

DNR Update

Government Affairs Seminar 2019

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Wisconsin DNR



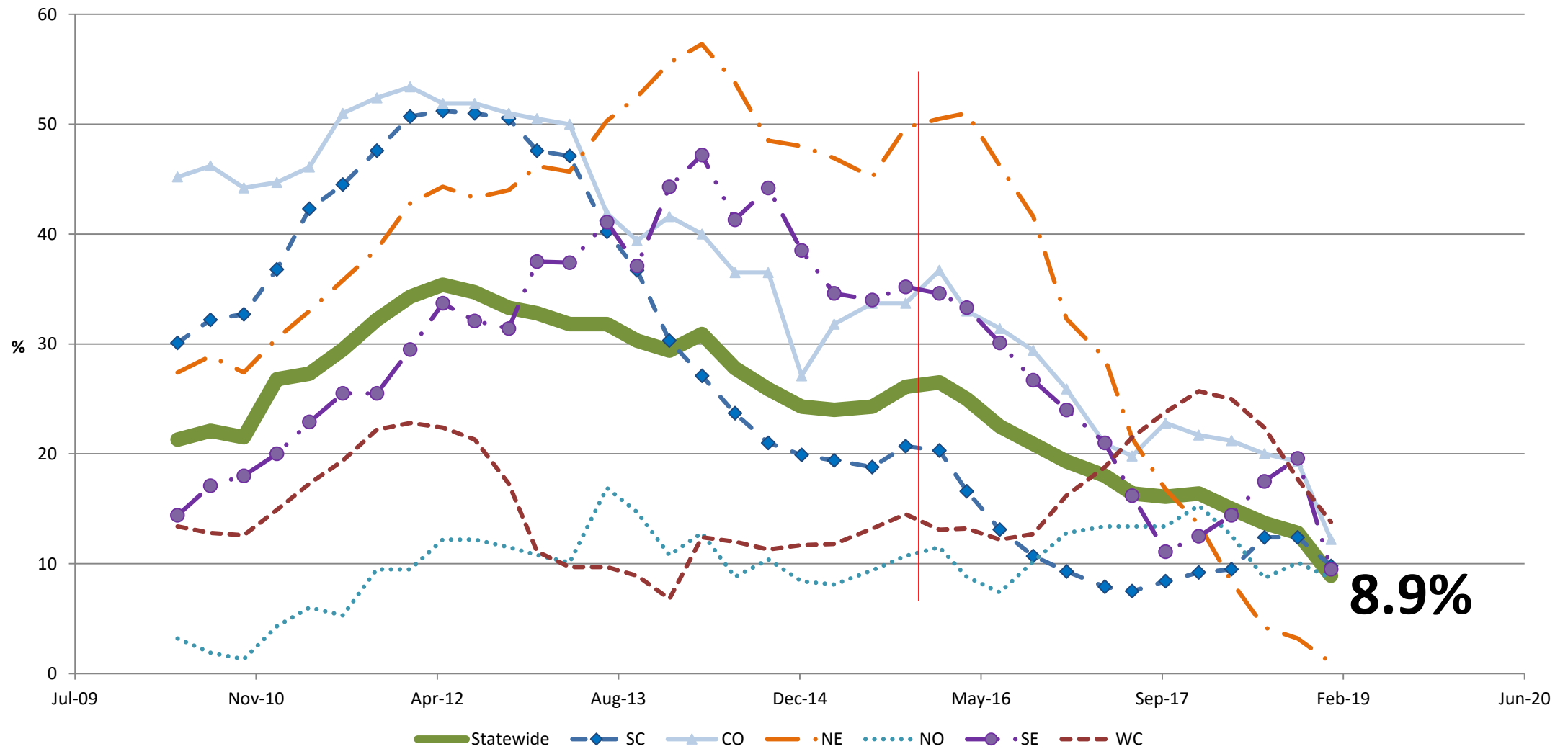
Topics



- DNR Organization and Updates
- Water Quality Standards
 - Ammonia
 - Total Nitrogen
 - Blue-green Algae
 - Antidegradation
 - PFAS
- Whole Effluent Toxicity (WET)
- TMDLs
 - Wisconsin River
 - Upper Fox/Wolf Rivers
- Air Quality Regulation of POTWs
- Operator Certification/Training



