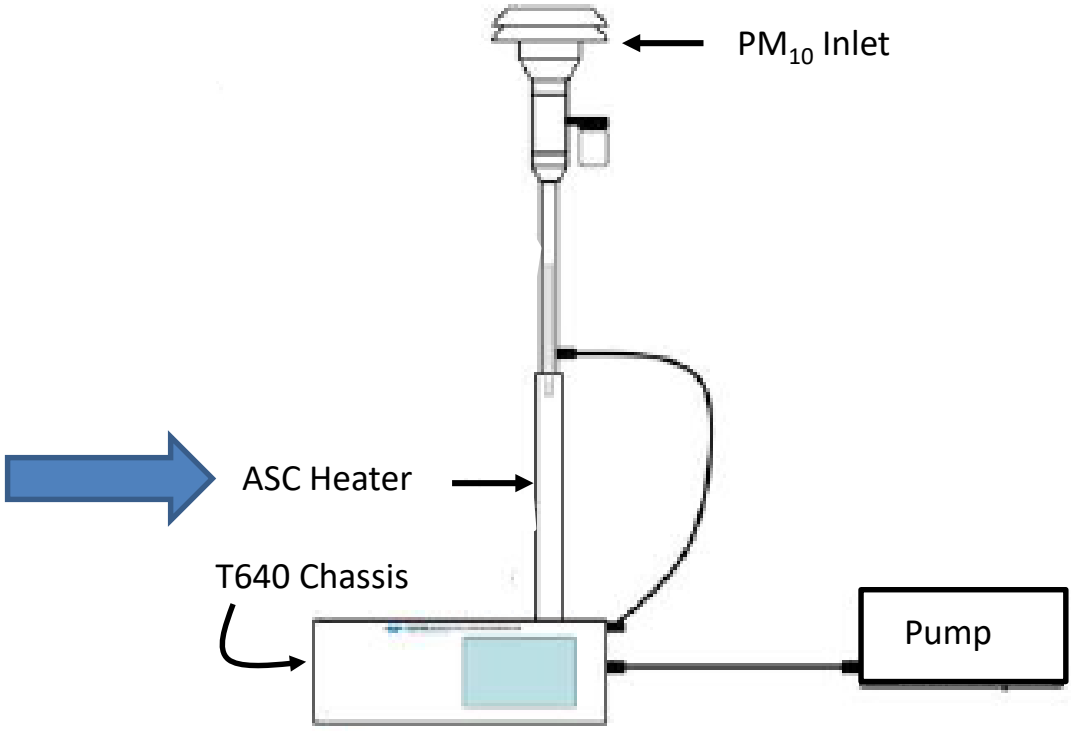
Comparison	N	Test conc. ($\mu g/m^3$)	Ref conc. ($\mu g/m^3$)	N*	Avg bias* (%)
BAM-FRM	51	8.2	9.5	49	-13.2
T640X-FRM	48	10.9	9.7	47	14.1
Dylos-FRM	46	21.5	9.6	45	122.7

* For samples with concentrations ≥ 3 $\mu g/m^3$

40 CFR 58 Appendix A statistics

Humidity Management

T640X



Dylos

Dylos Units Conversion

~PM2.5

$$\frac{ug}{m^3} \approx \frac{Small - Large}{100}$$

"Small" = **All** particles (down to 0.5 µm); units = # particles / 0.01 ft^3

"Large" = **Large** particles (> 2.5 µm); units = # particles / 0.01 ft^3

Waukesha $PM_{2.5}$ Instrument Comparison Conclusions

- The equipment comparison brought to light two obvious flaws in the Dylos system compared to FEM particle counter
- Timing of higher pollution peaks generally corresponded well among all instruments
- Measurements recorded by the Dylos were generally higher than values recorded by FRM/FEM instruments
- Data from the Dylos should be interpreted with caution
- Data from the Dylos should not be compared to the federal standards

Annual Network Plan and Act 159

Katie Praedel
Air Monitoring Section Chief

David Bizot
Air Quality Planning and Standards Section Chief

Annual Network Plan - Purpose

- Examine Wisconsin's ambient air monitoring network in operation during 2018 – 2019
- Look back on changes proposed and completed in previous plans
- Recommend changes based on:
  - Monitor history
  - Population distribution
  - Modifications to federal monitoring requirements under the Clean Air Act, and 40 CFR Part 58
- Consider recommended changes to the network based on the findings of the 5-Year Network Assessment submitted to U.S. EPA on July 1, 2015

