



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

WRD Update

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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

For swimming, fishing, drinking water, and aquatic ecosystems.



Water Resources Division



- Ensure Michigan's waters are safe and clean for recreating, fishing, drinking, and healthy aquatic ecosystems.
- Administer:
 - Groundwater Discharge Permits Program
 - Surface Water Quality Program
 - Water Resources Program
 - Great Lakes Protection
- Make 9,000 permit decisions per year.

[illegible]

WRD Permit Types

Water Quality Protection

- Aquatic Nuisance Control
- Groundwater
- NPDES
 - Municipal
 - CAFO
 - Industrial
 - Storm Water
 - Industrial
 - MS4
 - Construction
 - SESC
- Wastewater Construction Permitting



WRD Permit Types

Resource Protection

- Floodplains – Part 31
- Inland Lakes and Streams – Part 301
- Wetlands – Part 303
- Dam Safety – Part 315
- Great Lakes Shoreline – Part 323
- Bottom Land Conveyance – Part 325
- Groundwater Withdrawal – Part 327
- Sand Dunes Protection – Part 353





Permits for 2017

- Resources: 4,574
- Part 41: 591
- NPDES: 1,518
- Groundwater: 155
- ANC: 1,683

WRD PFAS Work

- Surface Water
 - Ambient water sampling
 - Fish collection
- Wastewater
 - Industrial Pretreatment Program
 - Biosolids
 - Direct industrial discharges
 - Groundwater contamination
- Landfills
- Educating other states and EPA



DEQ Water Quality Criteria for PFAS

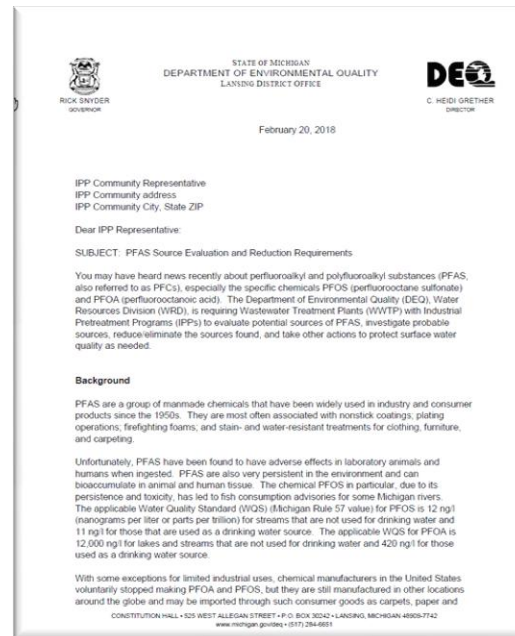
- Michigan developed Rule 57 Human Noncancer Values (HNV) for PFOA (2011) and PFOS (2014) in surface waters

	HNV (nondrinking)	HNV (drinking)	FCV	FAV	AMV
PFOS (ng/L)	12	11	140,000	1,600,000	780,000
PFOA (ng/L)	12,000	420	880,000	15,000,000	7,700,000

Human Noncancer Values (HNVs); Aquatic Life Final Chronic Value (FCV), Final Acute Value (FAV), and Aquatic Maximum Value (AMV)

- PFOS builds up in fish tissue to a higher degree than PFOA 

2018 Industrial Pretreatment Program PFAS Initiative



- 95 Wastewater Treatment Plants with IPPs
 - Screen industrial users for PFAS
 - Sample users and effluent
 - Control/reduce discharges
 - Monitoring

