



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

WRD Update

11/7/24

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Water Resources Division

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Water Resources Division

Protect and Monitor

- 4 Great Lakes and Lake St. Clair
- 11,000 inland lakes
- 76,000 river and stream miles
- 6.5 million acres of wetlands
- 74,000 acres of coastal dunes
- Groundwater
- Drinking Water





[Clean Water Act 50th Anniversary \(michigan.gov\)](https://michigan.gov)

Part 31

- Part 31 (statute) has prohibited EGLE from promulgating new or revised administrative rules since 2006.
- This affects administrative rules under Part 31 including Part 4 (WQS), 5 (storage and notification), 8 (WQBELs), 21 (discharge permitting), 22 (groundwater program), 23 (IPP), and 24 (biosolids)
- SB 663 is drafted to remove this prohibition. Passed Senate. Now in House. ELGE supports the bill.

Regulatory Update for Municipal WWTPs & collection systems

- Chloride/Sulfate Implementation Plan – Started Feb 2021
- Move remaining PFOS/PFOA reduction efforts into municipal discharge permits; schedules, limits – Started Oct 2021;
- Issue Collection System General Permit (GP) – in 2024, and incrementally issue COCs – FY 2024 and beyond;
- Started adding revised ammonia limits and schedules based on updated value – Oct 2022;

Michigan PFAS Criteria: Surface Water

Rule 57 Toxic Substances of the Part 4 Water Quality Standards

Natural Resource & Environmental Protection Act (NREPA) – Part 31, Water Resources Protection

PFAS	HNV* (drinking) (ng/L)	HNV* (nondrinking) (ng/L)
PFOS	11	12
PFOA	66	170
PFBS	8,300	670,000
PFHxS**	59	210
PFNA**	19	30