Act 159

- Effective March 30, 2018, Act 159 created a new section, 285(3), in the air monitoring section of chapter 285.
- Under the authority of the new statutory section, the department may not include the air monitoring site located in Kohler-Andrae State Park in Sheboygan County in the state's monitoring network plan.
- If EPA does not approve the initial network plan submitted by the department, the department may submit a revised plan that includes the air monitoring site at Kohler-Andrae.
- DNR must also request a waiver from EPA of all SIP requirements that may be implicated by discontinuing the use of the Kohler-Andrae monitor.

Plan to Address Act 159

- Following a 30-day public comment period and public meeting, DNR will submit the ANP to EPA as required prior to July 1, 2018.
- DNR submitted the ANP with most references to the Kohler-Andrae site excluded.
- The site located at Kohler-Andrae was named in two “2018 Summary of Changes” sections.
  - The Kohler Andrae monitor was not placed to monitor the maximum downwind impacts from the urbanized portion of the Sheboygan area, but to capture maximum downwind impacts from several urban areas along Lake Michigan.
- Concurrent with the ANP submittal, DNR will also submit a request to EPA to waive any SIP requirements that are contingent upon continued operation of the Kohler-Andrae monitor.

2015 Ozone NAAQS Designations

David Bizot
Air Quality Planning and Standards Section Chief

2015 Ozone NAAQS Designations

- On May 1, 2018, EPA notified Wisconsin of its final area designations for the 2015 ozone NAAQS.

- EPA's designations information (including final rule, responses to comments, and state-specific technical support documents) can be found here: https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards

- Wisconsin-specific fact sheet and maps of final designated areas in Wisconsin can be found on the DNR website: https://dnr.wi.gov/topic/AirQuality/Ozone.html

2015 Ozone NAAQS Designations

Summary of final designations:

Counties	Final Designation	Comment
Door Manitowoc Sheboygan Ozaukee Milwaukee Kenosha	Nonattainment (partial)	• Final designated areas in these counties are all smaller than EPA proposed in its 120-day letter. • Boundaries closely follow the "distance from the shoreline" contour described by DNR in its April 2017 TSD, but use roads.
Waukesha Washington Racine	Attainment/unclassifiable	All three counties were previously proposed by EPA to be designated nonattainment.

