

# Welcome

## MPART PFAS Regional Informational Webinar Bay City Region

September 16, 2020

The Webinar will begin at 6:00 p.m.

# Webinar Housekeeping



All lines are muted during the webinar.



We are recording this webinar

# How to ask a question?



Submit your questions using the “**Q/A**” box in at the bottom of your screen.



Click the “hand” icon at the bottom of your screen.



Type \*9 to raise your hand.

**\*9**

# MPART PFAS Regional Informational Webinar

## Bay City Region

September 16, 2020

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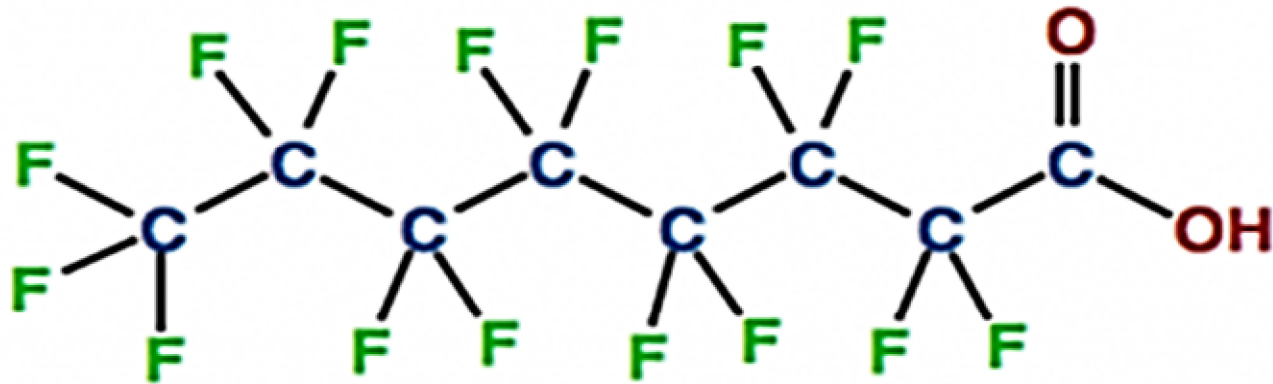
Amy Peterson  
Michigan PFAS Action Response Team  
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[PetersonA1@Michigan.gov](mailto:PetersonA1@Michigan.gov)

# Michigan PFAS Action Response Team (MPART)



- Executive Order 2019-03
- Unique Multi-Agency Approach
- Leads Coordination and Cooperation Among All Levels of Government
- Directs Implementation of State's Action Strategy

# Per- and Polyfluoroalkyl Substances (PFAS)



**PFOA** - perfluorooctanoic acid

- **Strong Carbon-Fluorine Bonds**
- Surfactants
- Repel Water, Oil, Fat, and Grease
- Began Developing in 1940s
- 5,000 + Compounds Today