WPDES Backlog Update

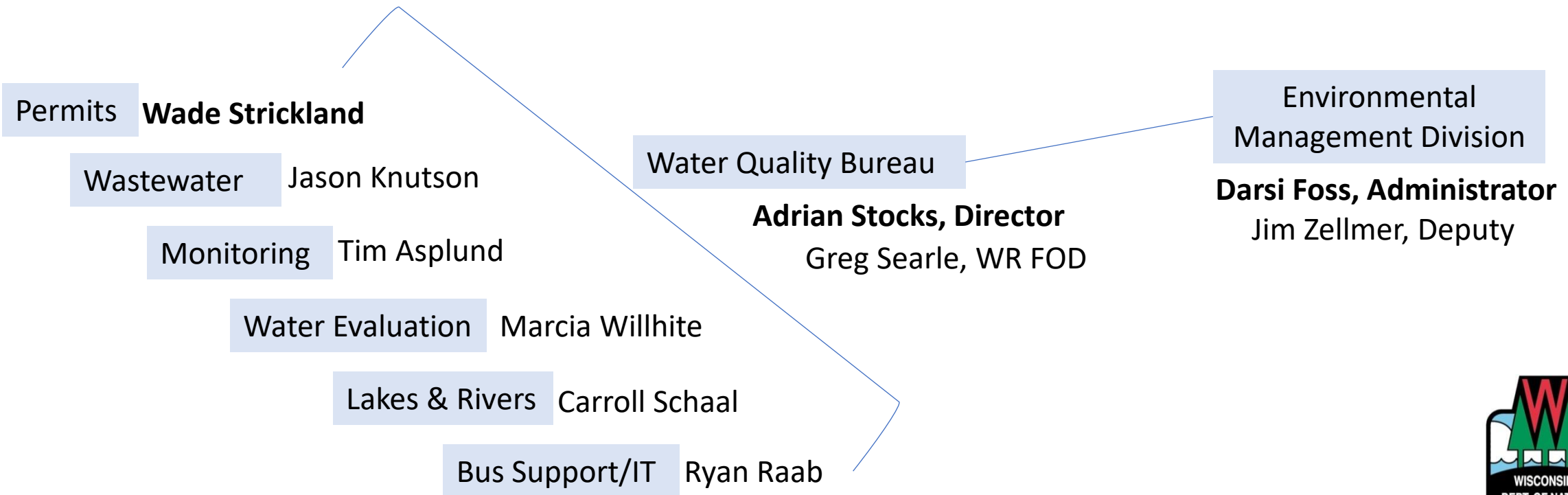


Administration Changes

Preston Cole, Secretary

**Elizabeth Kluesner,
Deputy Secretary**

**Todd Ambs, Asst.
Deputy Secretary**





Water Quality Standards



Triennial Standards Review – Priorities for 2018-2020

Antidegradation

Bacteria Criteria Revision
Biocriteria
Chloride Variance Streamlining
Designated Uses Process Revision
P Assimilative Capacity in GLs
P Site Specific Criteria
Wetlands Floristic Assessment
Numeric Benchmarks

Aquatic Life
Criteria Revisions

P Criteria for
2-Story Lakes
Arsenic Variance
Process

Cyanobacteria

Human Health Criteria Revisions
Mercury MDV
Outstanding/Exceptional Resource
Water Process Revision
PFOS/PFOA

Ammonia
Arsenic
Chloride
Total Suspended Solids (TSS)
Copper
Nitrate/Nitrogen

A: In Progress
B: New Priorities
C: Priorities, but limited progress expected
D: Barriers to progress
E: Not Priorities





