

# Welcome

## MPART PFAS Regional Informational Webinar Northern Michigan Region

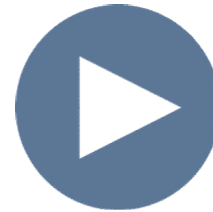
September 17, 2020

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**

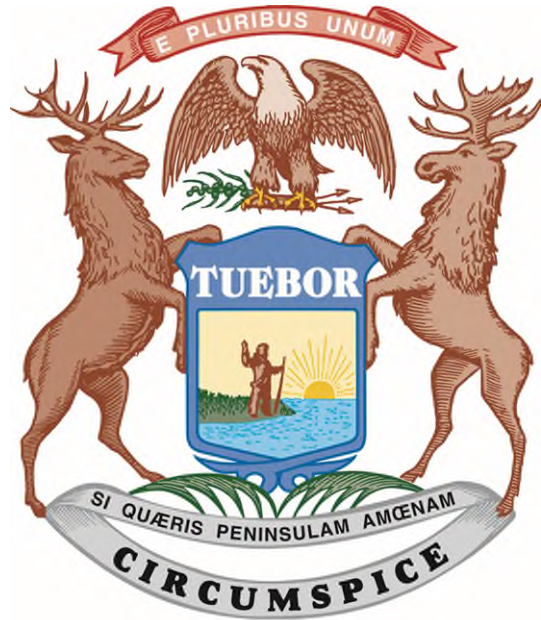
# MPART PFAS Regional Informational Webinar

## Northern Michigan Region

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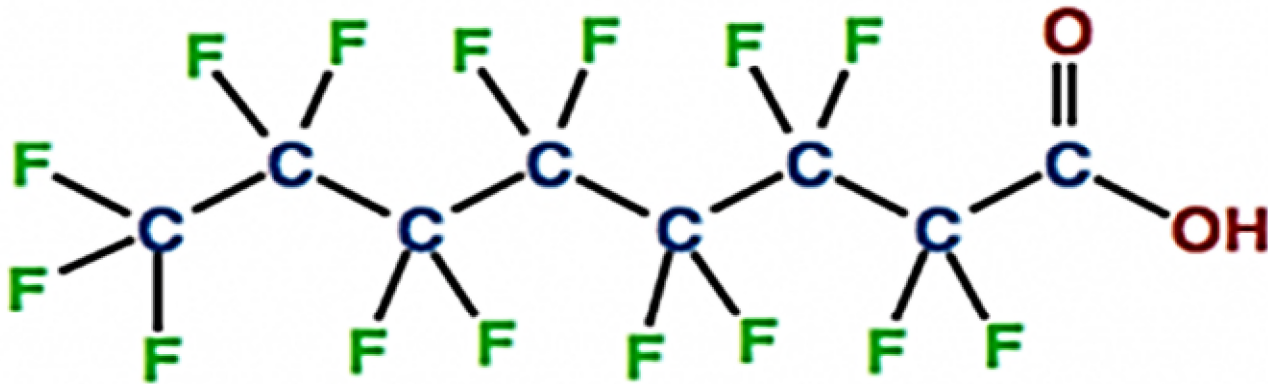
Amy Peterson  
Michigan PFAS Action Response Team  
(517) 420-0083  
[PetersonA1@Michigan.gov](mailto:PetersonA1@Michigan.gov)