# PFAS Uses



**Aerospace**



**Apparel and  
Fabrics**



**Building and  
Construction**



**Chemicals and  
Pharmaceuticals**



**Electronics**



**Oil, Gas, and Energy**



**Industrial**



**Healthcare and  
Hospitals**



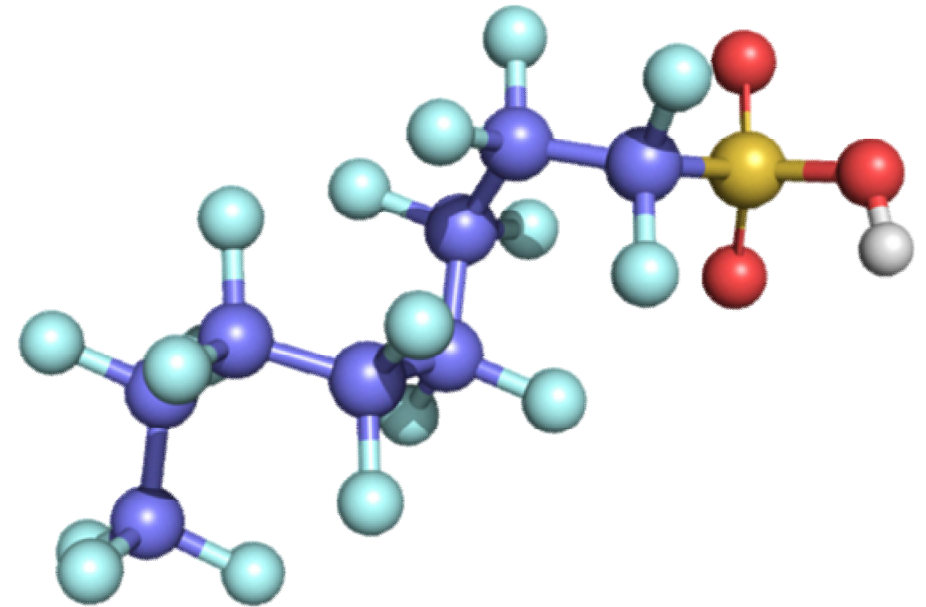
**Aqueous Film  
Forming Foam**



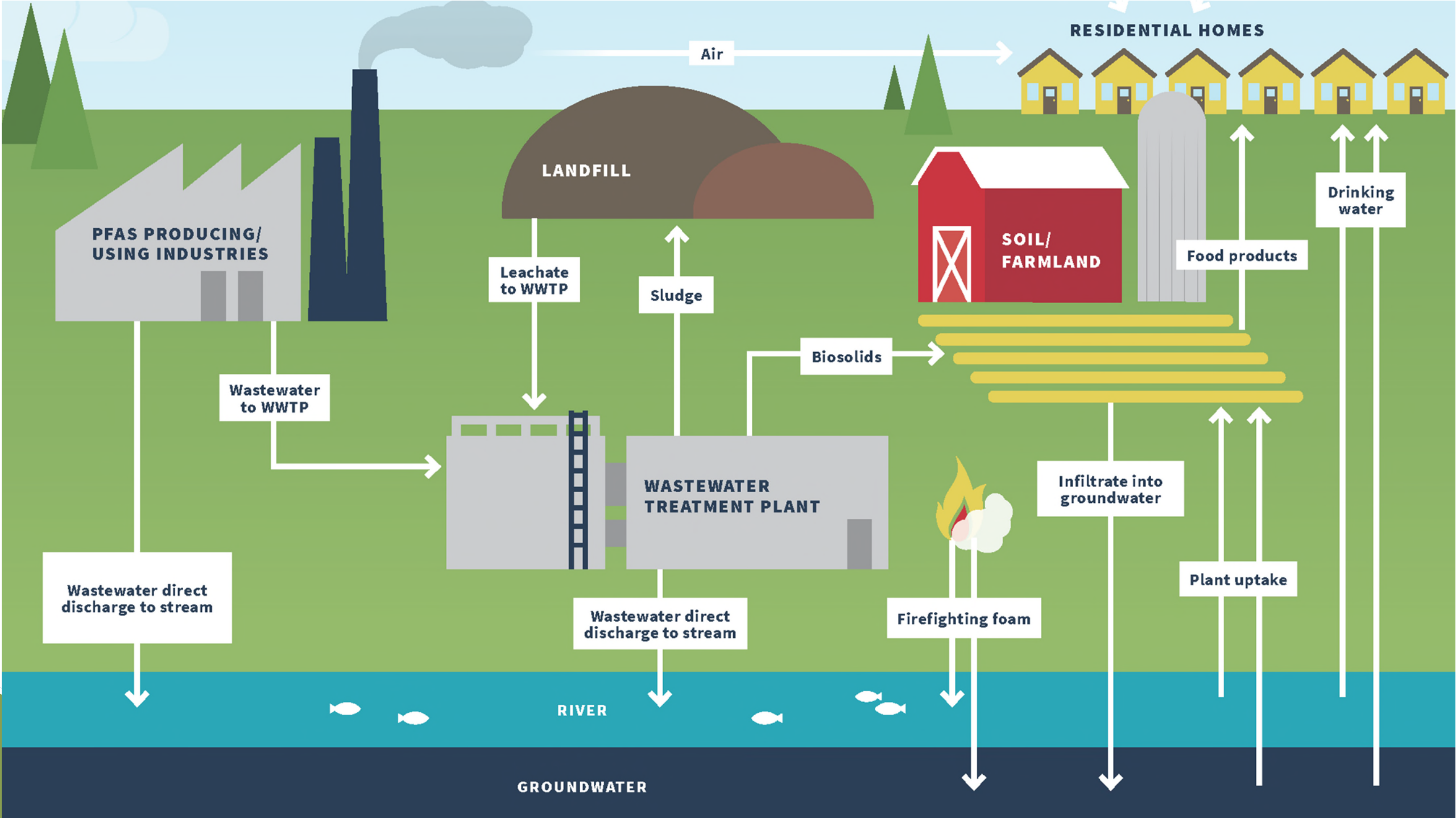
**Food Packaging**

# Why the Concern?

- Widespread
- Don't Break Down Easily – Hard to Get Rid of
- Bioaccumulative – Build Up in Our Bodies
- Some PFAS May Affect Health
- Lack of Information
- Lack of National Regulations









## Surface Water Investigations

- Survey of Surface Water and Fish
- Foam
- Wastewater



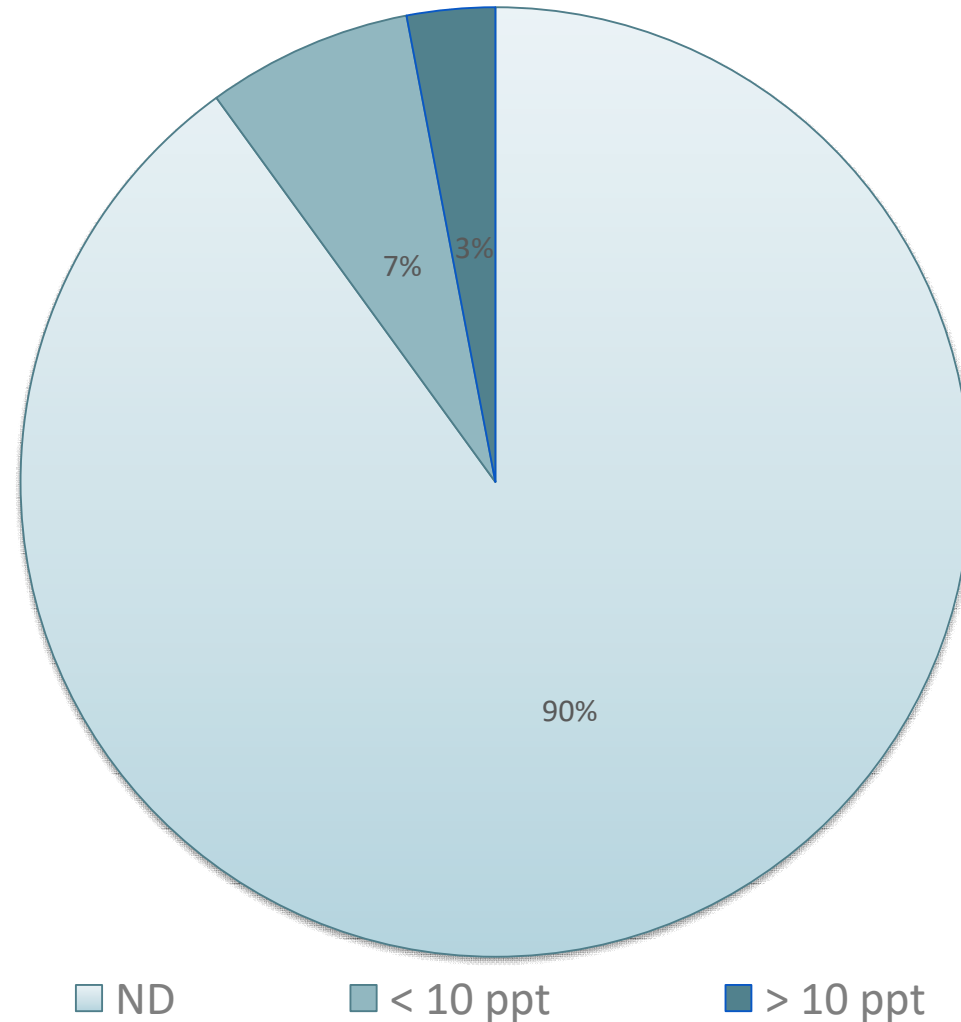
# Public Water Supply Testing

- All Community Water Supplies (1,114)
- All Tribal Systems (17)
- Schools and Larger Day Cares (619)
- Additional Select Water Supplies
- Monitoring
  - All 65 Surface Water Systems
  - 61 Systems > 10 ppt Total PFAS

# Total PFAS in MI Public Water Supplies

EPA Method 537 Rev 1.1

NEtFOSA	NMeFOSAA	PFBS
PFDA	PFDoA	PFHpA
PFHxS	PFHxA	PFNA
PFOS	PFOA	PFTA
PFTTrDA	PFUnA	





# Drinking Water Standards

- No Federal Standards to Adopt
- Science Advisory Panel Report, December 2018
  - **70 ppt standard for PFOA/PFAS too high**
  - **Other PFAS should be considered**
- Michigan's Two-Step Approach
  - **Science Advisory Workgroup provided health-based values**
  - **EGLE promulgated standards in rule**