Ammonia

Variable based on pH

Effluent pH s.u.	NH ₃ -N Limit mg/L	Effluent pH s.u.	NH ₃ -N Limit mg/L	Effluent pH s.u.	NH ₃ -N Limit mg/L
6.0 < pH ≤ 6.1	108	7.0 < pH ≤ 7.1	66	8.0 < pH ≤ 8.1	14
6.1 < pH ≤ 6.2	106	7.1 < pH ≤ 7.2	59	8.1 < pH ≤ 8.2	11
6.2 < pH ≤ 6.3	104	7.2 < pH ≤ 7.3	52	8.2 < pH ≤ 8.3	9.4
6.3 < pH ≤ 6.4	101	7.3 < pH ≤ 7.4	46	8.3 < pH ≤ 8.4	7.8
6.4 < pH ≤ 6.5	98	7.4 < pH ≤ 7.5	40	8.4 < pH ≤ 8.5	6.4
6.5 < pH ≤ 6.6	94	7.5 < pH ≤ 7.6	34	8.5 < pH ≤ 8.6	5.3
6.6 < pH ≤ 6.7	89	7.6 < pH ≤ 7.7	29	8.6 < pH ≤ 8.7	4.4
6.7 < pH ≤ 6.8	84	7.7 < pH ≤ 7.8	24	8.7 < pH ≤ 8.8	3.7
6.8 < pH ≤ 6.9	78	7.8 < pH ≤ 7.9	20	8.8 < pH ≤ 8.9	3.1
6.9 < pH ≤ 7.0	72	7.9 < pH ≤ 8.0	17	8.9 < pH ≤ 9.0	2.6

Varies dependent upon presence/absence of mussels

1999: EPA published Ammonia Criteria

2004: DNR Adopted Ammonia Criteria (NR 106)

2013: EPA published Updated Aquatic Life Criteria for Ammonia

- Category D: Barrier to Development
 - EPA Region 5 has a workgroup examining implementation of these standards
 - Awaiting findings



Total Nitrogen

- Surface Water: Category D - Barriers to Development
 - Insufficient data on hand for state-led standard development
 - EPA working on a nutrient standard for lakes to prevent Harmful Algal Blooms
 - P and N Standards
 - Will continue to evaluate data and improve state's scientific understanding
- Groundwater: UW Denitrification Study for Land Treatment Systems
 - Plant Uptake + Demonstrable Denitrification = N Loading Limits
 - Known
 - Topic of UW Study





Blue-green Algae

- EPA to finalize criteria in Spring 2019 for:
 - Microcystin
 - Cylindrospermopsin
- May be either:
 - Numeric Criterion or Recreational Advisory Level
 - Cyanotoxin Concentration or Cell Density Count
- Category B: New Priority
 - DNR waiting to see EPA's final criteria and Technical Development Document
 - Scope Statement would begin after that point





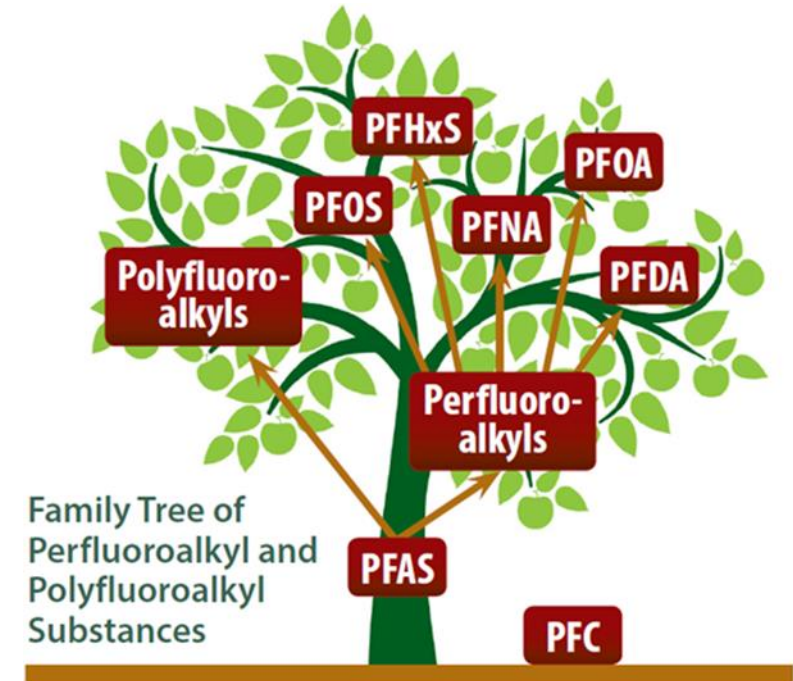
Antidegradation

- Category A: Active Progress
- Scope Statement for Rulemaking approved in 2016
- Progress ongoing
- Goals:
 - Revise Subch. I of NR 207, Wis. Adm. Code to be consistent with federal regs
 - Clarify when an antideg review is necessary
 - Establish effective, transparent process for conducting antideg reviews
- Interim Step: Antidegradation Application Form

