

Wisconsin's

Multi-Discharger Phosphorus Variance, Individual Variances, and TMDLs



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Agenda

- Overview of Wisconsin TMDLs
- Overview of Wisconsin Variances
- Phosphorus MDV and Variances
- Phosphorus MDV and TMDLs



Devil's Lake, WI. 45 min NW of Madison.



TMDLs in Wisconsin

- TMDLs in Wisconsin:
- \circ 38 TMDL Projects
 - \circ 6 in development
 - $\circ~$ 32 approved and in implementation stage
- \circ Pollutants
 - o Phosphorus
 - Total suspended solids
 - Biological Oxygen Demand
 - \circ Fecal Coliform
 - o E. Coli



Kevin Kirsch, Theresa Nelson, Lisa Helmuth



Variances in Wisconsin

Pollutant	Standard(s)	Number of Variances	
Mercury	1.3 ng/L	66	
Chloride	395 mg/L (chronic) 57 757 mg/L (acute)		
Copper	Variable (hardness)	6	
Phosphorus	0.1 mg/L (River) 0.075 mg/L (Stream) 0.03-0.04 mg/L (Lakes)	MDV (~56 participants) 3 approved individual (10 pending)	





Wisconsin's Phosphorus Criteria

- Criteria promulgated in 2010
- 60% of point source discharges believed to need limits equal to P criteria
- Several compliance options exist including water quality trading, adaptive management

P Criteria NR 102.06				
Rivers:	Streams:	Reservoirs:	Lakes:	
100 ug/L	75 ug/L	30-40 ug/L	15-40 ug/L	

- Individual variances available if economically infeasible
- MDV considered
 - Factor 6: "...substantial and widespread economic and social impact"
- Total cost = \$6 billion across state → "Widespread impact"



What is the Phosphorus Multi-Discharger Variance?

- Covers multiple permit holders
- Same pollutant & challenges, similar economics
- "Substantial impacts test"
 - Define major costs for each category.
 - Develop screeners based on economic factors
- Historically used for mercury and chloride in other states
- Does not replace all individual variances
- Site-specific applications must be completed
- Watershed projects required

Eligible Categories

- Municipal WWTFs and Lagoons
- Aquaculture
- Cheese
- Food processors
- Paper
- Non-contact cooling water
- Other Industrial Dischargers





Goal of a Multi-Discharger Variance

- Reduce phosphorus discharge from each facility:
 - Reduce phosphorus load each permit term of MDV coverage

AND

- Implement a watershed project that reduces nonpoint source phosphorus pollution:
 - Various options provided



Overview of MDV Permit Conditions Annual Offset = Previous Annual Phosphorus Load – Target Annual Load

Point Source

- Comply with interim limits
 - P99 or 0.8 mg/L
 - then 0.6 mg/L, 0.5 mg/L
 - WQBEL
- Optimize
- Reporting
 - Effluent data
 - Cost verification form

Watershed Project

- County payment option
 - Annual payments of \$50/lb P + inflation
 - \$640,000 /year cap
- Direct offset
 OR
- Third-party offset









Facility A

Nonpoint Sources throughout HUC 8



MDV Ensures Highest Attainable Condition (HAC)

- Need to demonstrate environmental benefit
 - Highest Attainable Condition will be achieved
- Cumulative benefits
 - Payments applied to new cropland each year and previous year's BMPs must be maintained by landowner
- TP reduced over 10 years:
 - Without MDV Meeting WQBELs: 18,000 lbs.
 - With MDV Funding BMPs: ~24,000 148,000 lbs



Total TP Reductions





TMDLs and Variances

- Multidischarger Variance (~55 facilities statewide)
 - Approved TMDL (~ 5 facilities in MDV)
 - TMDL in Development (~10 facilities in MDV)
- Individual Variance
 - Same process whether it is in a TMDL area or not



MDVs in Approved TMDLs

- Rock River Basin TMDL
- Lower Fox River Basin TMDL
- Red Cedar River Basin TMDL

Must offset any thing above the TMDL allocation.



Example A

Facility A is in a TMDL area that was approved before February 2014. They discharge at an average 6 lbs/day total phosphorus. Their TMDL allocation is 2 lbs/day total phosphorus.

They then have to offset 4 lbs/day phosphorus either as a project or through the county payment.



MDVs in TMDLs under Development

MDV helps bridge the uncertainty for limits

- Wisconsin River Basin TMDL (2019)
- Upper-Fox Wolf Basin TMDL (2019)
- NE Lakeshore Basin TMDL (2021)

Same as for non-TMDL areas with a target annual load of 0.2 mg/L total phosphorus for offsets.



Example B

Facility B has a WQBEL of 0.075 mg/L as a 6-month average limit for total phosphorus. They currently discharge at an average 0.5 mg/L. A TMDL in development would give them an allocation that would have an average equivalent concentration of 0.4 mg/L.

 MDV provides some buffer space to delay the final limit so that the relief granted by the TMDL will not be prevented due to anti-backsliding.



Example B continued

January 2014 Receive stringent WQBEL in permit for the first time. Compliance schedule given. Discharging ~ 0.5 mg/L Limit = 0.075 mg/L January 2019 WQBEL in effect Limit = 0.075 mg/L July 2019 TMDL expected to be approved Limit ~ 0.4 mg/L



Questions?

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