## Michigan Drinking Water Standards

- Maximum Contaminant Levels (MCLs)
- August 3, 2020
- 2,700 water systems

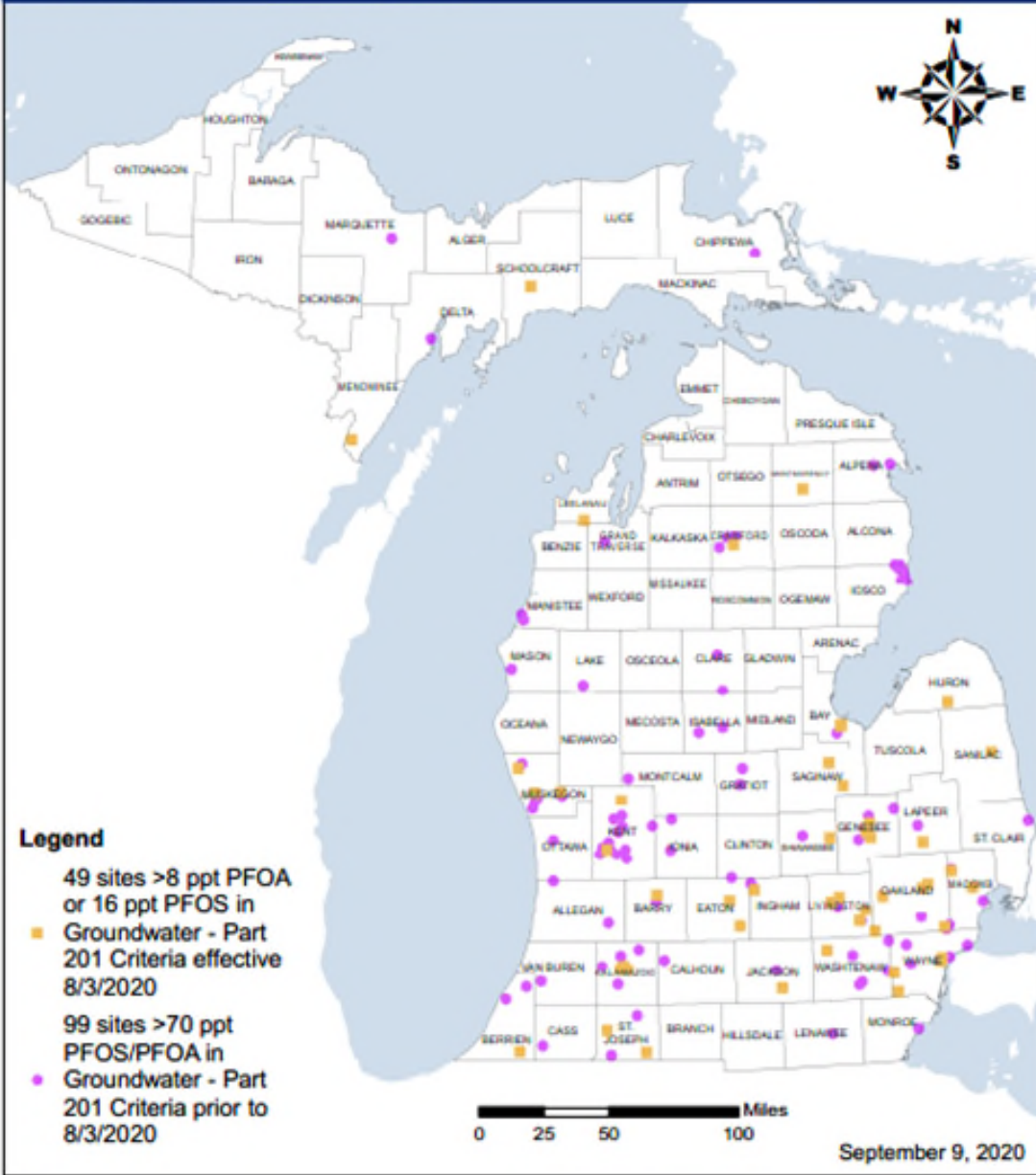
Compound	MCL	EPA Recommendation
PFNA	6 ppt	NA
PFOA	8 ppt	70 ppt combined
PFOS	16 ppt	
PFHxS	51 ppt	NA
GenX (HFPO-DA)	370 ppt	NA
PFBS	420 ppt	NA
PFHxA	400,000 ppt	NA

# 7 MCLs ≠ 7 Cleanup Criteria

- Groundwater cleanup criteria already in rule

Compound	Prior to 8/3/20	After 8/3/20
PFOA	70 ppt combined	8 ppt
PFOS		16 ppt

- Rulemaking necessary for other 5 MCLs to become groundwater cleanup criteria
- Important for how we define a PFAS site

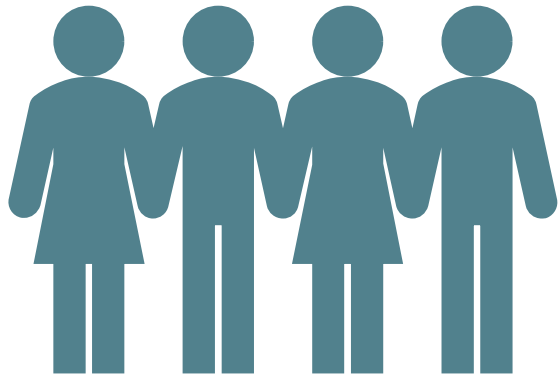


# PFAS Sites

- Exceed groundwater cleanup criteria
  - Expanded from 99 to 138 sites on August 3, 2020
- Prioritized Investigations Based on Known or Suspected Sources, Potential for Exposure
- Protect Drinking Water Pathway



# Citizens Advisory Workgroup



- Residents From Impacted Communities
- Key Charges:
  - Recommend How to Engage and Empower Communities
  - Recommend How to Educate the General Public

# PFAS and Health

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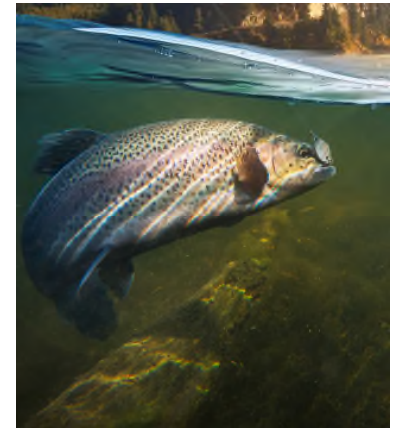
William Farrell, Toxicologist  
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[FarrellW@Michigan.gov](mailto:FarrellW@Michigan.gov)

# The Role of MDHHS/Local Public Health

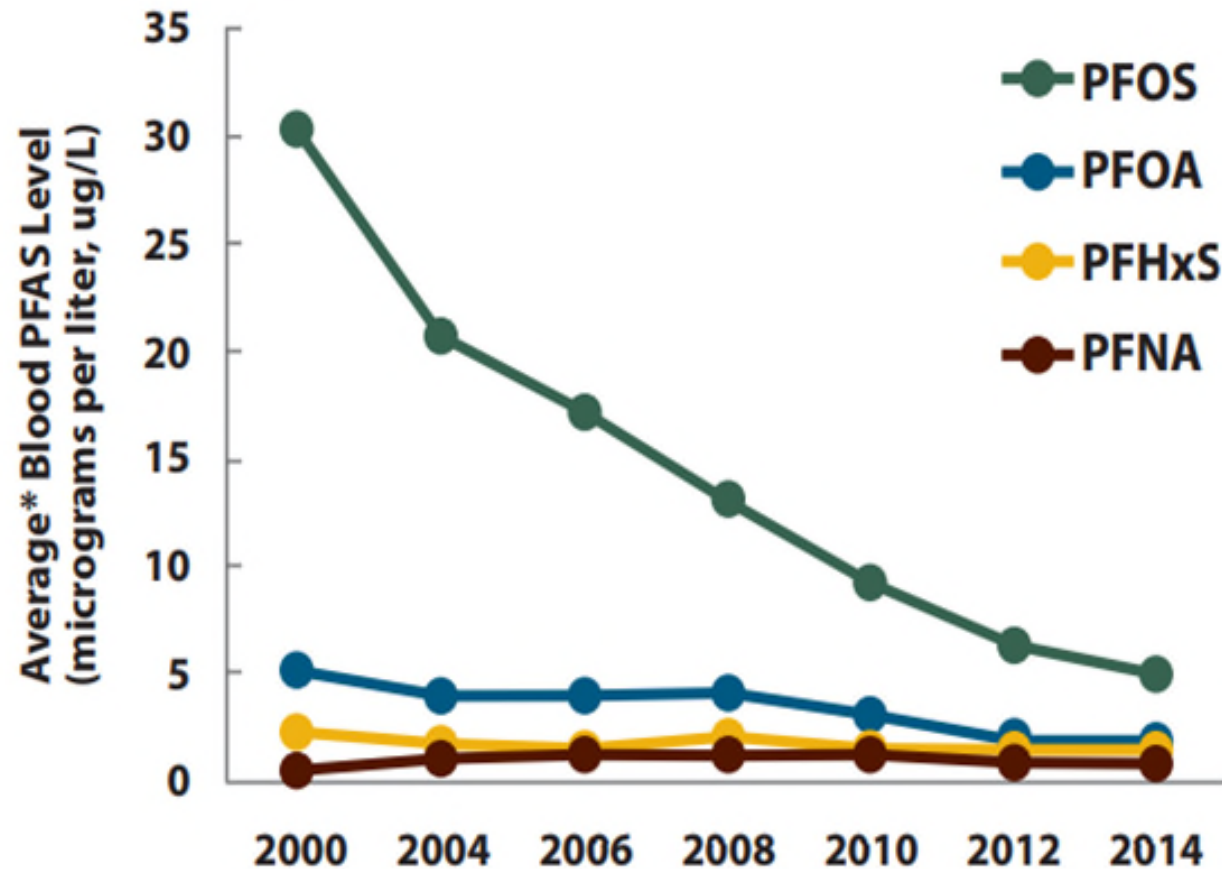
- Understand the health concerns facing your community
- Develop a plan to investigate and address health risks
  - EGLE leads the site investigation
  - MDHHS and the Local Health Department lead the public health planning and response
- Evaluate PFAS exposures to residents in the community
  - Recommend public health actions as needed