PFAS



- PFAS = Per- and PolyFluoroAlkyl Substances
 - PER-sistant!
 - Family of over **3,000** man-made fluorinated organic compounds
 - Fluorinated carbon tail is lipophobic (repels fat), oleophobic (repels oil), and hydrophobic
- Manufactured since 1940s
 - 2002: Production of PFOS in US is phased out
 - Replaced by shorter-chained PFAAs
 - 2015: Production of PFOA in US is phased out
 - Replaced by GenX and shorter-chained PFAAs
 - Production in China for both chemicals has since increased





U.S. PFOA/PFOS Water Quality Standards

State	PFOA	PFOS	Type	Promulgated?
California	14	13	DW	N
Maine	130	560	GW	N
Michigan	420	11	DW	Y
	12,000	12	SW (nondrinking)	Y
Minnesota	35	27	DW/GW	N
Nevada	667	667	DW	N
New Jersey	14	13	DW	N
North Carolina	2,000	-	GW	Y
Texas	290	560	GW	Y
Vermont	20	20	DW/GW	Y

USEPA: Non-enforceable Health Advisory Level of 70 ng/L PFOA/PFOS individually and **combined!**

ATSDR: Minimal Risk Levels (DW)

	PFOA	PFOS
Adult	78	52
Child	21	14

*Units are in ng/L, DW = Drinking Water, GW = Groundwater, SW = Surface Water

PFAS at the Federal Level



- EPA released a federal action plan last week
- Priority Actions include:
 - Propose a national drinking water Maximum Contaminant Level (MCL)
 - PFOA and PFOS
 - Listing PFOA and PFOS as CERCLA hazardous substances
 - Developing interim cleanup recommendations
 - Finalizing and drafting toxicity assessments (beyond PFOA/PFOS)
 - Developing additional laboratory analytical methods





PFAS in Wisconsin

- DNR requested that DHS review health-related data to advise on GW health standard for:
 - PFOA
 - PFOS
- Triennial Standards Review: Category B
 - Surface Water Quality Standard development is a new priority
- Scoping: Roll out Fish Tissue Sampling Plan in 2019 field season
- Lab Cert developing SOPs for modifications to testing procedures
- Other DNR Programs also taking action
- Working with permittees to address known PFAS discharges



Whole Effluent Toxicity (WET) Testing



WET Limits



- If the discharge has reasonable potential to cause an exceedance of WET limits, WET limits are required
 - See NR 106.08
 - Limit required if: $\text{Maximum TU} \times \text{dilution} \times \text{MF} > 1.0$
 - (Toxicity Unit)
 - (Multiplication Factor)
 - Highly influenced by past toxicity detects
 - If you have a detect, MF will be > 1.0 unless you have 30 low level detects



I've got a WET Limit. Now what?

- WET Test Failure = WET Limit Violation
- Minimum monitoring frequency is annual (maybe more)
- Noting else changes!
 - Test method is the same
 - Test endpoint (Instream Waste Concentration) is the same
 - Retest requirements are the same (2 w/in 90 days of a failure)
 - Toxicity Reduction Evaluation (TRE) triggered only if repeated failures occur
 - Compliance schedule if TRE is needed to comply with new limit





For more information on WET:

Go to dnr.wi.gov,
enter “whole effluent toxicity” in search box

Or go to <https://dnr.wi.gov/topic/Wastewater/WET.html>

Certified Lab List:

<https://dnr.wi.gov/topic/wastewater/WETCertified.html>

Contact:

Kari Fleming, Environmental Toxicologist
Bureau of Water Quality
101 S. Webster St, Madison WI
(608) 267-7663
Kari.Fleming@wisconsin.gov



Total Maximum Daily Loads (TMDLs)