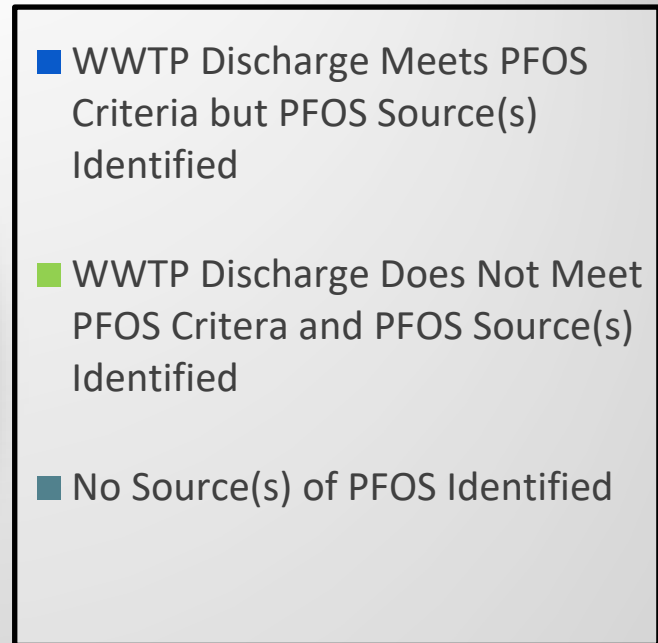
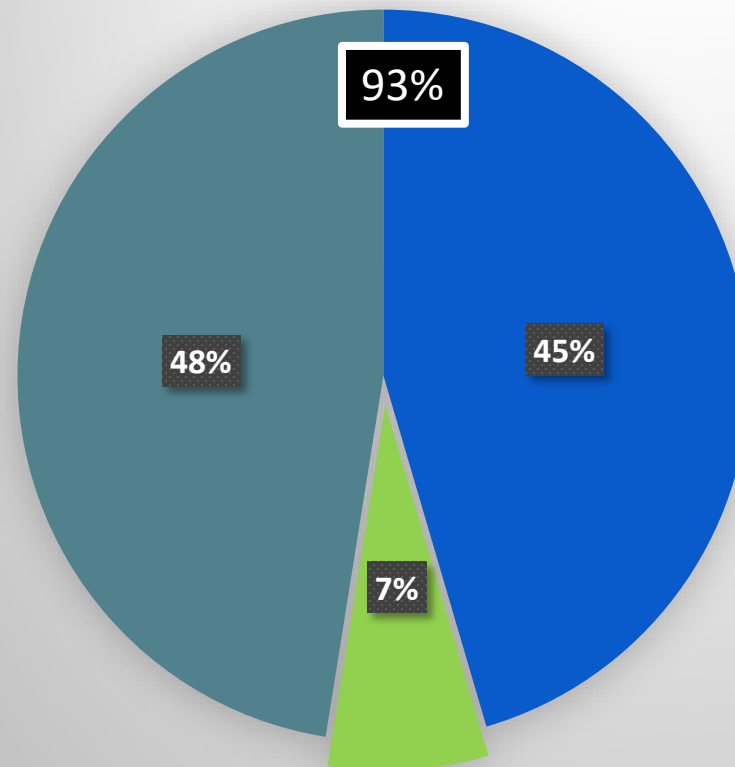
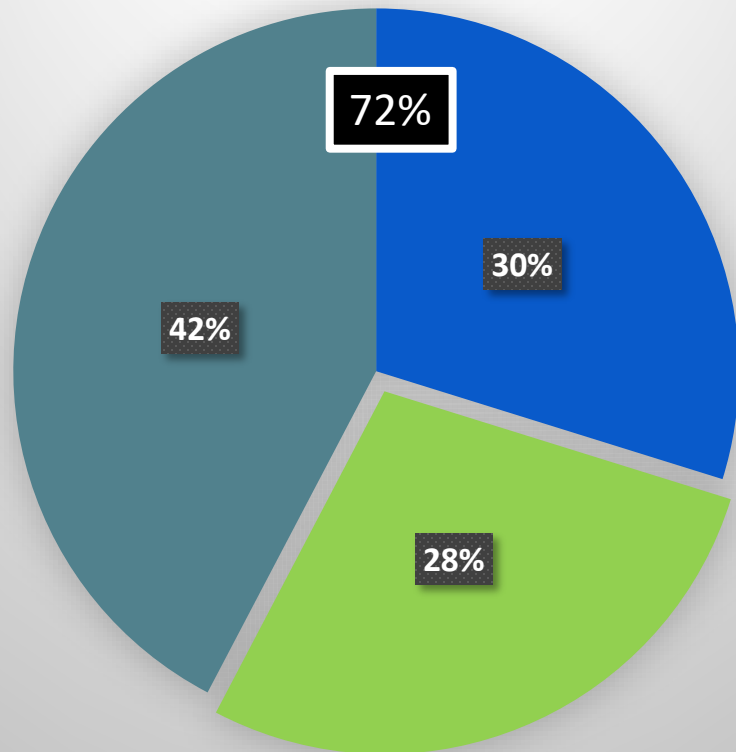
*Human Noncancer Value (HNV)

