

Michigan's PFAS Response

Amy Peterson
DEQ, Executive Office
petersona1@michigan.gov | 517-420-0083

What is an Emerging Contaminant?

- Chemicals and materials that have pathways to enter the environment and present real or potential unacceptable human health or environmental risks...

And Either

- Do not have peer-reviewed human health standards.

OR

- Standards/regulations are evolving due to new science, detection capabilities or pathways.

PFAS Chemistry 101

- Carbon-fluorine bonds:
 - Very strong, inert
 - Resists thermal, chemical, and biological degradation
 - Surfactant, reduced surface tension
 - Hydrophobic(repels water) and oleophobic (repels oil/fat/grease)

PFAS Uses

- Aerospace, Apparel, Building and Construction, Chemicals and Pharmaceuticals, Electronics, Oil & Gas, Energy, Healthcare and Hospitals, Aqueous Film Forming Foam, Semiconductors

How We Got Here

- 2012 Wurtsmith “do not eat fish”
- 2013/2014 PFOS/PFOA recon sampling in surface waters
- 2017 connecting channels data
- Grayling – 2017 g.w. sample data from DMVA
- Wolverine – concerned citizens 1/24/2017

Michigan PFAS Action Response Team (MPART)

- Governor Snyder signed ED 2017-4 on November 13, 2017
- Design: ensure comprehensive, cohesive, timely response to continued mitigation PFAS substances (PFAS) across Michigan
- Goal: provide cooperation and coordination among all levels of government

Potential Sites

What We Compare Results to

- Lack of federal standards
- EPA Lifetime Health Advisory Level of 70 ppt PFOA and PFOS combined or individually not enforceable
- Michigan standards
 - Groundwater for drinking water clean-up standard (effect January 10, 2018)
 - 70 ppt PFOA and PFOS combined or individually
- Surface Water - Rule 57 Water Quality Standards
 - PFOS:
 - 11ppt (drinking water source)
 - 12 ppt (non-drinking water source)

- PFOA:
 - 420 ppt (drinking water source)
 - 12,000 ppt (non-drinking water source)

Regular Monitoring +

- Site-specific monitoring of known PFAS sites
- Monitoring of PFAS in rivers, lakes and streams, and fish
- Monitor point sources (Direct Discharges)
- Industrial Pretreatment Program Initiative (Indirect Discharges)
- Biosolids program
- Superfund program
- Coordinate with other Divisions (AQD, WMRPD and DHHS, others)

Example: Lapeer WWTP

- Elevated PFAS results in Flint River tracked to Lapeer WWTP
- DEQ found PFOS in discharge in June 2017
- Worked with City to find the source
- City working with source to eliminate PFOS

PFOS in Lapeer WWTP Biosolids

- 8/24/2017: PFOS = 2100 µg/L (ppb)
- 9/29/2017: DEQ suspended Lapeer's Land Application program.
- Biosolids now disposed at a landfill
- City of Lapeer issued order to plater requiring reduction/elimination of discharge to WWTP to 12ppt PFOS
- Source reduction efforts appear to be successful in lowering levels in biosolids at WWTP
- Biosolids study

Sources of PFOS & PFOA for WWTPs

- Platers using fume suppressants/demisters/wetting agents
- Leather and fabric treaters, tanneries
- Paper and packaging manufacturers
- Manufacturers of parts w/PTFE coatings
- Landfills (leachate)
- Centralized Waste Treaters
- AFFF fire fighting foam

IPP PFAS Initiative Requirements

- Potential Source Screening
- Monitor Probable Sources
- If sources found:
 - Reduce/Eliminate PFOS & PFOA Sources
 - Monitor POTW effluent; report if exceeds standards
- Submit Interim Report – due 6/29
- Continue Source Reduction & Monitoring
- Submit Summary Report – due 10/26

Another Surface Water Investigation

Fish Consumption

Fish Collection and Analysis in partnership with DHHS

- 365 fish collected in 2017 are being analyzed
- 132 fish planned in 2018

Landfill Leachate

Public Water Supply Testing and Schools

Factoids

As of the end of May 2018:

~ 4,700 samples taken by MDEQ for PFAS throughout all 31 sites, for drinking water, groundwater, and surface water

- 2,755 drinking water samples taken, including public water supplies and residential wells
 - Out of 2674 results back,
 - 1688 ND (63%)
 - 863 between ND – 70ppt (32%)
 - 22 over 70 ppt (5%)
- 1,681 groundwater samples taken
 - Out of 1651 results back,
 - 340 ND (21%)
 - 833 between ND and 70 ppt (50%)
 - 478 over 70 ppt (29%)
 - Challenges:
 - Media Transfer
 - Disposal
 - Landfill/Leachate

Challenges: Prioritizing Sites

- Airports/Fire Departments
- Lake Foam
- Analysis
- Resources
- Communication
 - Risk
 - Need consistent message
 - Coordination among agencies
 - Community engagement
 - Parts per trillion

Contact Information & Questions

Environmental Assistance Center: 800-662-9278

Twitter@MichiganDEQ

www.Michigan.gov/pfasresponse

Amy Peterson, petersona1@Michigan.gov

Resources

- ITRC Fact Sheets: <https://pfas-1.itrcweb.org/>
- MPART : www.michigan.gov/pfasresponse