# 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**



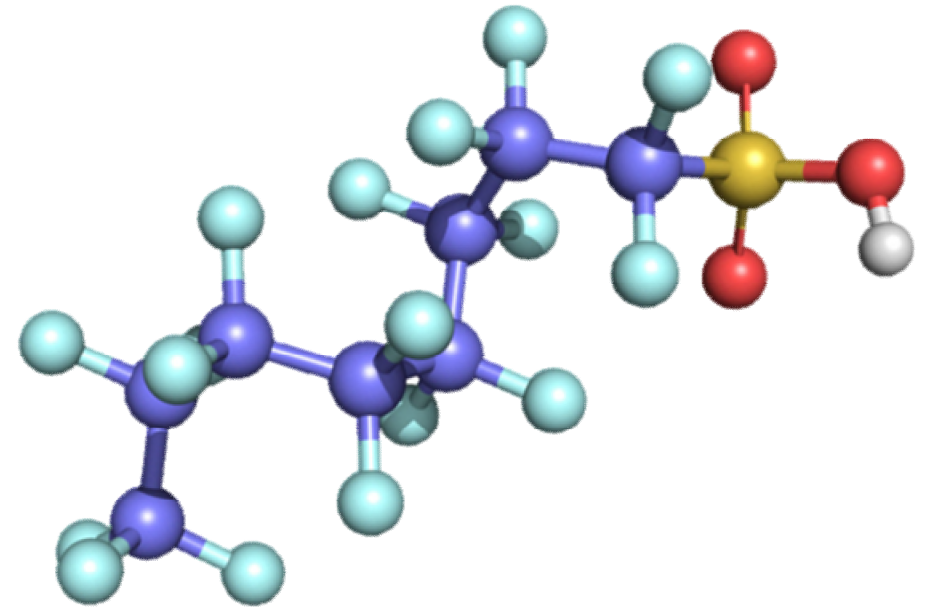
**Aqueous Film  
Forming Foam**



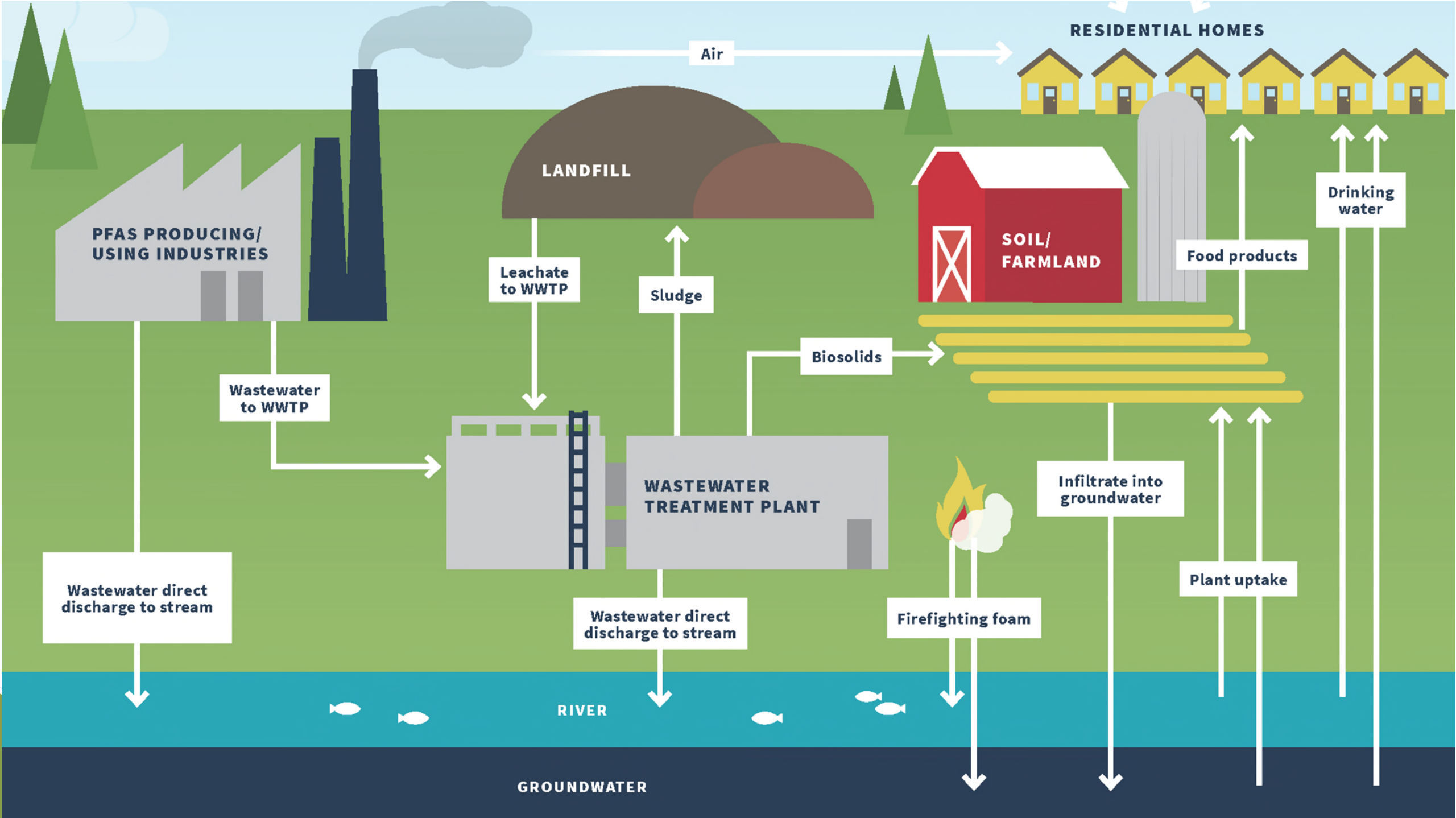
**Food Packaging**

# 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