** New Water Quality Values

Effluent Compliance with PFOS Water Quality Value for IPP WWTPs

December 2019

February 2024



Land Application of Biosolids Containing PFAS

Interim Strategy Goal

Reduce

- Continue source identification and reduction efforts

Prohibit

- Prohibit land application of industrially-impacted biosolids

Mitigate

- Mitigate (reduce) risks moving forward

Inform

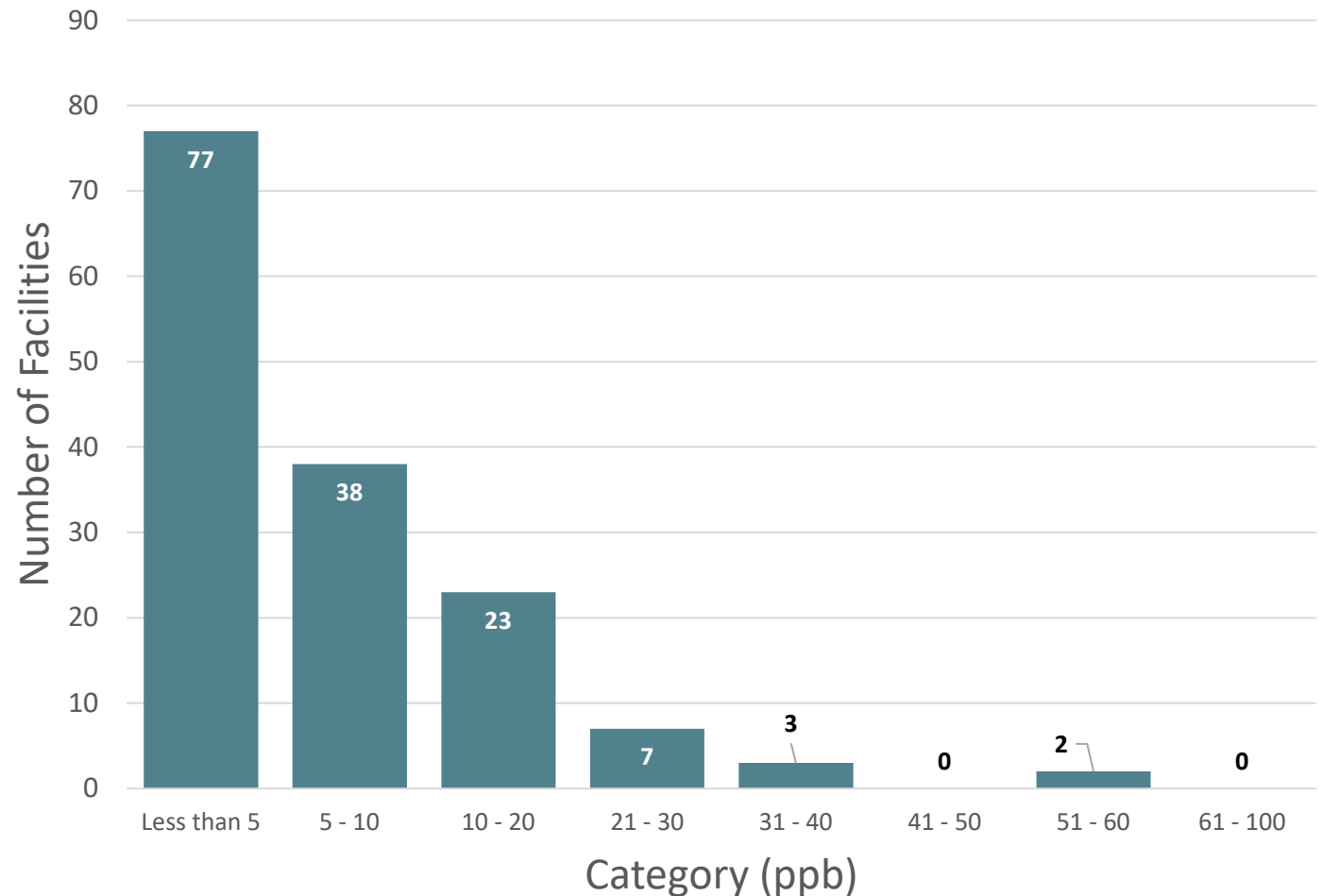
- Inform landowners, farmers, and WWTPs about PFAS
- Create and retain publicly available information



Mitigation and Source Reduction

- Land application at average rate sees a dilution of 500x
 - Mitigation Application Rate sees a dilution of ~1000x
 - E.g., land application at 5 ppb PFOS would **hypothetically result in soils at 0.01 ppb**
- EPS staff works with facilities with elevated biosolids to identify sources in collection system

Breakdown of Number of Facilities by Biosolids Concentration (PFOS and PFOA)