*A Budget for
Pollutant Loading*

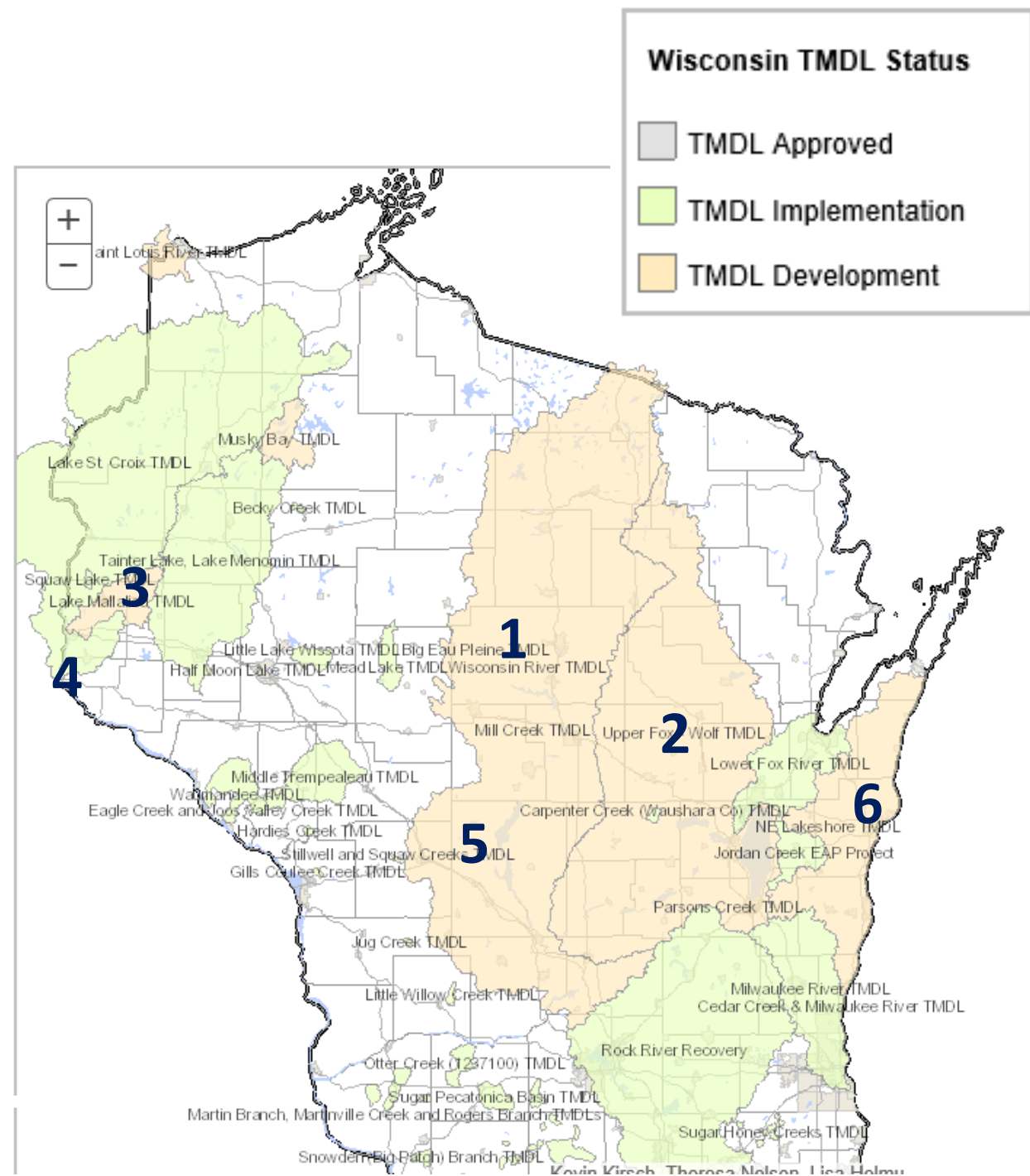
*Addresses Waterbody
Impairments*





TMDL Status

1. Wisconsin River Basin - TP
EPA Reviewing – anticipated approval in a couple months (Sent to EPA 12/20/2018)
2. Upper Fox-Wolf Basin – TP & TSS
DNR reviewing and responding to public hearing comments. (Comment period ended 1/18/2019)
3. Lake Mallalieu – TP
On Hold – Need SSC promulgated for Lake Mallalieu.
4. Lake Pepin (Led by MN) - TP and TSS
MN is released draft TMDL in Summer 2018 but has since been making edits.
5. Wisconsin River Basin – BOD
Collecting low flow DO and BOD samples
6. NE Lakeshore TMDL – TP and TSS
Requested by State Legislature. Currently collecting monitoring and modeling data. EPA contractor support for watershed modeling.