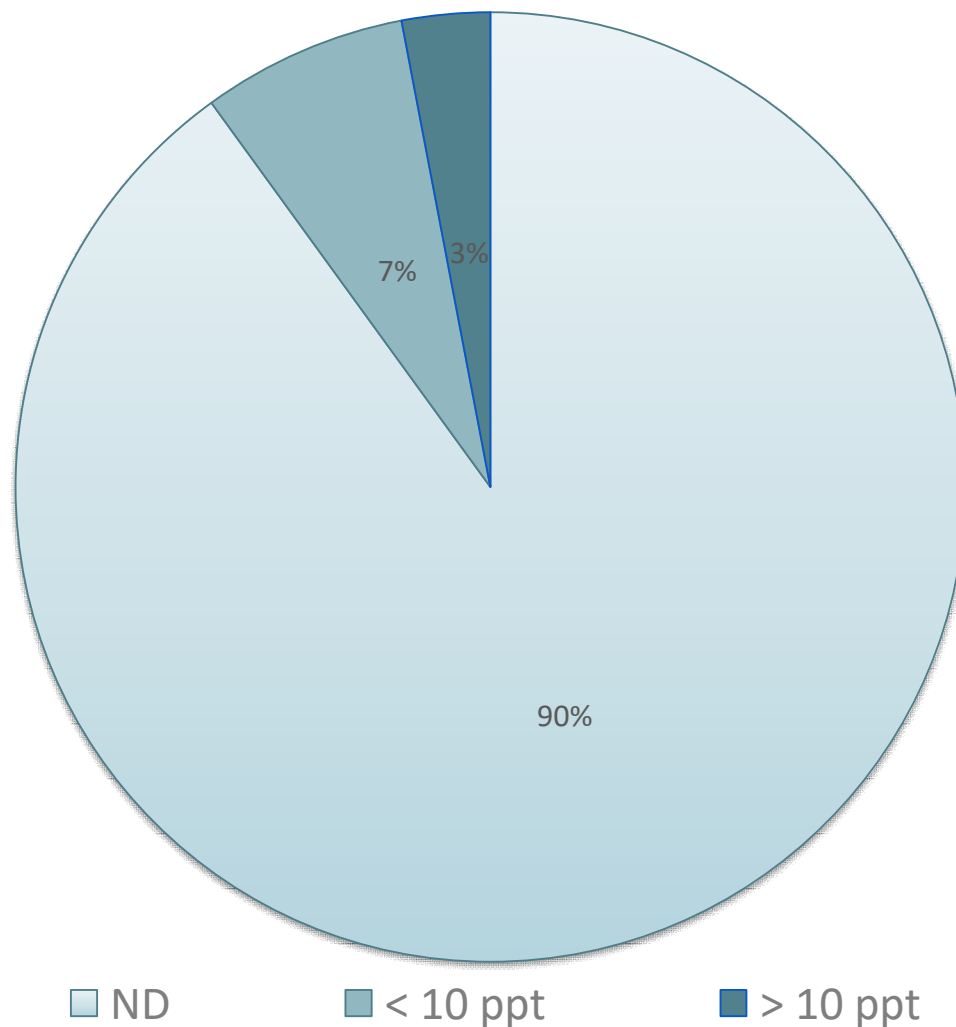
# Public Water Supply Testing

- 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

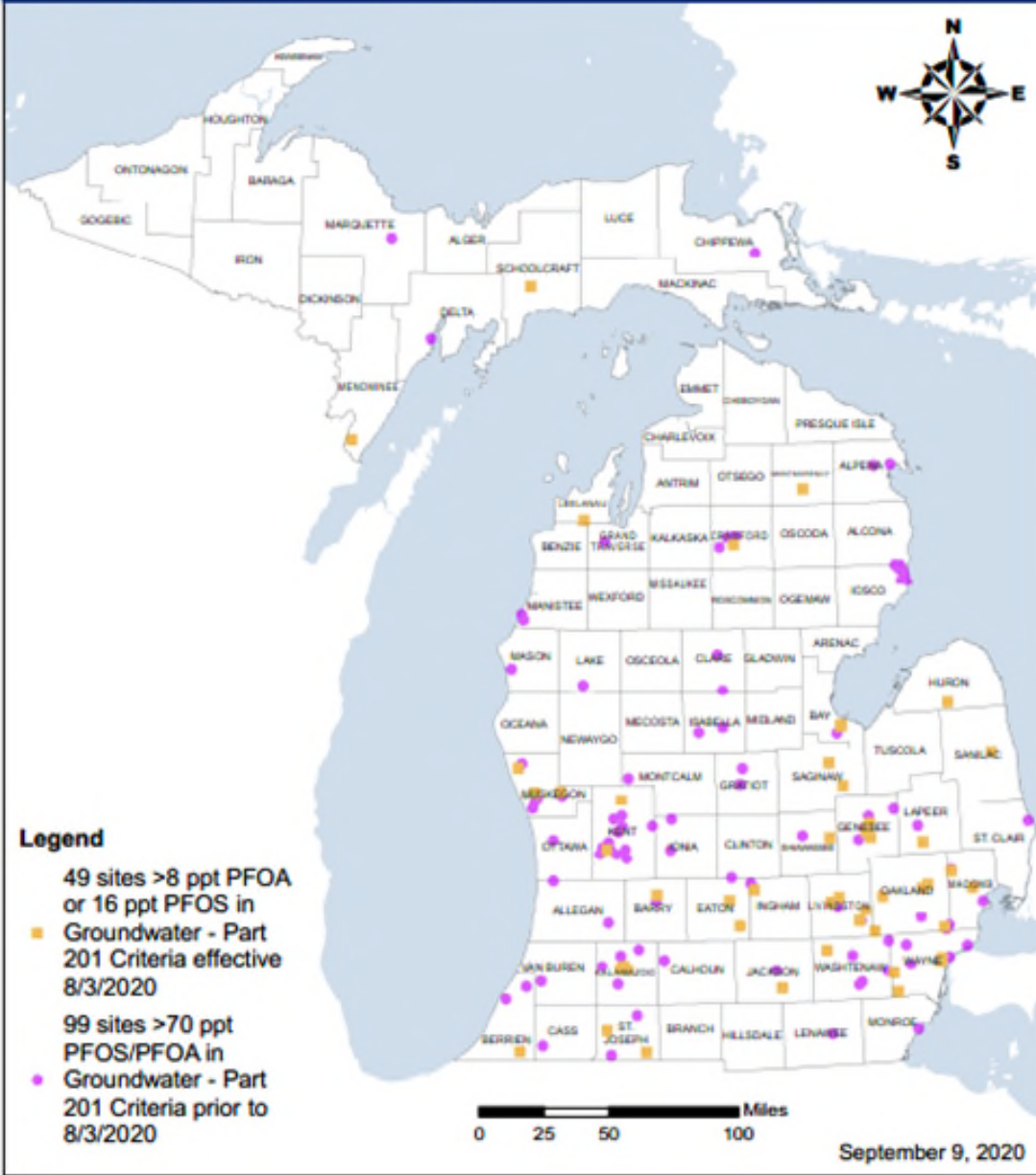
# 7 MCLs ≠ 7 Cleanup Criteria

- 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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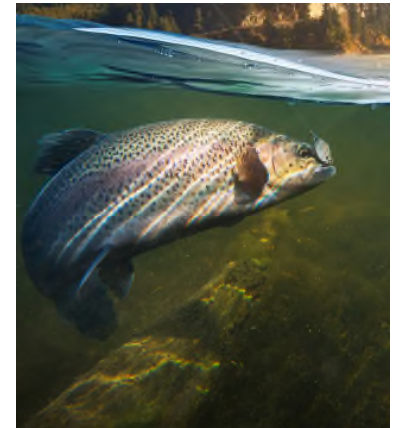
Puneet Vij, Toxicologist  
Michigan Department of Health and Human Services  
(517) 582-4104  
[VijP@Michigan.gov](mailto:VijP@Michigan.gov)