# Exposure to PFAS Chemicals

- Drinking contaminated water
- Eating fish caught from water contaminated by PFAS
  - “Do Not Eat Fish” Advisories
- Incidental swallowing of contaminated soil or dust
- Eating food packaged in materials containing PFAS
- Using some consumer products
- PFAS absorption through skin is typically not a concern



# Blood levels of the most common PFAS in people in the United States 2000-2014



\* Average = geometric mean

**Data Source:** Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (January 2017).

# Potential Associated Human Health Outcomes PFOA and/or PFOS

- Lowering a woman's chance of getting pregnant
- Increasing the chance of high blood pressure in pregnant women
- Increasing the chance of thyroid disease\*
- Increasing cholesterol levels
- Changing immune response
- Increasing chance of cancer, especially kidney and testicular cancers

\* PFOA only

# Regional Site Investigations

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Mike Jury, Environmental Manager

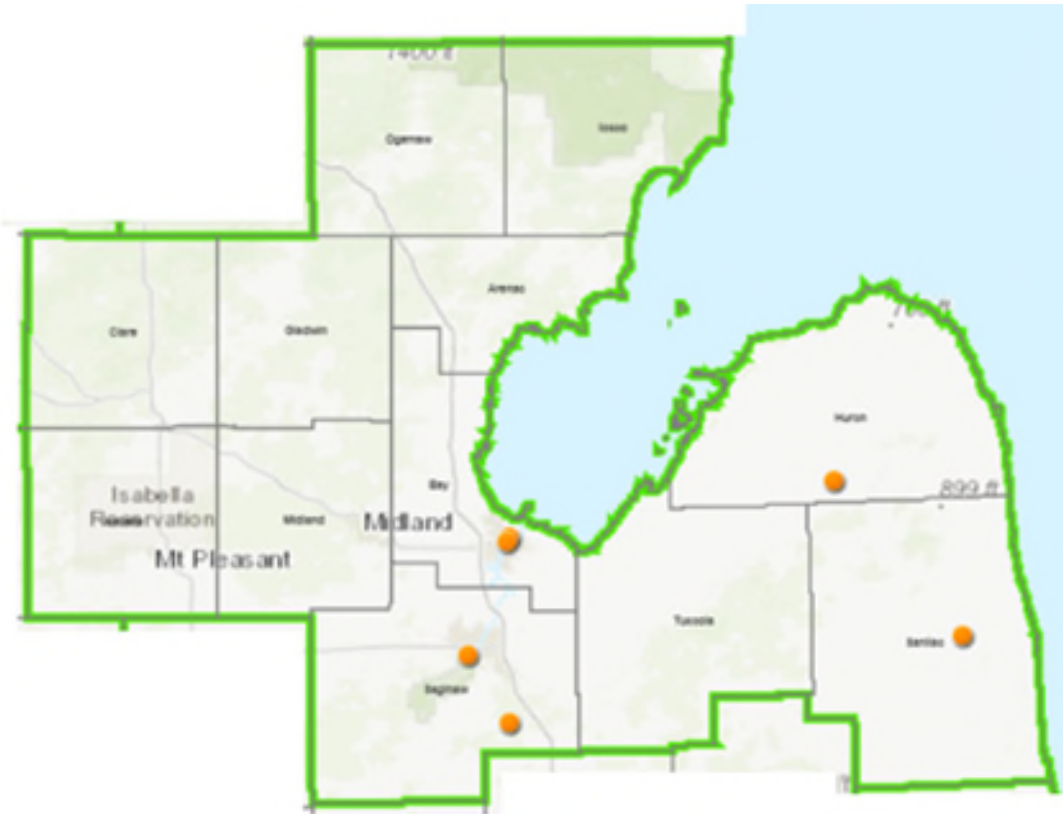
Bay City District Office

Remediation and Redevelopment Division

[JuryM1@Michigan.gov](mailto:JuryM1@Michigan.gov)

517-242-9578

# Regional PFAS Contact



- Mike Jury  
Bay City District Office  
[JuryM1@Michigan.gov](mailto:JuryM1@Michigan.gov)  
517-242-9578



# Sites

- Bay County
  - General Motors Powertrain Bay City
  - Dow Chemical ITI Facility
- Huron County
  - Cove Landfill and Huron Landfill Property
- Saginaw County
  - Peoples Landfill
  - Saginaw Malleable Iron
- Sanilac County
  - Tri-City Recycling and Disposal Facility - Messman Site

# General Motors Powertrain Bay City 100 Fitzgerald Street, Bay County

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Amanda Armbruster

[ArmbrusterA@Michigan.gov](mailto:ArmbrusterA@Michigan.gov)

989-450-6377

# GM Powertrain Bay City



- Active automotive manufacturing facility since the early 1900's.
- EGLE asked GM, LLC to perform PFAS sampling to evaluate potential impacts associated with historic chrome, copper and nickel-plating activities.
- Groundwater flows north toward the Saginaw River.
- No residential drinking water wells identified – site and surrounding area are serviced by municipal water.

# GM Powertrain Bay City



- Six on-site monitoring wells were sampled for PFAS in June 2019.
- Monitoring well MW406S had the highest PFOA concentration of 21 ppt.
- Monitoring well LMW6S had the highest PFOS concentration of 24 ppt.
- Groundwater containment and recovery systems are currently in place to address other contaminants previously identified on-site (i.e., PCBs).
- Groundwater monitoring is conducted annually – EGLE may request additional PFAS sampling in the future.

Dow Chemical International Terminals, Inc. (ITI)  
1600 Martin Street, Bay County