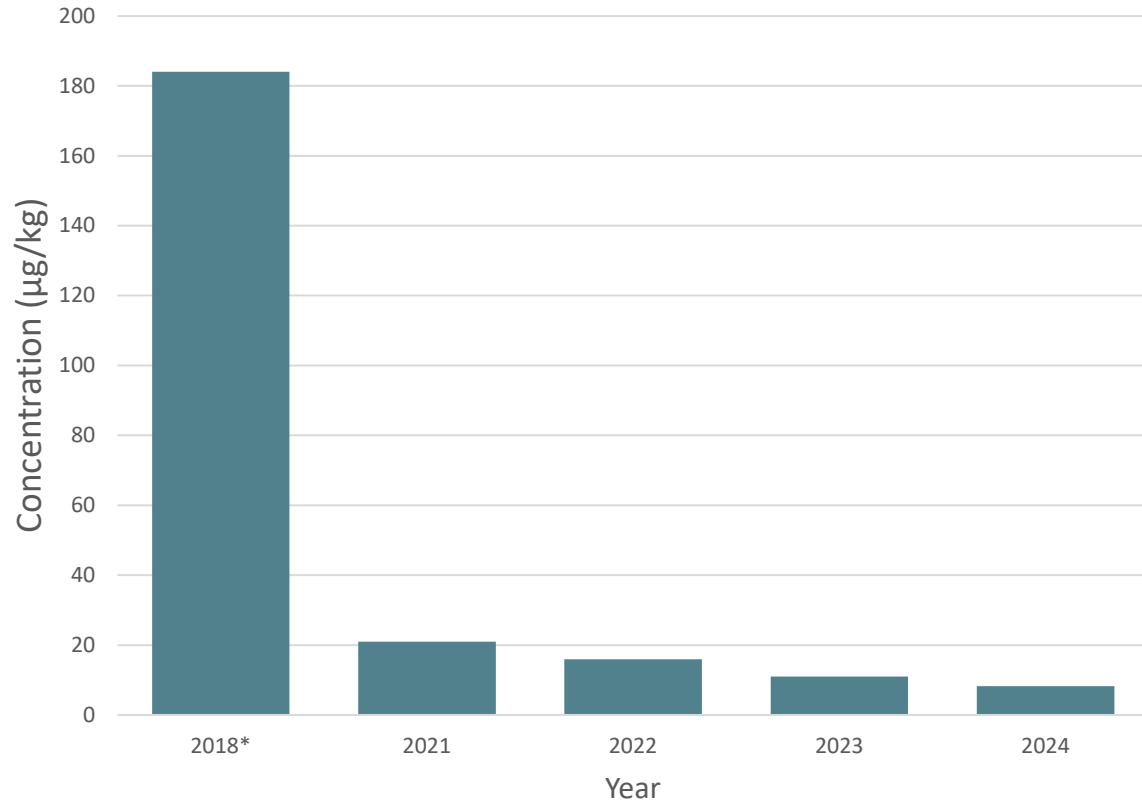
Reductions in PFOS to WWTP Effluent and Biosolids (Industrially Impacted)

Municipal WWTP/FAS	Highest Effluent PFOS (ppt)	Most Recent* Effluent PFOS (ppt)	PFOS Reduction in Effluent	2018 Biosolids PFOS (ppb)	Most Recent* PFOS (ppb)	PFOS Reduction in Biosolids
WWTP #50	540	3.6	99%	983	18	98%
WWTP #14	360	4.72	99%	1060	27	97%
WWTP #57	2000	7.24	99%	1680	31	98%
WWTP #54	240	6.5	93%	387	57	85%
WWTP #92	4800	3.9	99%	2150	17	99%