EPA's Final 2015 Ozone NAAQS Nonattainment Area Designations

All areas of Wisconsin

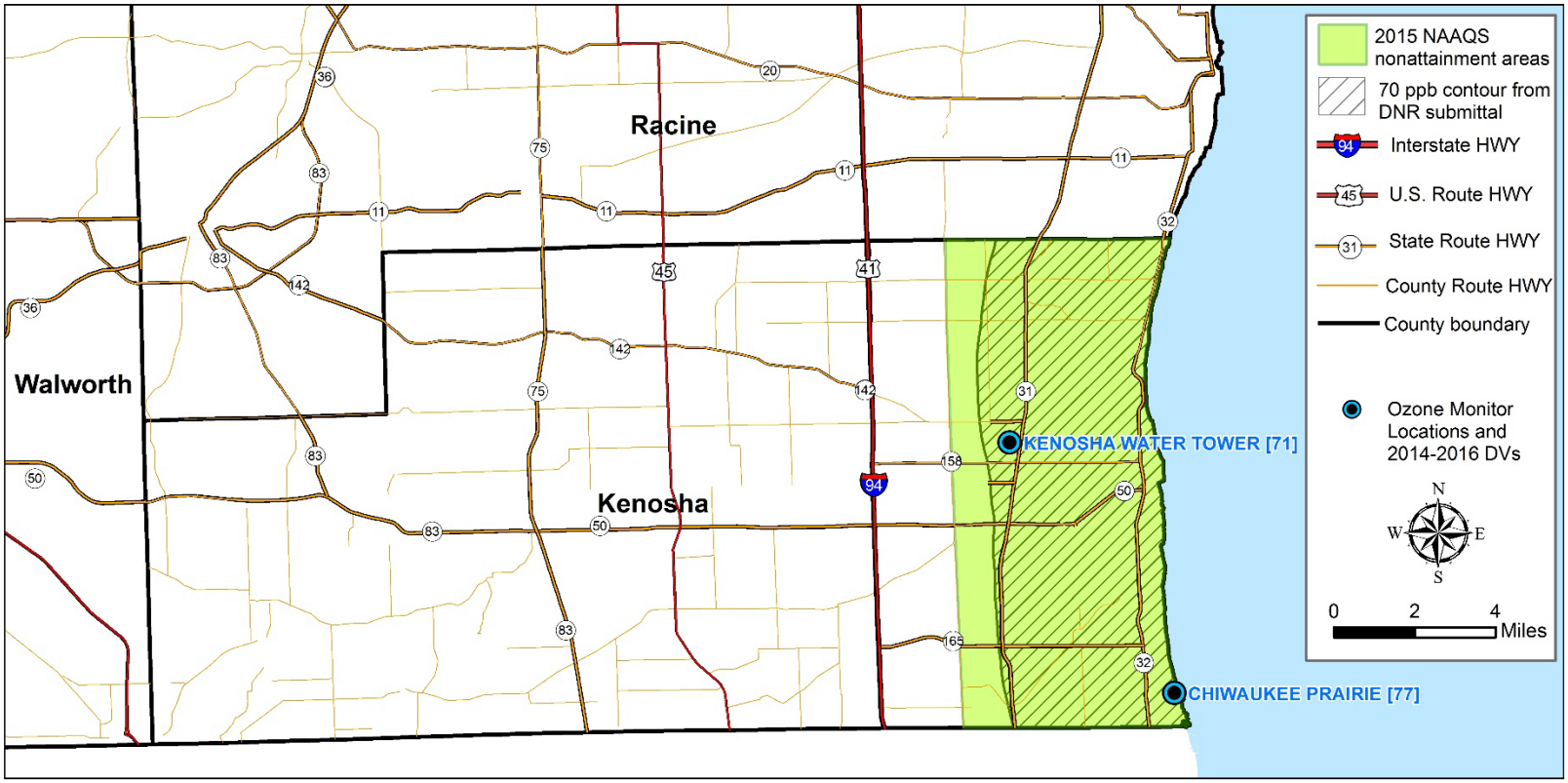
Showing comparison with 70 ppb distance from shoreline contour

Data from EPA's final area designations
https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards

EPA's Final 2015 Ozone NAAQS Nonattainment Area Designations

Kenosha County

(Note: Kenosha County is part of the IL-IN-WI Chicago nonattainment area)