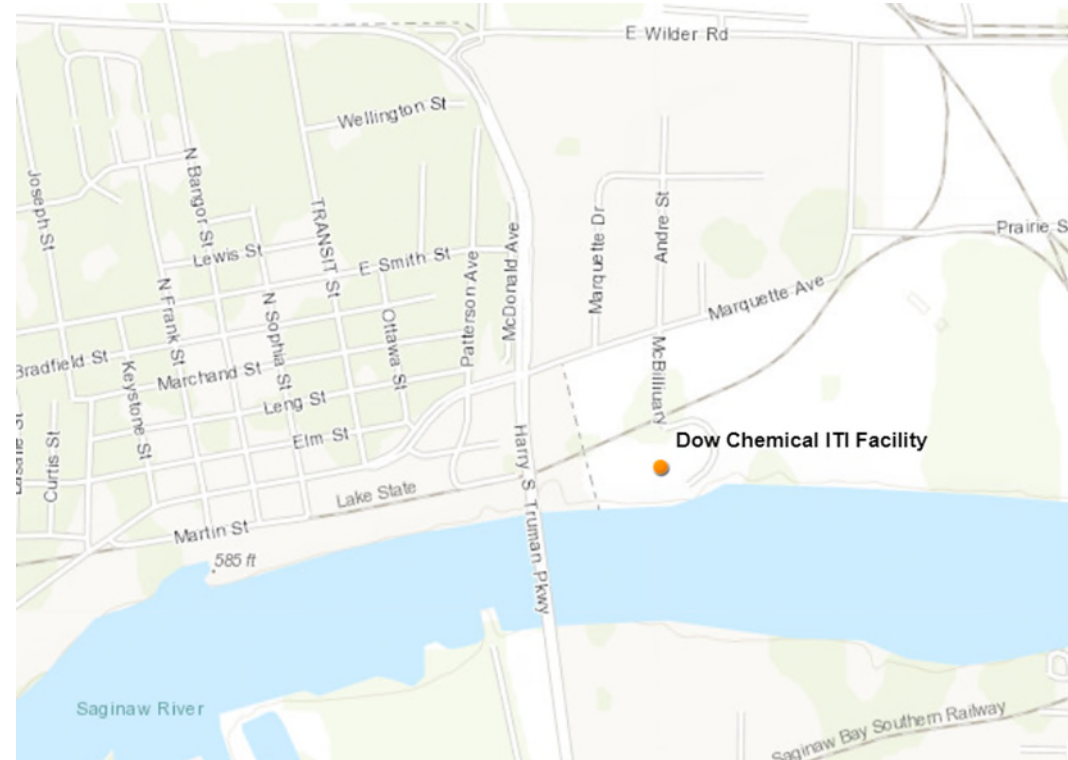
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Michael Jury

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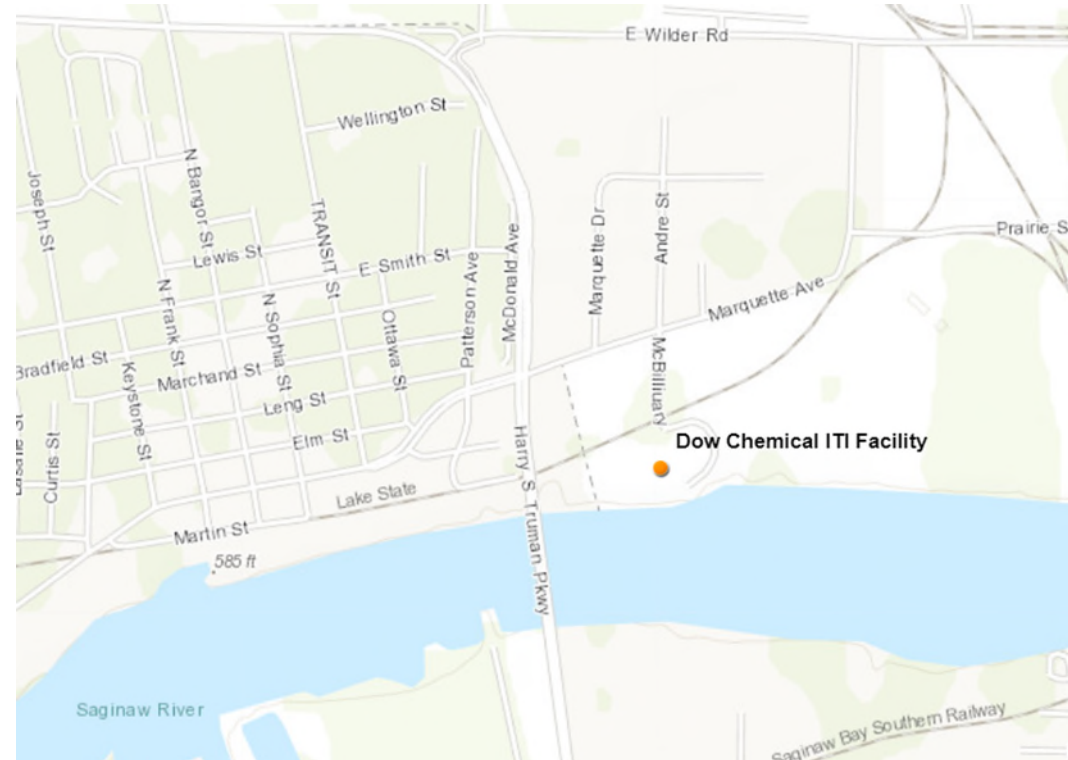
517-242-9578

# Dow Chemical ITI Facility



- Historically used for chemical storage; release known since 1990s (volatile organic compounds and ammonia).
- Historic maps show foam tanks.
- Sampled for PFAS compounds in 2017.
- PFOA concentrations (highest result 62.4 ppt) exceeds current Part 201 Criteria (8 ppt).
- Groundwater flow direction is naturally toward the Saginaw River; however a groundwater collection system draws groundwater into the site for discharge to the municipal wastewater treatment plant.

# Dow Chemical ITI Facility



- Known PFOA concentrations above criteria are limited to one extraction well, one monitoring well, and a sump used for groundwater removal.
- Because of the presence of an extraction system and natural groundwater flow toward the Saginaw River, it is very unlikely that PFOA is migrating off-site or impacting any residential wells. The area is serviced by municipal drinking water.
- A 1996 Restrictive Covenant prohibits the installation of wells for potable use on the property.
- Currently, Dow Chemical continues to operate the groundwater collection system and monitor its performance.

# Cove Landfill and Huron Landfill Property McMillan Road, Bad Axe, Huron County

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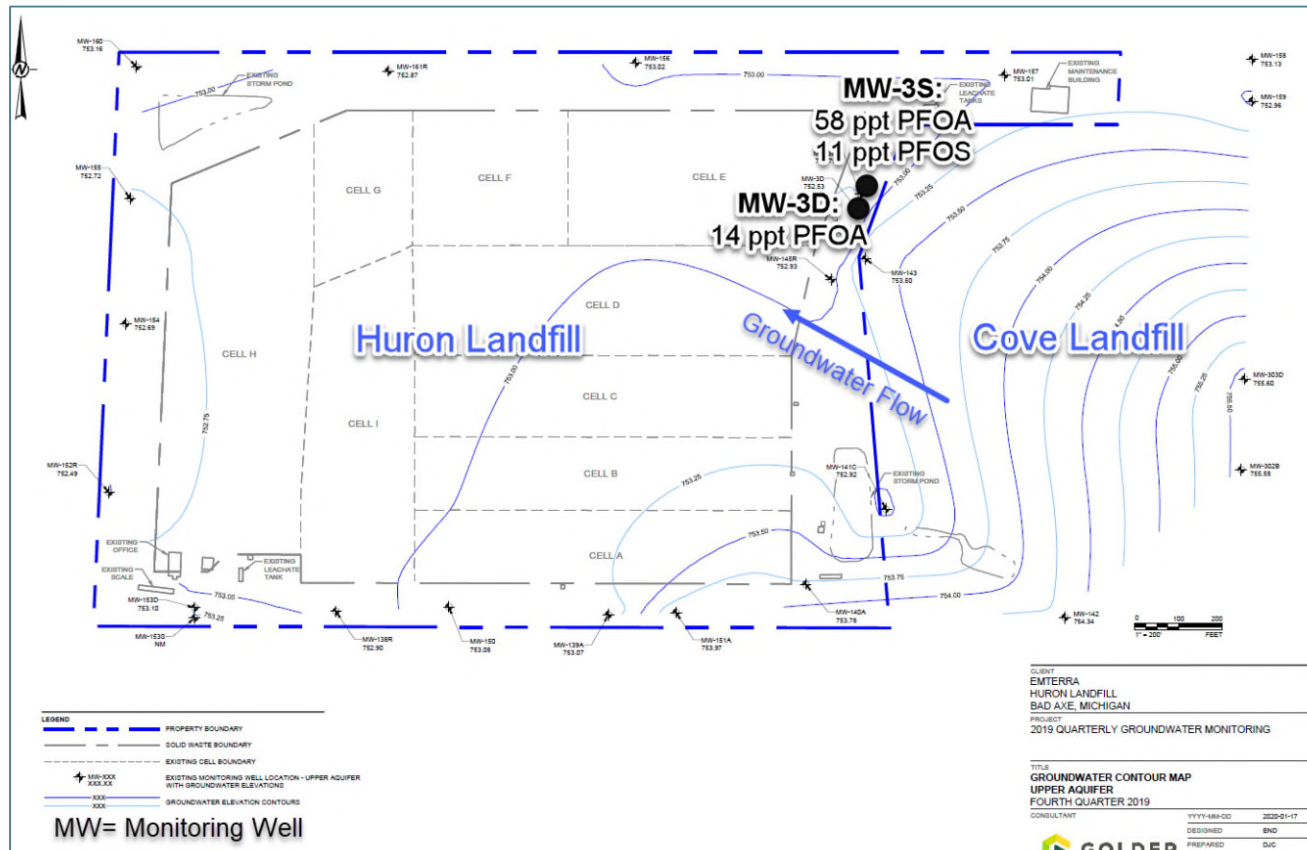
Lori Babcock