*Data received by August 15, 2024

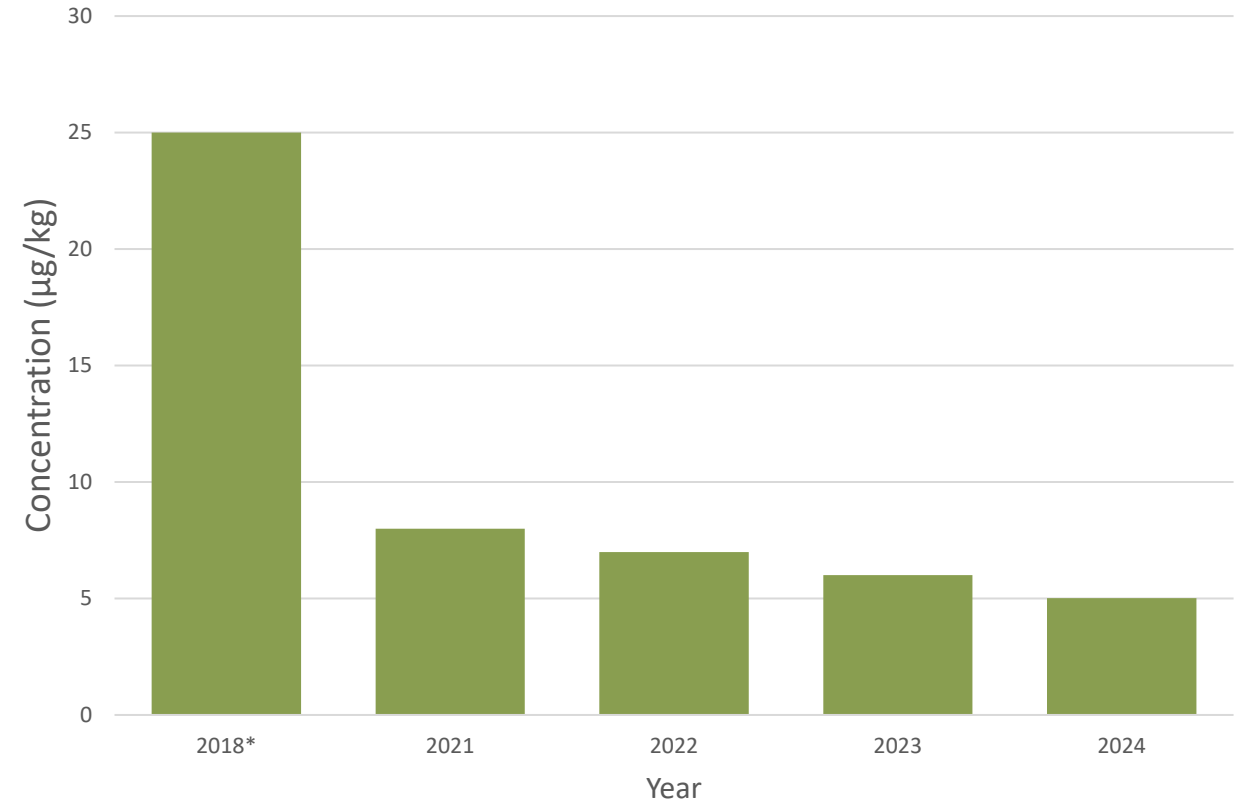
Success of IPP PFAS Initiative and Biosolids Interim Strategy

Statewide Biosolids PFOS Mean



* Contains data from 2018 statewide study with industrially impacted solids

Statewide Biosolids PFOA Mean



* Contains data from 2018 statewide study with industrially impacted solids

Summary

- Results of source investigation/source control efforts under the IPP PFAS Initiative and Biosolids Interim Strategy:
 - Source control is highly effective at reducing elevated concentrations
 - 68 industries have installed pretreatment, 91% of IPP WWTPs in compliance with WQBELs
 - 139 WWTPs with PFAS monitoring and/or limits
 - 90% biosolids in Michigan fall **below mitigation threshold**
 - No Industrially Impacted Biosolids have been land applied in Michigan since 2018.
 - No facilities with biosolids above industrially impacted threshold since 2021.
 - Overall PFOS/PFOA concentrations in effluent discharges and biosolids are decreasing.

Why do we need the Collection System GP?