Castle Rock



Lake Wisconsin



Lake DuBay



Barnum Bay 2008

Petenwell

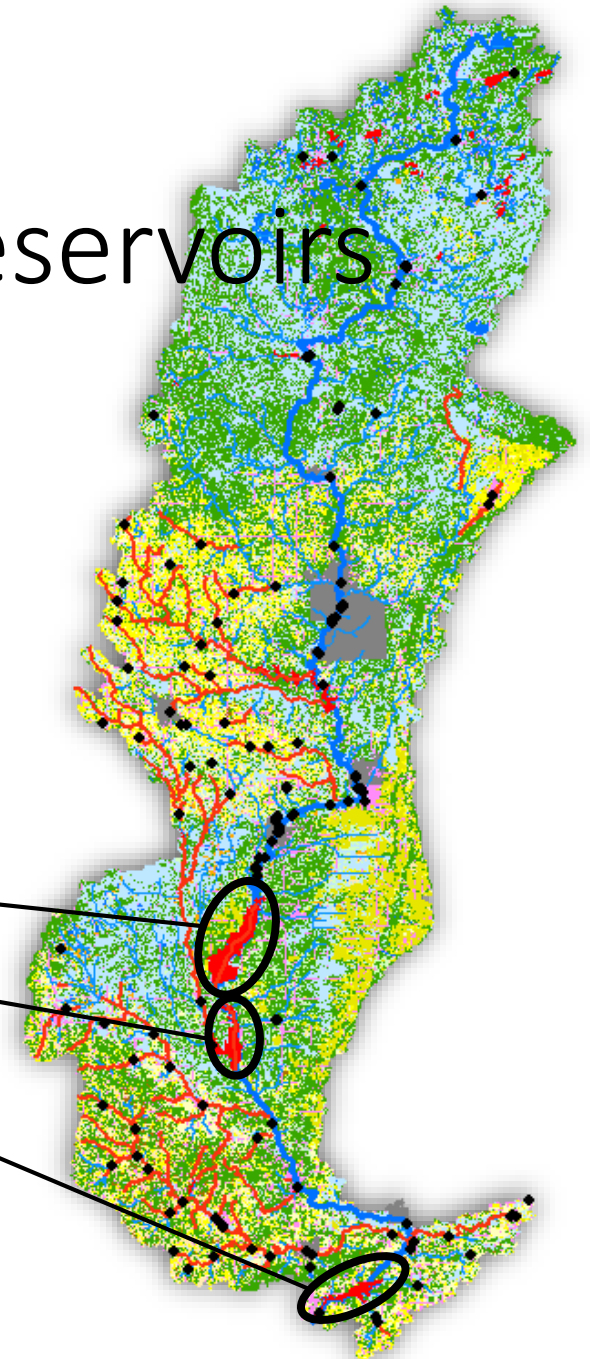


Site Specific Criteria in WI River Reservoirs

Monitoring data for Petenwell, Castle Rock, and Lake Wisconsin indicate that an SSC would be appropriate. Reservoirs currently average 100 $\mu\text{g/L}$ TP.