# The Role of MDHHS/Local Public Health

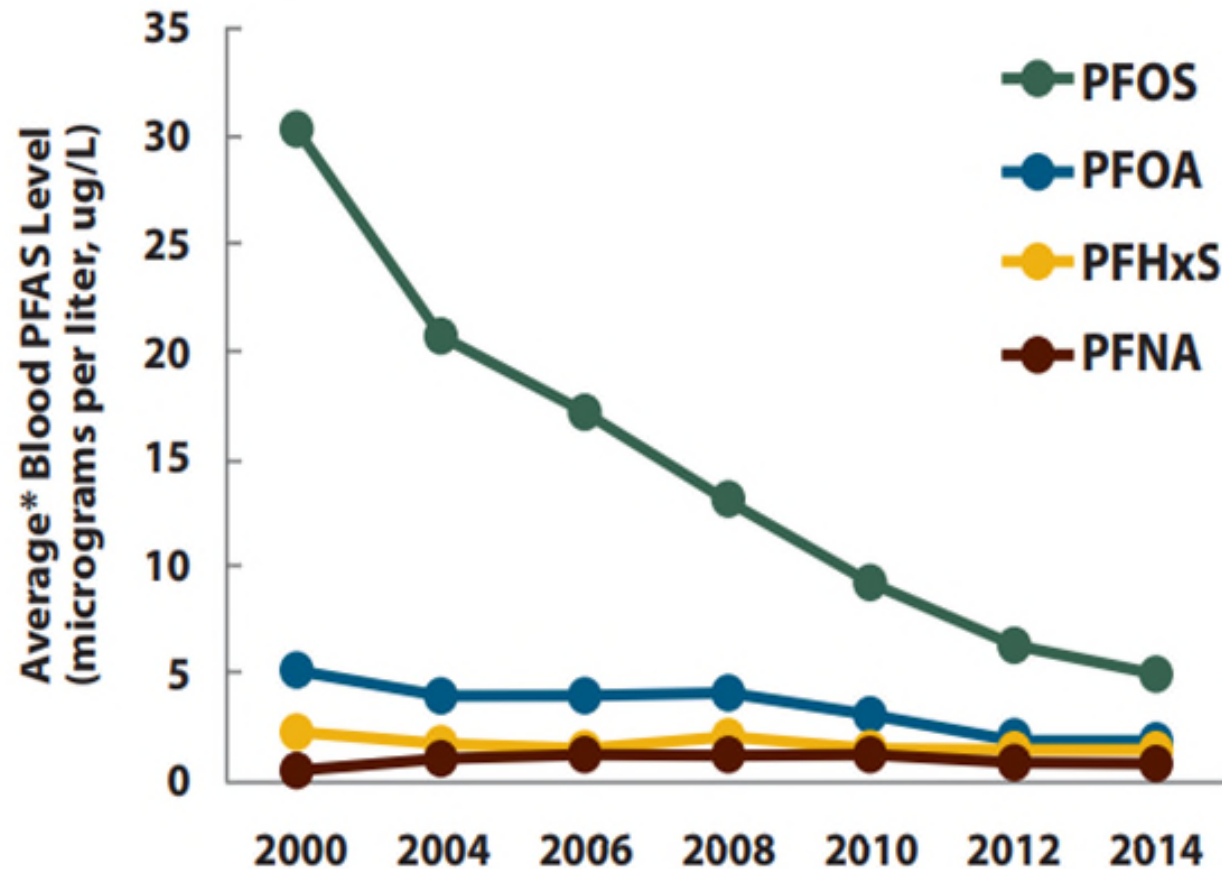
- Understand the health concerns facing your community
- Develop a plan to investigate and address health risks
  - EGLE leads the site investigation
  - MDHHS and the Local Health Department lead the public health planning and response
- Evaluate PFAS exposures to residents in the community
  - Recommend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