Collection systems must be inspected and maintained, and some haven't been

Collection systems have capacity restrictions

~500 collection systems not covered by NPDES permits

Currently address collection systems reactively instead of proactively; SSOs in ACOs

High wet weather flows at some Regional WWTPs; flows have not been adequately reduced over time

Requirements in Draft Collection System GP

- Proper operations. Note that separate sanitary collection systems are a POTW
- Asset management (AM)
- Outlet and internal capacity restrictions (CMOM), address flows to meet excessive I/I definition or another acceptable regional criteria
- Inspection program
- SSO prohibition
- Fiscal sustainability
- Operator certification in future. Note that Part 41 rule revisions are currently moving through the rule making process

Benefits of Coverage

Address

Address SSOs under a NPDES permit and potentially not under order (ACO)

Address

Address high flows at some regional WWTPs by reducing flows at contributing collection systems

Ensure

Ensure important asset management programs, elimination of capacity restrictions, flexible programs to set inspection frequencies, fiscal sustainability

Proposed Implementation

COCs will be issued incrementally during the first 5-year general permit 2024-28;

Contributing municipalities at Regional WWTPs that currently blend;

Contributing municipalities that contributed to SSOs and basement backups;

Remaining contributing municipalities.

Revised Ammonia Water Quality Value

In 2019 the Water Quality Value (WQV) was revised under Part 4 Rule 57. Since 2013, EPA had been asking the state to revise the WQV based on new data;

WRD revised this WQV only after integrated planning statute was issued in 2019, CWA 402(s);

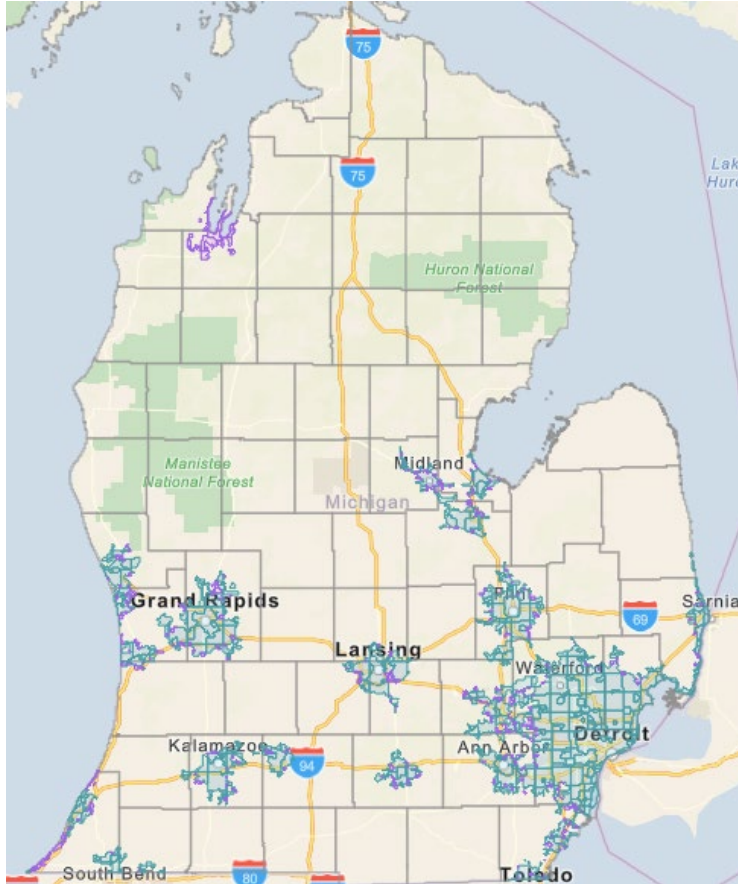
Revised WQV may tighten effluent limits in colder weather seasons in NPDES permits, and will be implemented under schedules;