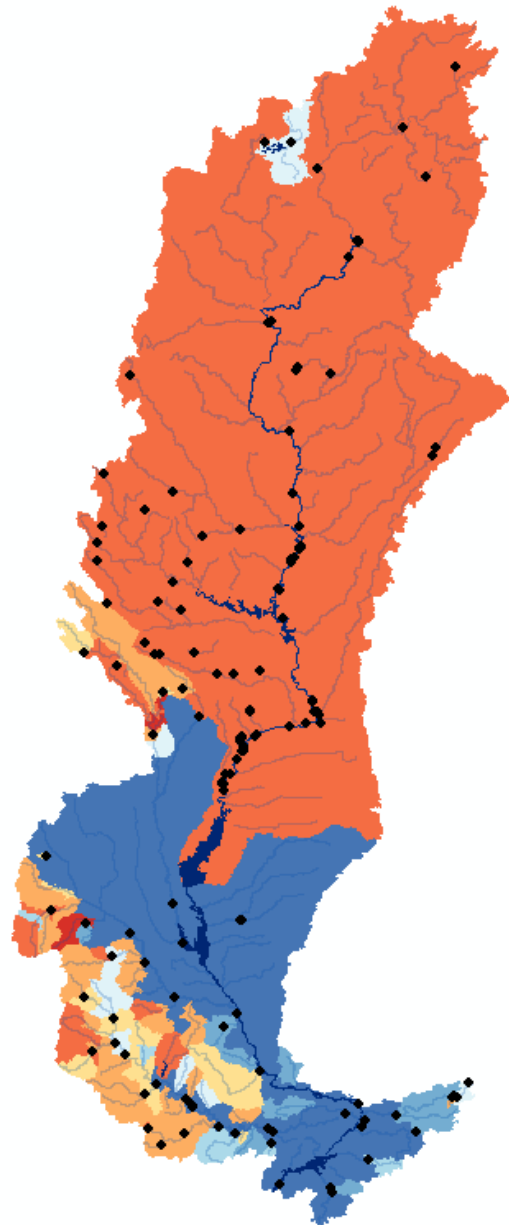
Reservoir	Existing TP Criterion ($\mu\text{g/L}$)	Recommended Site-Specific TP Criterion ($\mu\text{g/L}$)
Petenwell Flowage	40	↑ 53
Castle Rock Flowage	40	↑ 55
Lake Wisconsin	100	↓ 47

Calculated to support recreational use by preventing excessive algae (Chlorophyll *a* shall not exceed 20 $\mu\text{g/L}$ more than 30% of days during July 15 – Sept 15)