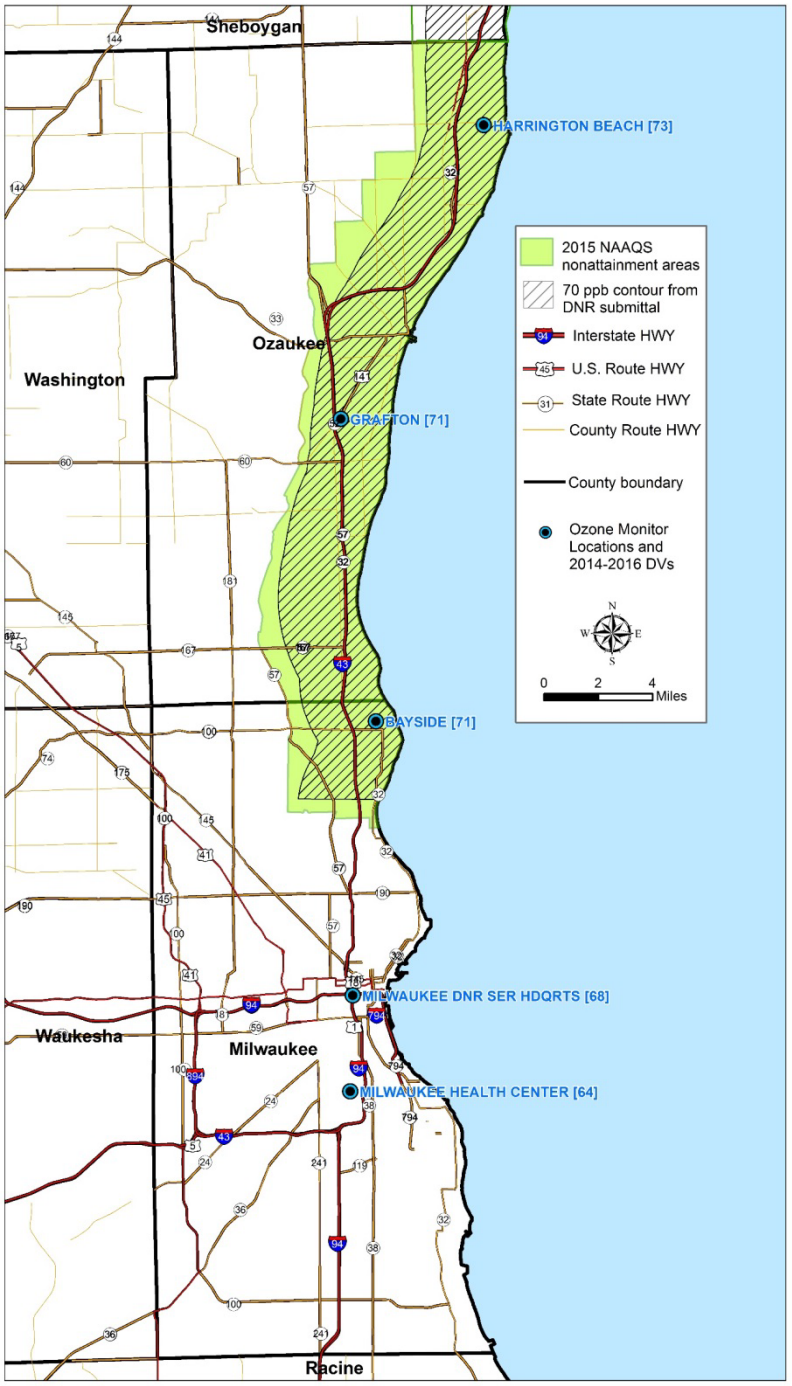


Data from EPA's final area designations: https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards

Wisconsin
Department of Natural Resources

EPA's Final 2015 Ozone NAAQS Nonattainment Area Designations