Factors for Setting Ammonia Schedules

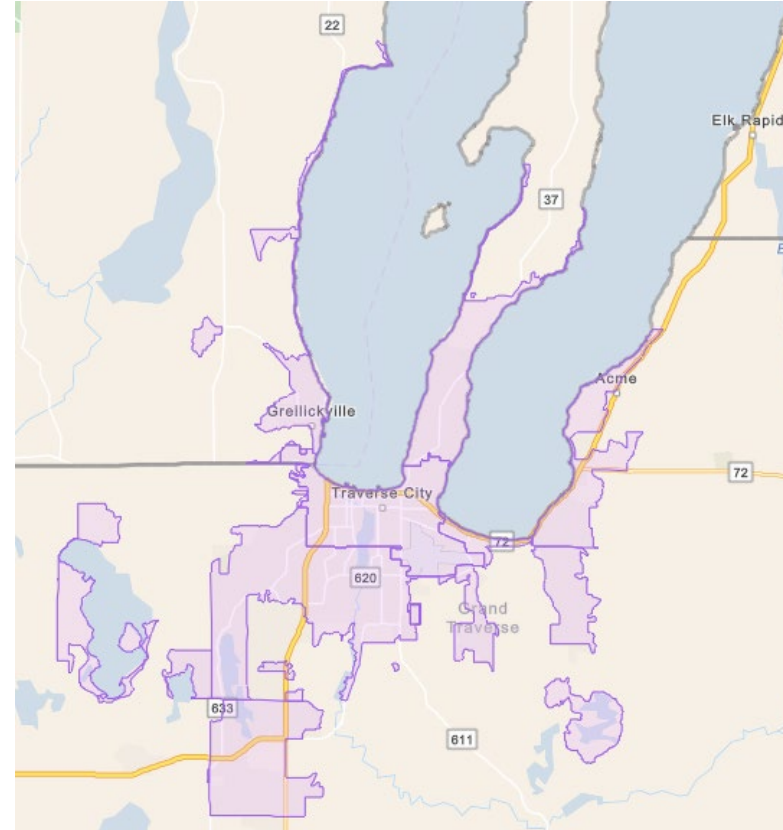
- For new WWTPs or upgraded/expanded apply new WQV upon issuance;
- For existing WWTPs consider on a case-by-case basis for permits issued after October 1, 2022:
 - Ability to currently comply;
 - Life of WWTP since last upgrade;
 - Keeping Financial Capacity Assessment in same burden for community;
 - Use Integrated Plan schedules over multiple permits; sequence collection system work first;
- May allow use of utility of the future concepts.

MS4 Updates

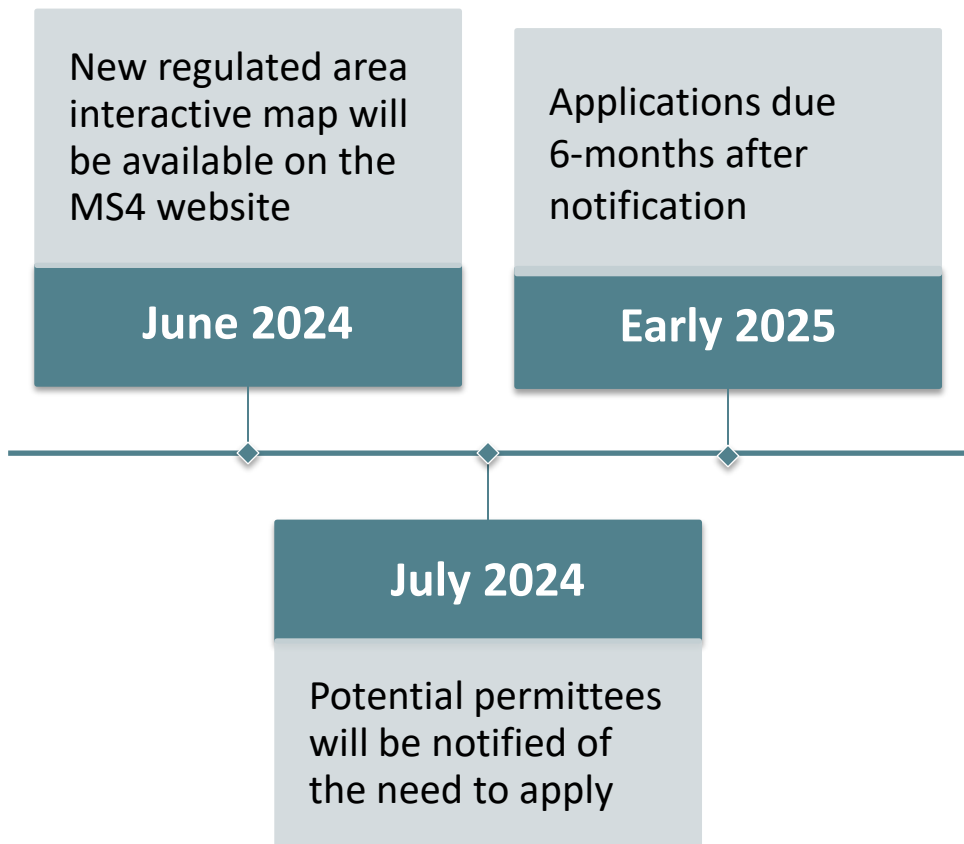
New Regulated Area (purple)