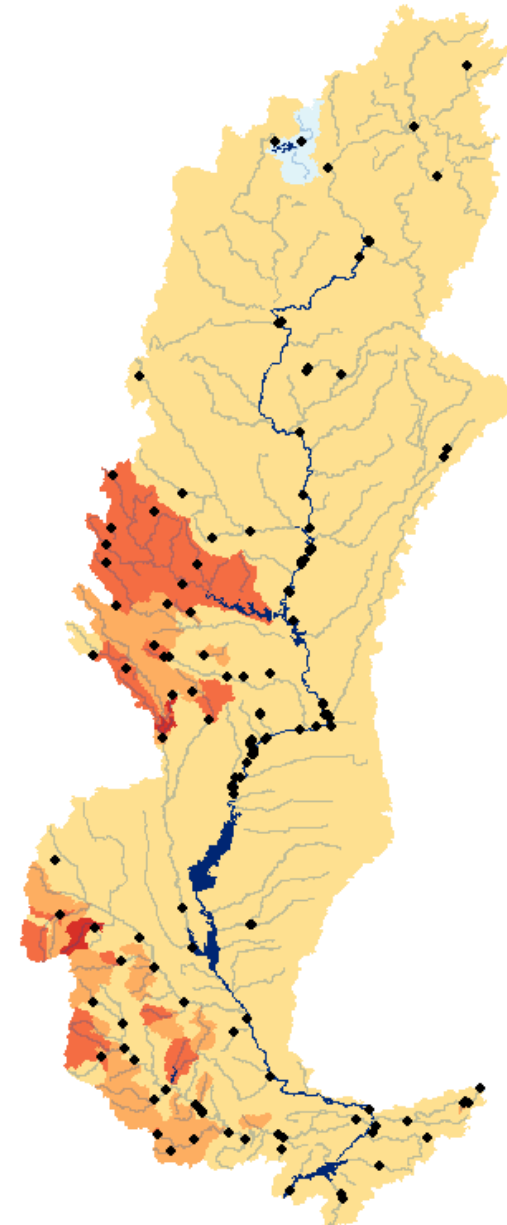




Percent Reduction Maps

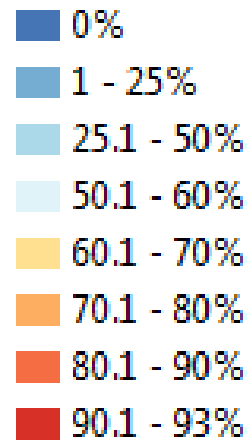


**Current
Criteria**



SSC

Percent Reduction

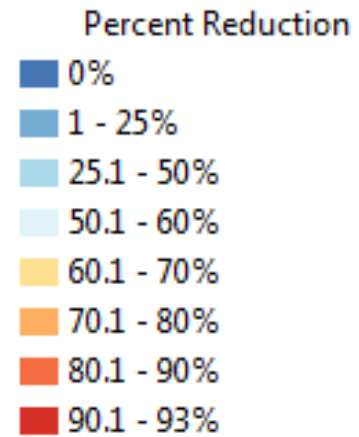


Outfalls

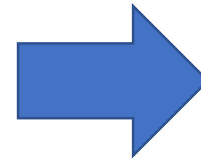


Considerations for Permittees in TMDL Development Watersheds

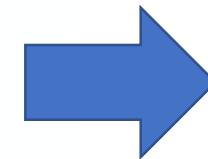
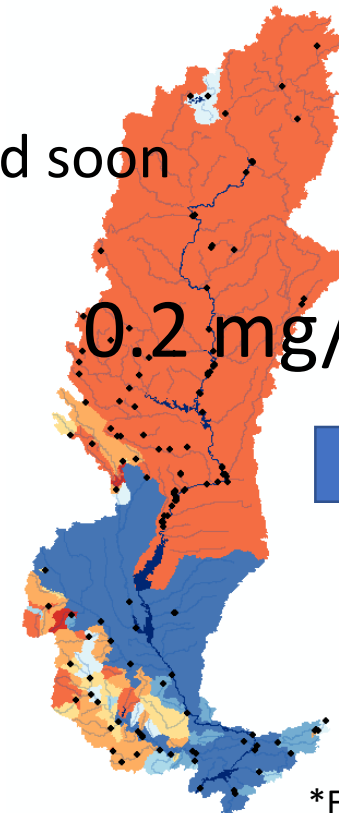
- Wisconsin River Site-Specific Criteria
 - Scope Statement Approved June 2018
 - Moving Quickly
 - Economic Impact Analysis – 30-day comment period soon
- Antibacksliding and Antidegradation
 - Once a Limit is effective, difficult to relax it
 - MDV



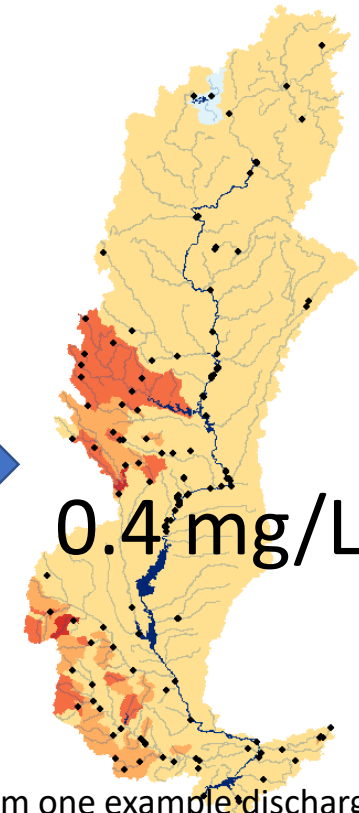
No TMDL
0.1 mg/L TP
6-mon avg



TMDL



TMDL + SSC



*Figures from one example discharger





Last Thoughts





Air Permitting for POTWs

- 40 CFR 63, Subpart VVV National Emission Standards for Hazardous Air Pollutants: POTW Final Rule (October 2017):
 - <https://www.epa.gov/stationary-sources-air-pollution/publicly-owned-treatment-works-potw-national-emission-standards>
- Applies to volatilization of chemicals, combustion byproducts
- Applies to Authorized Pretreatment POTWs (>5MGD) that:
 - Combust Biogas
 - Are used as an air control device by an industrial user



Contact Megan Corrado (DNR) at megan.corrado@wisconsin.gov or 608-267-0566

Operator Certification

- 3 New Study Guides in 2018
 - Nitrogen Removal (N) – 10/2018
 - Anaerobic Reactors (A5) – 10/2018
 - Sanitary Sewage Collection Systems (SS) – 8/2018
- 15 Operator Study Guides, total
- One year after above date to become certified
 - Next Exam date: May 1
- Renew certification every 3 years
- Thank you Operators!





Questions