[BabcockL4@Michigan.gov](mailto:BabcockL4@Michigan.gov)

989-460-7352

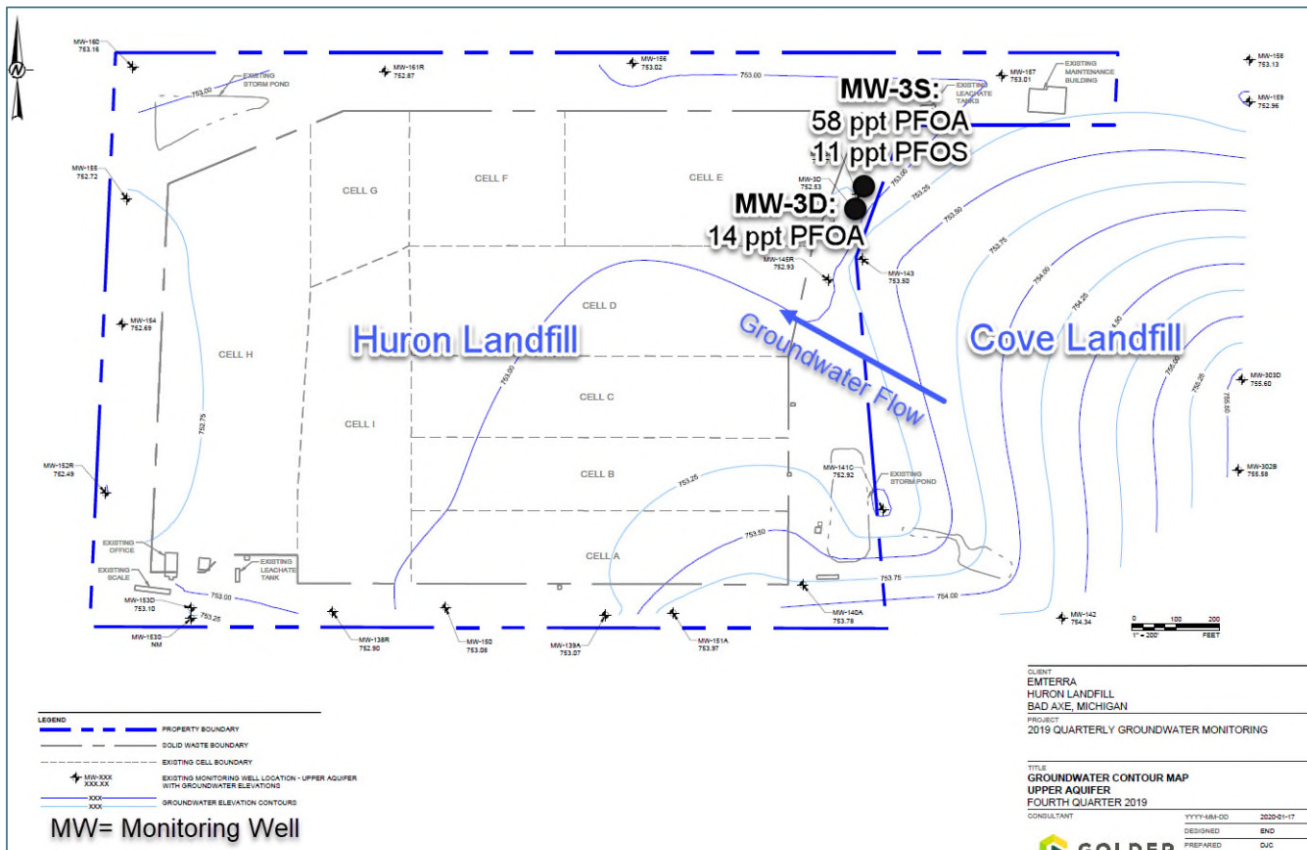


# Cove Landfill and Huron Landfill Property



- Two different properties & owners
  - Cove Landfill: closed, unlined, tax-reverted
  - Huron Landfill: active site, lined, owned by Emterra
- Cove Landfill has history of groundwater contamination, monitored quarterly

# Cove Landfill and Huron Landfill Property



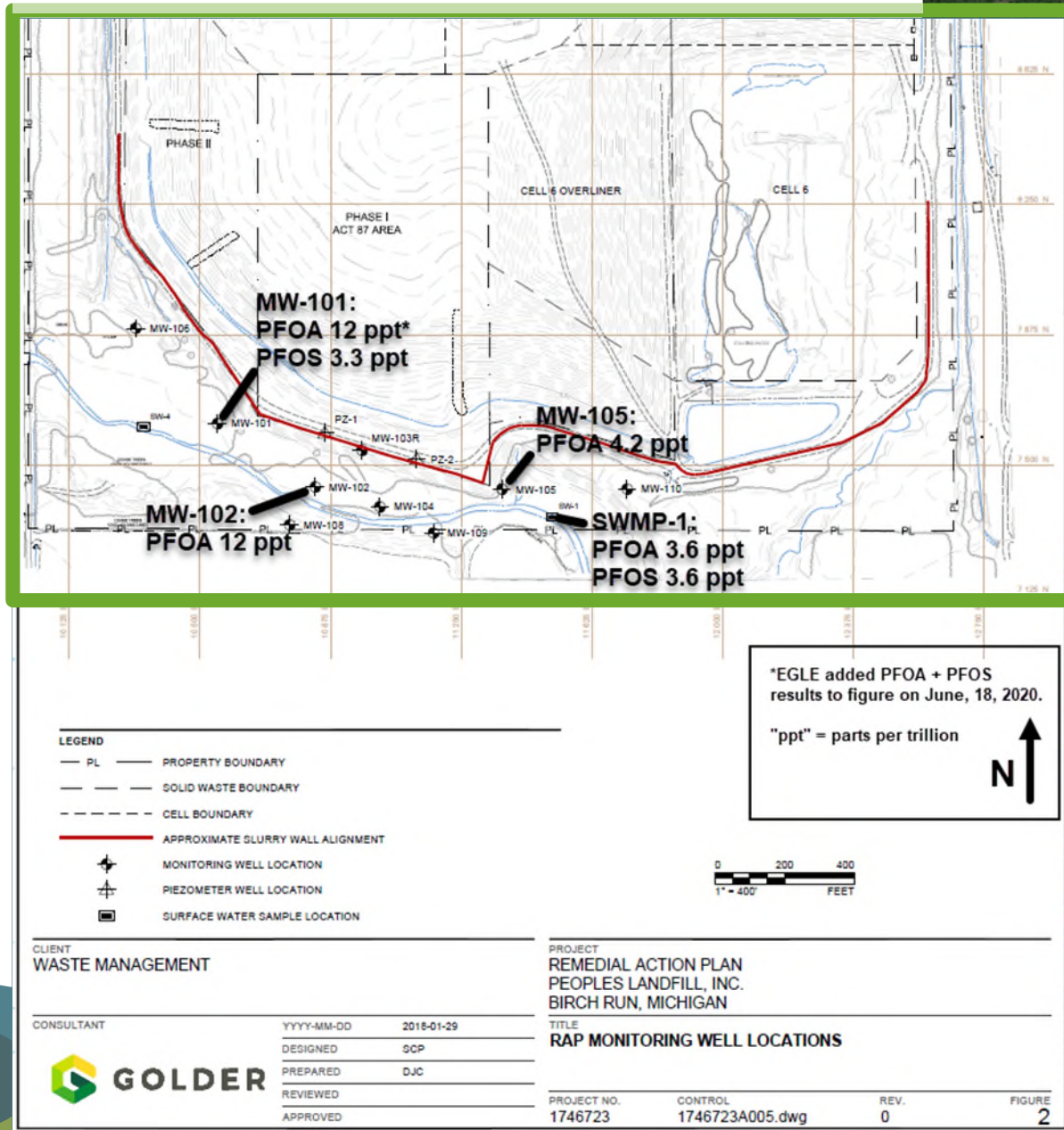
- Groundwater flows toward northwest
- Residential wells northwest of the site selected for PFAS testing