IPP PFAS Initiative

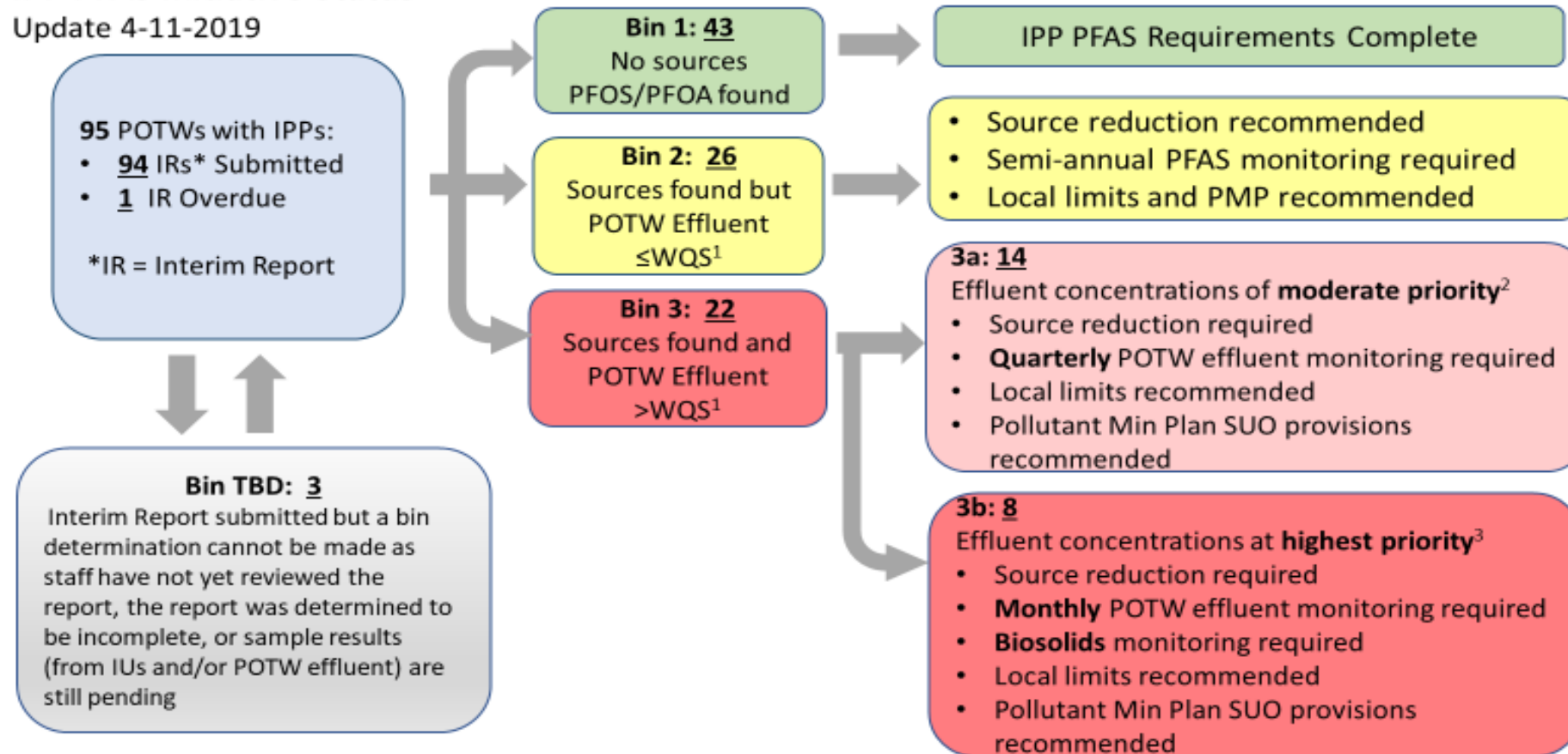
- February 2018 –POTWs required to screen Industrial Users
 - Survey Industrial Users with potential sources of PFAS
 - Follow-up sampling of probable sources
 - Sample POTW effluent if sources above screening criteria (12 ppt PFOS)
 - Interim Reports due **June 29, 2018** unless extension requested
 - 35 extension requests
 - Summary Reports due **October 26, 2018** unless extension

Additional information on IPP PFAS Initiative:

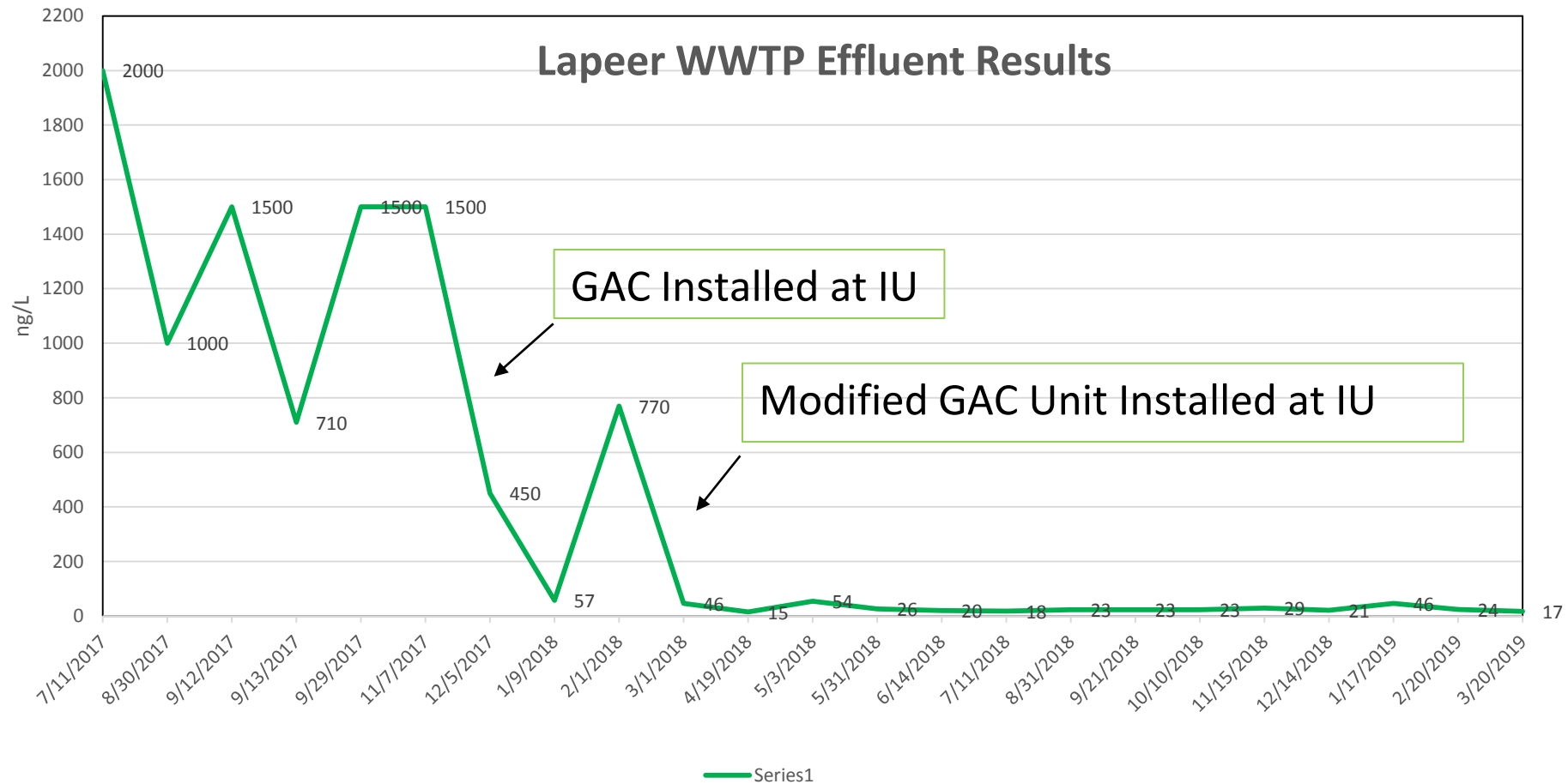
<https://www.michigan.gov/pfasresponse/0,9038,7-365-86510---,00.html>

PFAS IPP Findings

IPP PFAS Initiative Status Update 4-11-2019



PFOS Reduction After IU Pretreatment



Michigan Waste and Recycling Association (MWRA)

PFAS Landfill Leachate Project

Technical Report

- Joint effort between DEQ/WMRPD and MWRA (Landfill Industry Group)
- Leachate Collection and PFAS analysis from 35 active landfills & cells
- PFOS and PFOA data reported and tabulated by landfill
- Comparison of data to national and international studies
- Broad-brush Study: Not an analysis of the impact of leachate on specific WWTPs
- Does not assess closed landfills/cells or groundwater
- MWEA/MWRA coordination meetings

Statewide Biosolids Study

- Sample Effluent, Influent, & Biosolids from 41 WWTPs
 - Oct – Nov 2018
 - 20 Largest
 - 3.0 – 9.0 MGD (8 WWTPs)
 - 0.5 – 3.0 MGD (8 WWTPs)
 - 0.2 – 0.4 MGD (5 WWTPs)
 - Various treatment processes
 - Some w/ no industrial users
- Screen select fields from WWTPs with high conc. of PFOS in biosolids
 - Spring 2019
 - Wixom, Ionia and Bronson
 - Revisit City owned field in Lapeer (complete)
 - Follow-up based on results
- Sample fields from WWTPs with “typical/low” PFOS concentrations in biosolids
- Identify data gaps
- In lieu of criteria, develop guidance to assist with biosolids management decisions





Biosolids – *Next Steps*

- Compile / analyze results from IPP initiative and the statewide WWTP biosolids sampling
- Continue Biosolids MPART / stakeholder group meetings
- Land Application Site investigations, compile /analyze results
- Develop guidance for land application of biosolids

Michigan Department of
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