# MPART PFAS Regional Informational Webinar Northern Michigan Region

September 17, 2020

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Randy Rothe

District Supervisor, Gaylord District Office

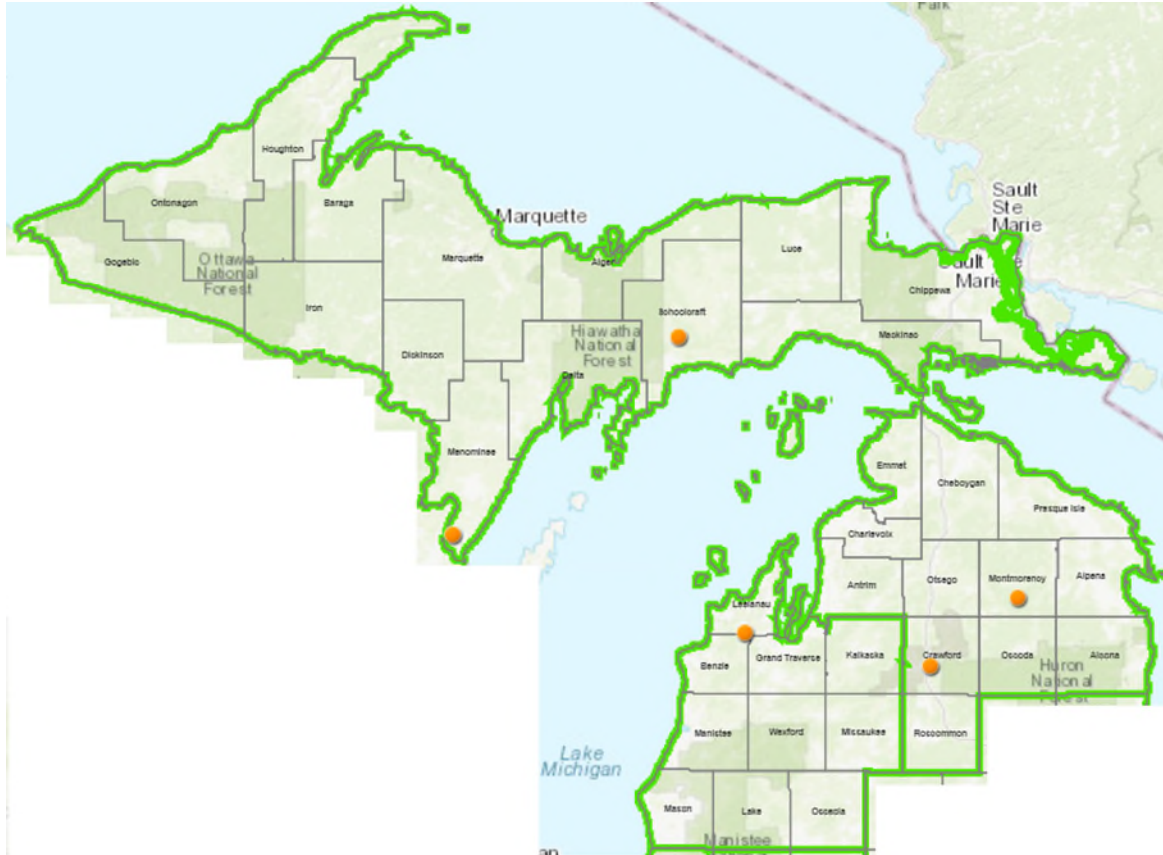
Remediation and Redevelopment Division

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

(989) 217-0083

MPART

# Regional PFAS Contacts



- Steve Kitler, Cadillac District  
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231-631-0370
- Randy Rothe, Gaylord District  
[RotheR@Michigan.gov](mailto:RotheR@Michigan.gov)  
989-217-0083
- Tom Asmus, Marquette District  
[AsmusT@Michigan.gov](mailto:AsmusT@Michigan.gov)  
906-202-1439



# Cadillac District

- Glens Sanitary Landfill

# Gaylord District

- Grayling Wastewater Treatment Facility Discharge Fields
- Montmorency-Oscoda-Alpena Landfill

# Marquette District

- City of Manistique Landfill
- Great Lakes Pulp Company Landfill

# Glens Sanitary Landfill Leelanau County

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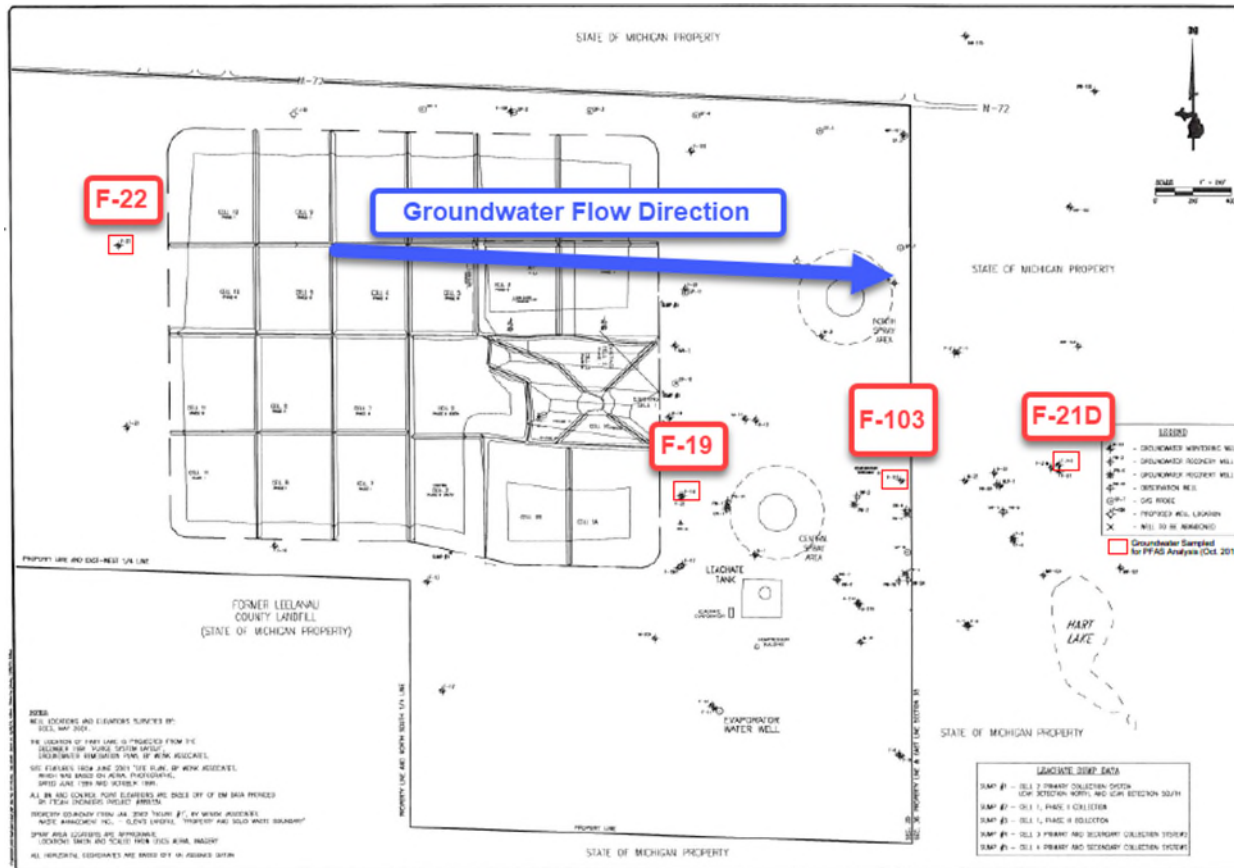
James Staley  
[StaleyJ1@Michigan.gov](mailto:StaleyJ1@Michigan.gov)  
(231) 429-1945