Peoples Landfill  
4143 East Rathbun Road, Birch Run,  
Saginaw County

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[BabcockL4@Michigan.gov](mailto:BabcockL4@Michigan.gov)  
989-460-7352

# Peoples Landfill



- EGLE requested PFAS sampling at wells downgradient of closed, unlined landfill cell
- This area had a history of groundwater contamination, addressed by a Remedial Action Plan
- A **slurry wall** was previously installed to limit groundwater migration

# Peoples Landfill

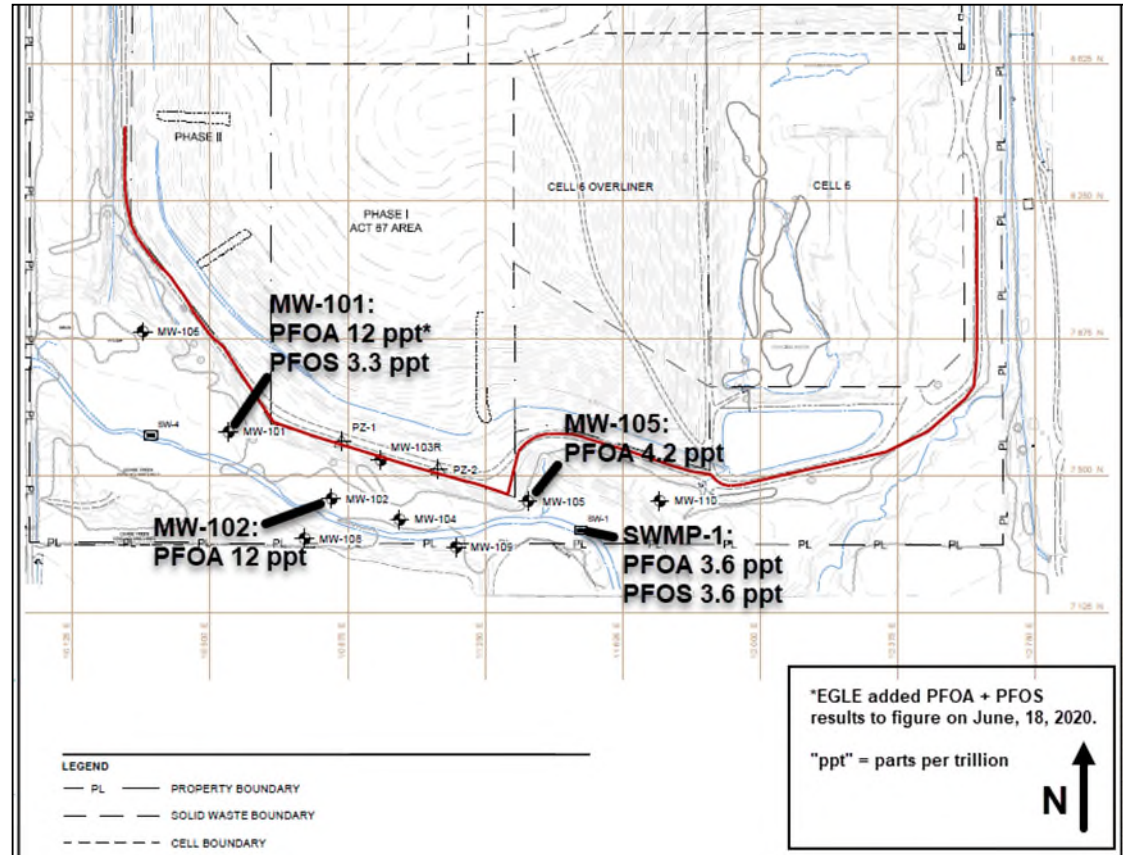


Figure modified from Golder (2019)

- Groundwater flows toward the south
- Residential drinking water wells downgradient selected for PFAS testing