Northern Milwaukee/ Ozaukee Shoreline Area



Data from EPA's final area designations
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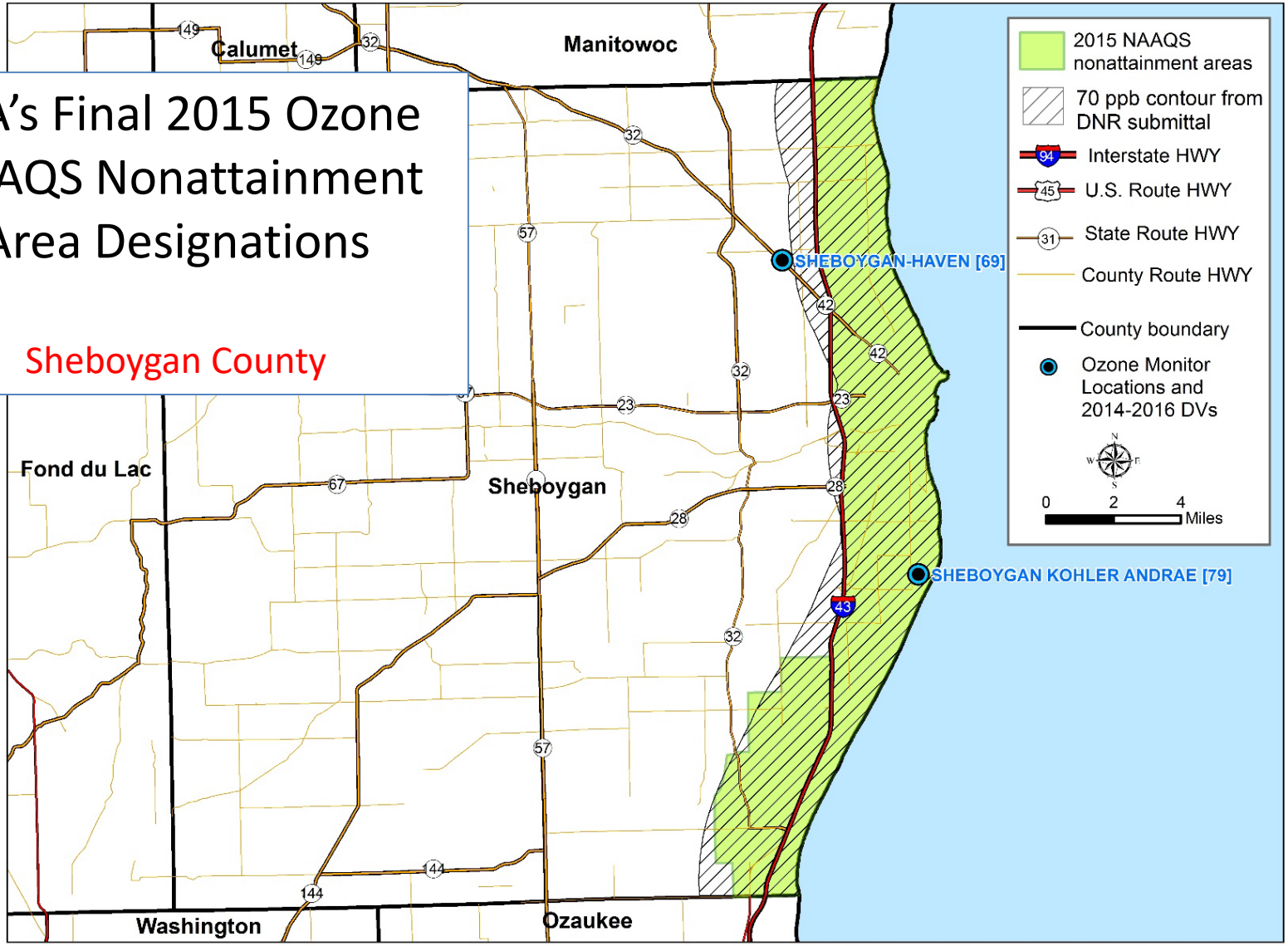
EPA's Final 2015 Ozone NAAQS Nonattainment Area Designations