# Glens Sanitary Landfill



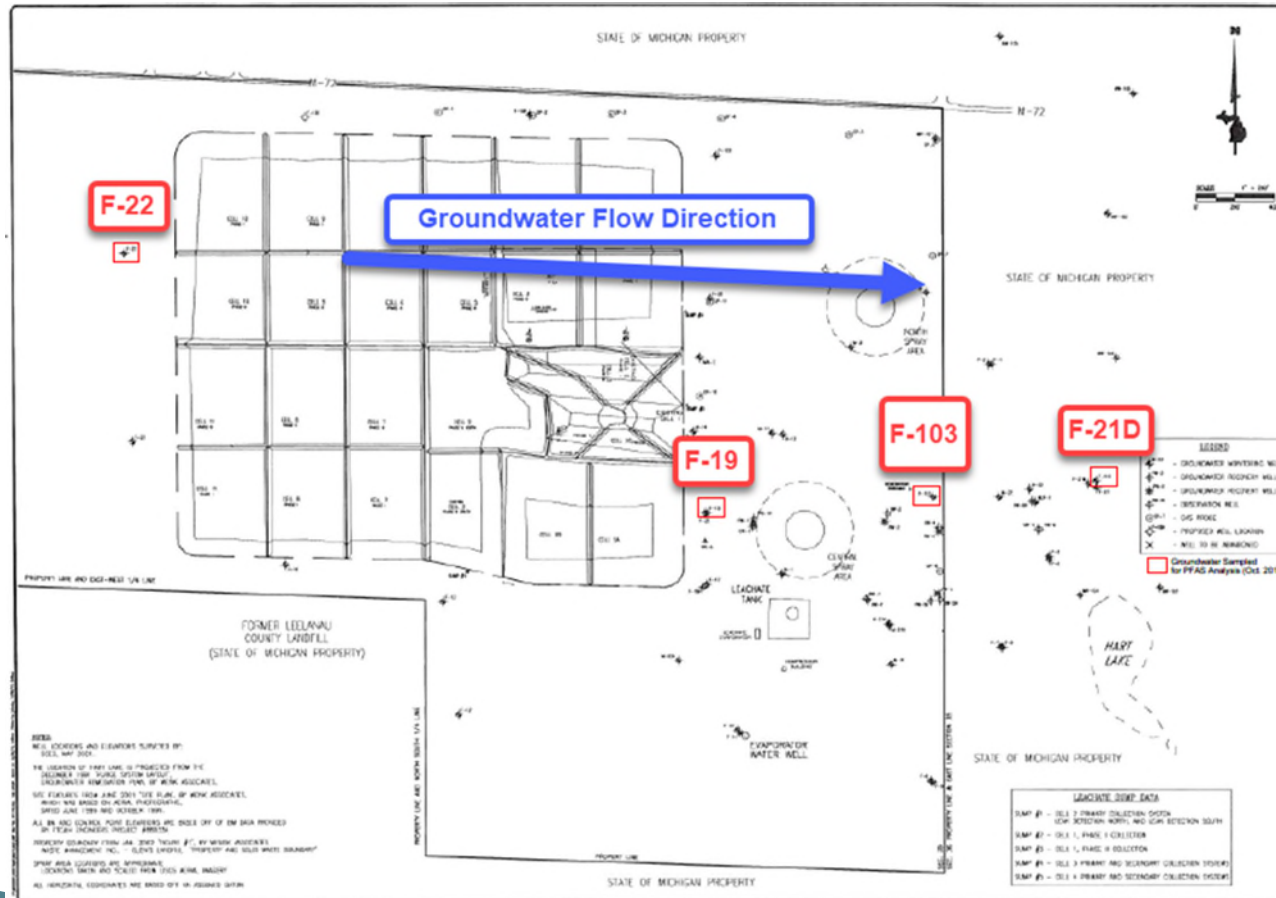
- 518 M-72 West, Maple City
- Based on the presence of known groundwater impacts:
  - EGLE requested select wells be sampled for PFAS
  - Sampling voluntarily conducted on October 15 & 17, 2019