Traverse City Urban Area



MS4 Updates



Stormwater Permits Unit staff will host application trainings throughout the state to assist applicants with completing the application and developing a Stormwater Management Program.

Construction Stormwater Updates

- WRD is required to report data elements for construction sites 1 acre or greater to comply with EPA's electronic reporting requirements.
- Currently satisfy this requirement for sites greater than 5 acres through issuance of a Notice of Coverage in MiEnviro.
- Information is not currently required for sites 1-5 acres with automatic coverage under Permit-by-Rule.
- WRD is evaluating EPA and other state NDPES Construction General Permits to understand permitting options to comply with EPA requirements.



Industrial Stormwater Updates

- EPA requires benchmark monitoring for the sectors listed in the table with industry in Michigan.
- Currently WRD requires benchmark monitoring for Sectors M and N.
- WRD is reviewing the other sectors to evaluate if benchmark monitoring is needed to protect water quality.

Sectors	Sectors
Sector A: Timber Products	Sector J: Mineral Mining
Sector B: Paper Products	Sector M: Auto Salvage Yards
Sector C: Chemical Products	Sector N: Scrap Recycling
Sector D: Asphalt/Roofing	Sector Q: Water Transportation
Sector E: Glass, Clay, Cement	Sector S: Air Transportation
Sector F: Primary Metals	Sector U: Food Products
Sector G: Metal Mining	Sector Y: Rubber, Misc. Plastic
	Sector AA: Fabricated Metal Products

The 6th Great Lake?



The Great Lakes Basin Holds More Than 1,000 Cubic Miles Of Groundwater. This Is Roughly The Same Size In Volume As Lake Michigan.



Michigan's Groundwater Is Critical To Our Economy. We Use More Than 200 Billion Gallons Of Groundwater Each Year.



Recharge Is Becoming More Complicated As We Alter Land Use & Move Water Off Our Surfaces More Quickly.



Groundwater Used For Drinking Water

More Than 4 Million People In Michigan
Rely On Groundwater As Their Primary
Source Of Drinking Water

Over 1 Million Private Drinking Water Wells
Serve Single-Family Homes

1,086 Community Water Supplies Obtain Drinking
Water From Groundwater

Wastewater Management is Essential

Problems Can Occur Due To Inadequate Or Inappropriate Wastewater Treatment:

Contamination Of Residential Drinking Water Wells

Limiting The Installation Of New Drinking Water Wells

Installation Of Costly Groundwater Monitoring Well Network

Designation As A Facility Under Part 201

Installation Of New Treatment Systems

Impacts To Surface Water Through Venting Groundwater

Michigan Department of
Environment, Great Lakes, and Energy

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