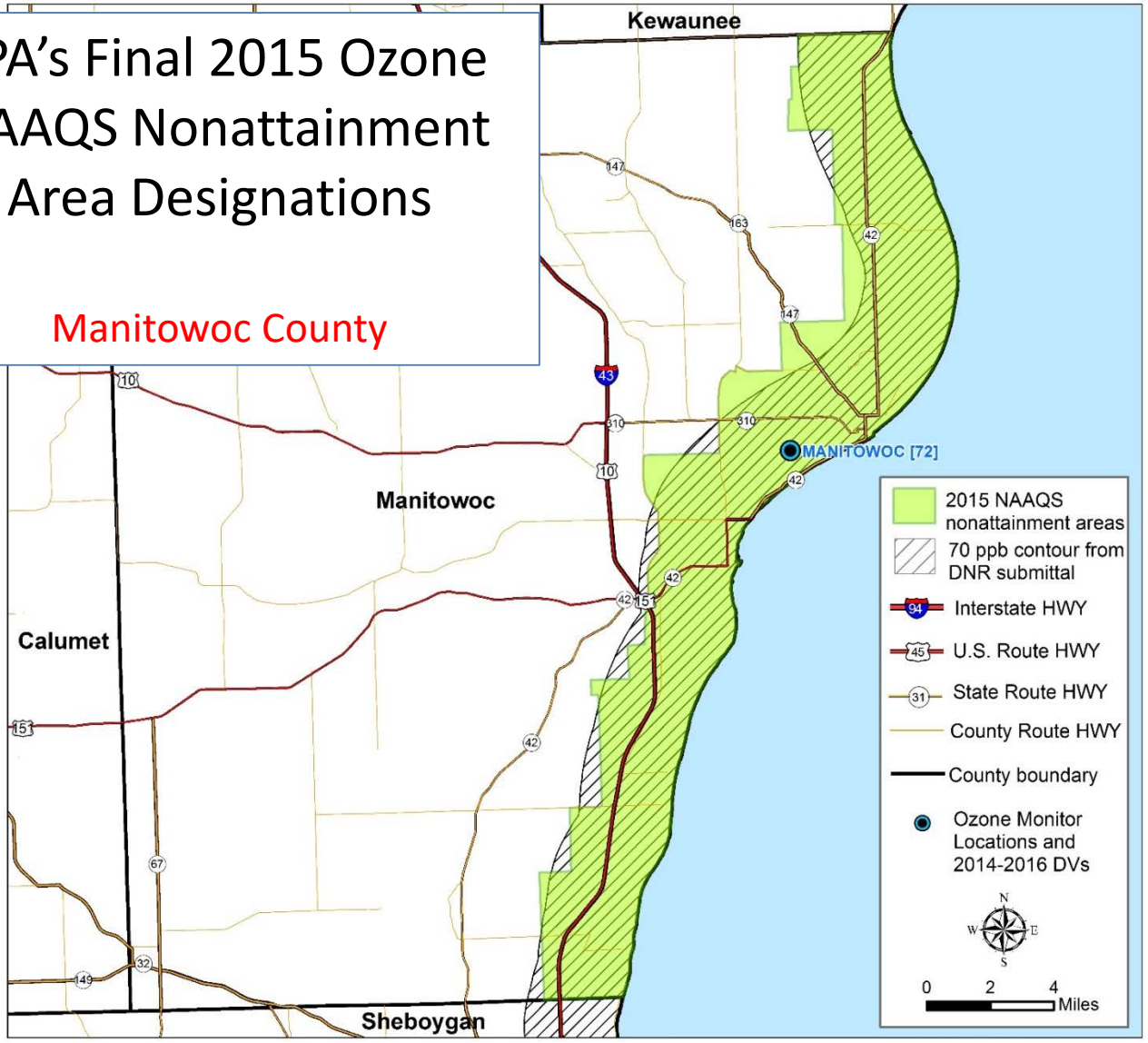
Sheboygan County



Data from EPA's final area designations: https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards

EPA's Final 2015 Ozone NAAQS Nonattainment Area Designations

Manitowoc County

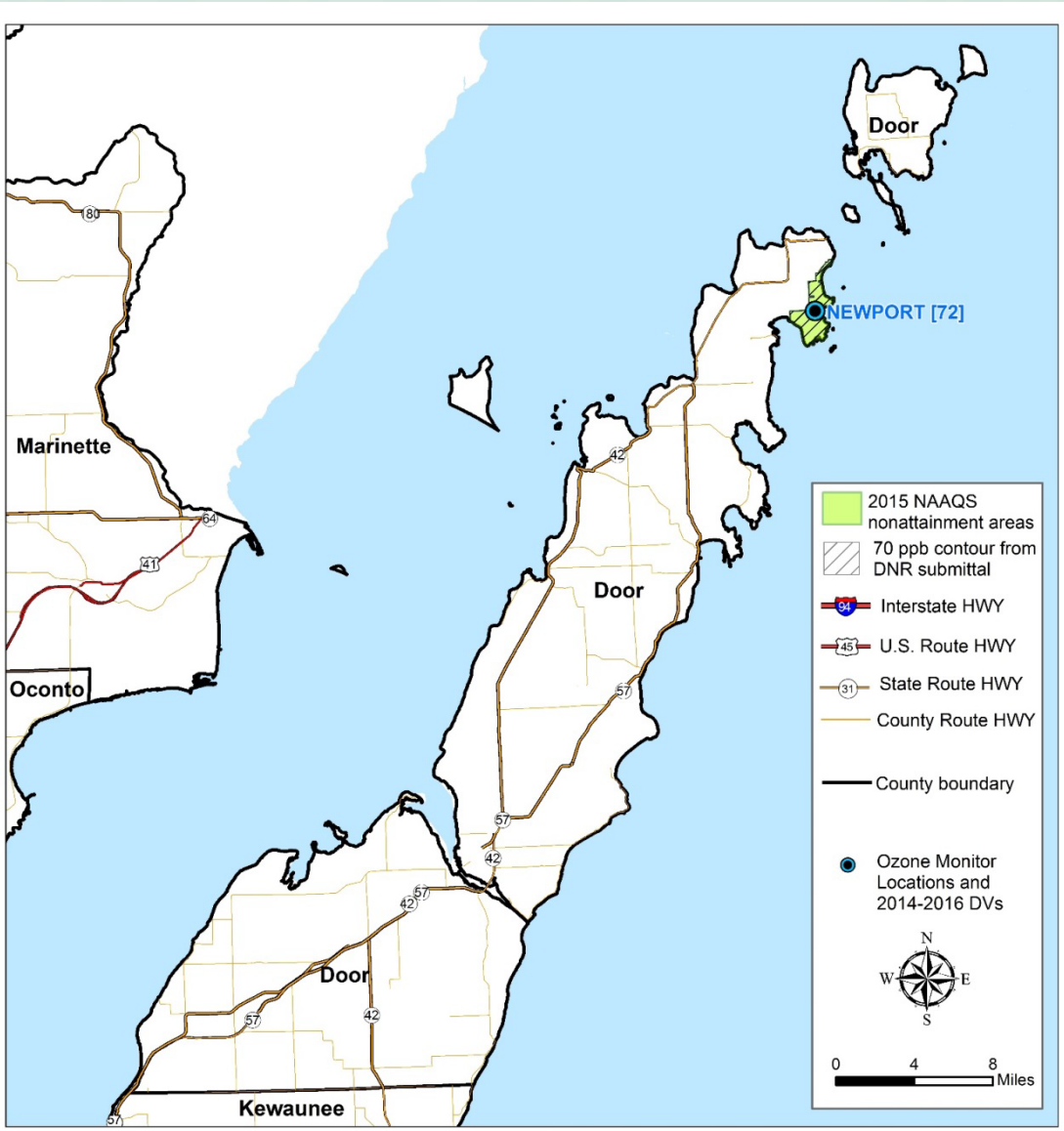


Data from EPA's final area designations: https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards

EPA's Final 2015 Ozone NAAQS Nonattainment Area Designations

Door County

(Note: this area also designated a rural transport area)



Data from EPA's final area designations: https://www.epa.gov/ozone-designations/additional-designations-2015-ozone-standards

2015 Ozone NAAQS Designations

- Designations will be effective 60 days after publication in the Federal Register (e.g., late July).

- All areas classified "marginal." Attainment date will be effective date + 3 years (e.g., July 2021)
  - Note that moderate classification requirements will continue to apply in the 2008 ozone NAAQS areas in Sheboygan/Kenosha counties.

- DNR fact sheet may be useful reference for stakeholders and regulated community regarding the implications of designations. This will be updated over time.

Status of the 2018 Ozone Season

Top Four 8-Hour Average Ozone Concentrations – as of May 21, 2018

site	Concentrations (ppb)				2018 Critical values		Days at/above C.V.		Current 2016-2018 "design value"
	1st high	2nd high	3rd high	4th high	2008 std	2015 std	2008 std	2015 std	
Chiwaukee Prairie	74	66	63	63	69	54	1	14	74
Kenosha WT	72	64	62	62	76	61	0	4	71
Manitowoc	68	65	62	62	83	68	0	1	69
Bayside	69	61	58	57	81	66	0	1	68
Grafton	72	62	61	59	84	69	0	1	67
Harrington Beach	71	61	59	58	78	63	0	1	69
Racine Payne & Dolan	72	64	62	61	72	57	1	10	72
Sheboygan Kohler Andrae	74	66	65	63	68	53	1	12	74
Sheboygan Haven	69	63	63	60	84	69	0	1	68

2008 NAAQS: 75 ppb
2015 NAAQS: 70 ppb

Exceeds the 2015 NAAQS critical value or standard

Exceeds the 2008 NAAQS critical value or standard

Note: Data have not yet been QA'ed or certified and are subject to change. Values are only shown for monitors that exceeded their critical value at least once.

Emission Reduction Credits - General

- Emission Reduction Credits (ERCs) are surplus NOx or VOC emissions reductions certified in a permit that can be used to meet offset requirements under the Nonattainment New Source Review program.

- State and federal requirements require ERCs to be surplus, permanent, quantifiable, and federally enforceable to be valid for use as offsets.

- Generally, to remain valid ERCs need to be reported to the emission inventory annually by the facility and be included by the state in baseline SIP attainment inventories, when required.

Emission Reduction Credits – 2015 Ozone NAAQS

- Generally, ERCs can be used in a 2015 ozone NAA if:
  - the ERCs were generated in that area, and
  - if the ERCs were generated under previous standards, those ERCs were reported in annual emissions inventories and included in appropriate SIP inventories.

- ERCs must be used in the same nonattainment area in which they were established. The state may allow an exemption if:
  - the source that generated the ERC is located in an area that currently has an equal or higher nonattainment classification than the area in which the ERCs are being used, and
  - the source area contributes to a violation of the national ambient air quality standard in the nonattainment area in which the ERCs are being used.

Emission Reduction Credits

- The program can facilitate identification of ERCs available in the state that could potentially be used for offset purposes and can work with permit holders to determine if ERCs they may be holding are still available for use.

- The department is currently determining which ERCs created under the 1997 and 2008 ozone standards may still be viable and if the state needs to take any additional action to confirm their availability for current or future use.

- The program is developing a fact sheet to help answer questions related to ERCs and will make that publicly available, when complete.