# Saginaw Malleable Iron

## 77 West Center Street, Saginaw County

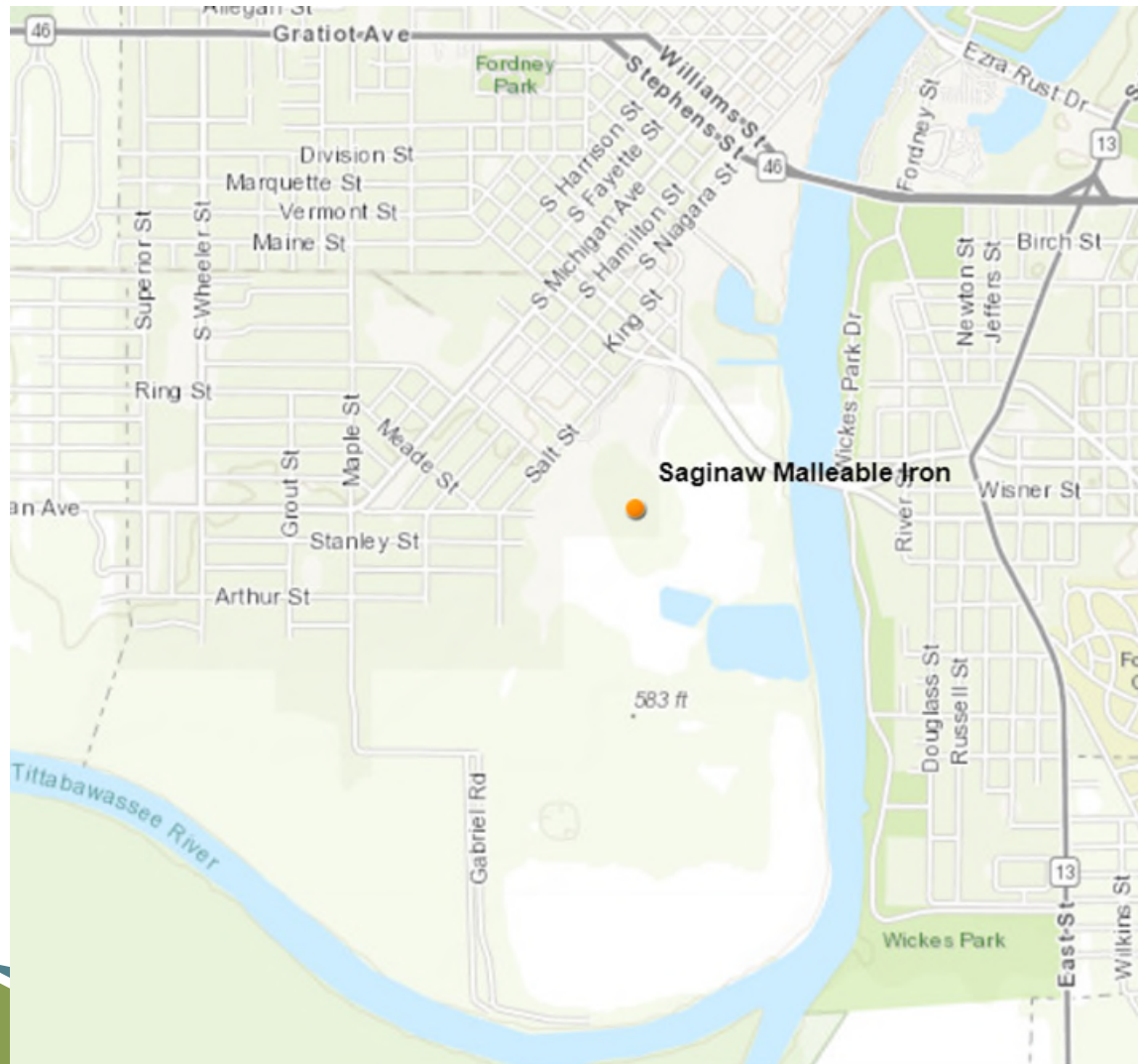
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Amanda Armbruster

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# Saginaw Malleable Iron (SMI)



- SMI is a former automotive foundry that operated for almost 100 years (metal casting and heat treating).
- Greenpoint Landfill (GPL) and two smaller foundry fill landfills are located on-site.
- The primary groundwater flow direction is east toward the Saginaw River, but also flows south and west around GPL toward several surrounding wetland areas.
- Private wells were identified along Riverside Blvd, but all homes have access to municipal water.
- Groundwater use restrictions on the property prevent potable use of groundwater.

# Saginaw Malleable Iron

- In order to evaluate potential PFAS impacts associated with prior on-site operations, EGLE asked RACER Trust to sample groundwater for PFAS.
- On December 18, 2018, 12 on-site monitoring wells were sampled. Three wells had concentrations above Part 201 criteria for PFOA and PFOS.
- Monitoring well X-2A had the highest concentrations (50.6 ppt PFOA and 16.5 ppt PFOS).
- A secondary sampling event was conducted in August 2020. Results are pending.





Tri-City Recycling and Disposal Facility –  
Messman Site  
426 North Ruth Road, Carsonville, Sanilac County

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Lori Babcock  
[BabcockL4@Michigan.gov](mailto:BabcockL4@Michigan.gov)  
989-460-7352

# Tri-City Recycling and Disposal Facility (RDF) – Messman Site



- Messman Site is closed, unlined landfill area of Tri-City RDF property
- Previous groundwater contamination led to 1989 Consent Judgement
- A **slurry wall** was constructed around Messman Site to limit groundwater flow

# Tri-City RDF - Messman Site



- Groundwater flow is toward the northeast
- Residential wells northeast of the Messman Site selected for PFAS testing

# Site Lead Contact Information

**General Motors Powertrain Bay City  
Saginaw Malleable Iron**

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**Dow Chemical ITI Facility**

Melissa Yuvan

[YuvanM@Michigan.gov](mailto:YuvanM@Michigan.gov)

989-891-6087

**Cove Landfill and Huron Landfill Property  
Peoples Landfill**

**Tri-City Recycling and Disposal Facility -  
Messman Site**

Lori Babcock

[BabcockL4@Michigan.gov](mailto:BabcockL4@Michigan.gov)

989-460-7352



# Local Health Departments

**Bay County Health Department**  
989-895-4009

**Central Michigan District Health Department**  
989-772-5921

**District Health Department 2**  
989-345-5020

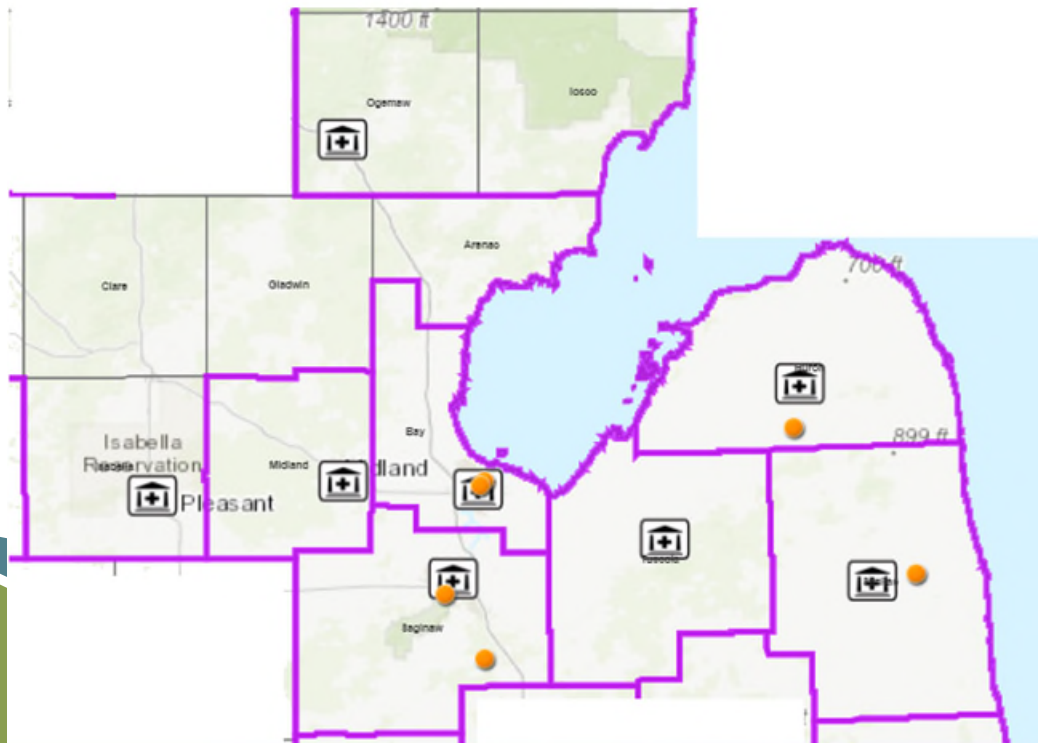
**Huron County Health Department**  
989-269-9721

**Midland County Health Department**  
989-832-6380

**Saginaw County Health Department**  
989-758-3800

**Sanilac County Health Department**  
810-648-4098

**Tuscola County Health Department**  
989-673-8114



# MICHIGAN PFAS ACTION RESPONSE TEAM (MPART)

[www.Michigan.gov/PfasResponse](http://www.Michigan.gov/PfasResponse)



MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY



# THANK YOU!

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We will share the slides and a recording and closed-captioned copy of today's conversation via email and on our website in the next few days.