# Glens Sanitary Landfill



- Groundwater flow direction is easterly
- Sampling Results
  - F-22
    - Upgradient well did not detect PFAS
  - F-19
    - Closest downgradient well to the Landfill
    - PFOA concentration of 9.6 ppt
      - Exceeds criteria (8 ppt)

# Glens Sanitary Landfill



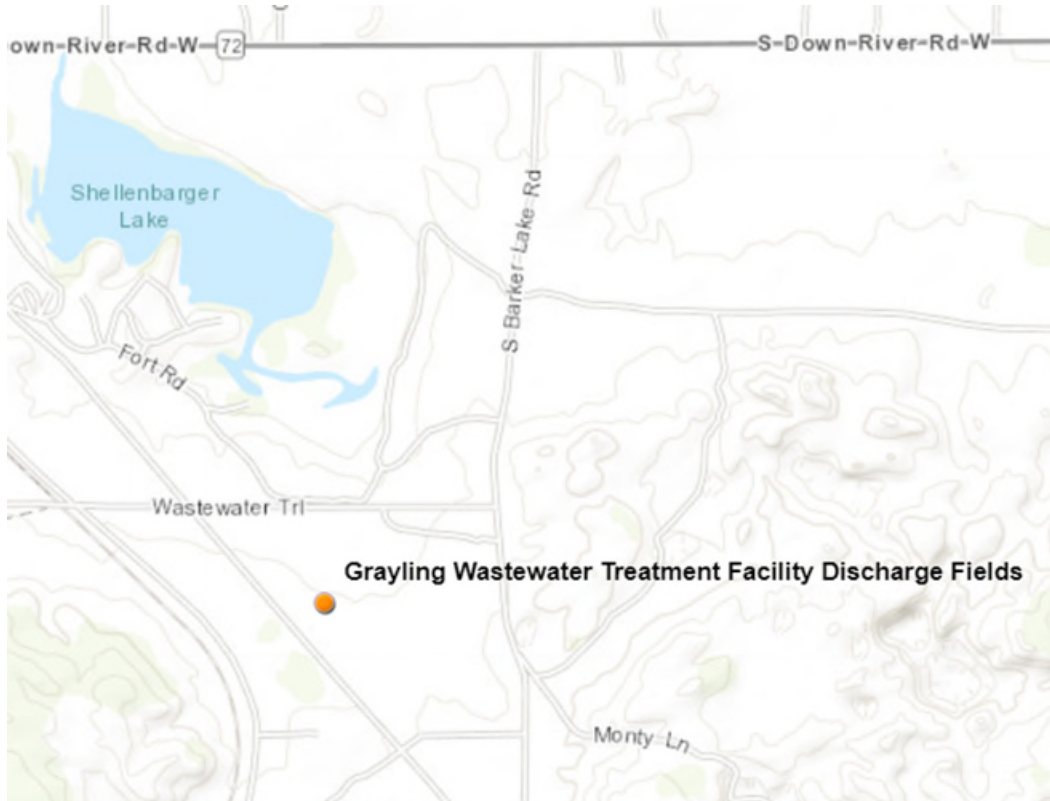
- Sampling Results
  - F-103
    - Located at property boundary
    - PFOA concentration below criteria
  - F-21D
    - Located offsite on State of Michigan land
    - PFOA not detected
- Based on Results
  - Extent of PFOA is known and residential well sampling not anticipated at this time

# Grayling Wastewater Treatment Facility Discharge Fields Crawford County

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Thomas Berdinski  
[BerdinskiT@Michigan.gov](mailto:BerdinskiT@Michigan.gov)  
(616) 204-7334

# Grayling Wastewater Treatment Facility Discharge Fields



2926 Millikin Drive, Grayling  
Crawford County



# Grayling Wastewater Treatment Facility Discharge Fields



Grayling WWTF Lagoons

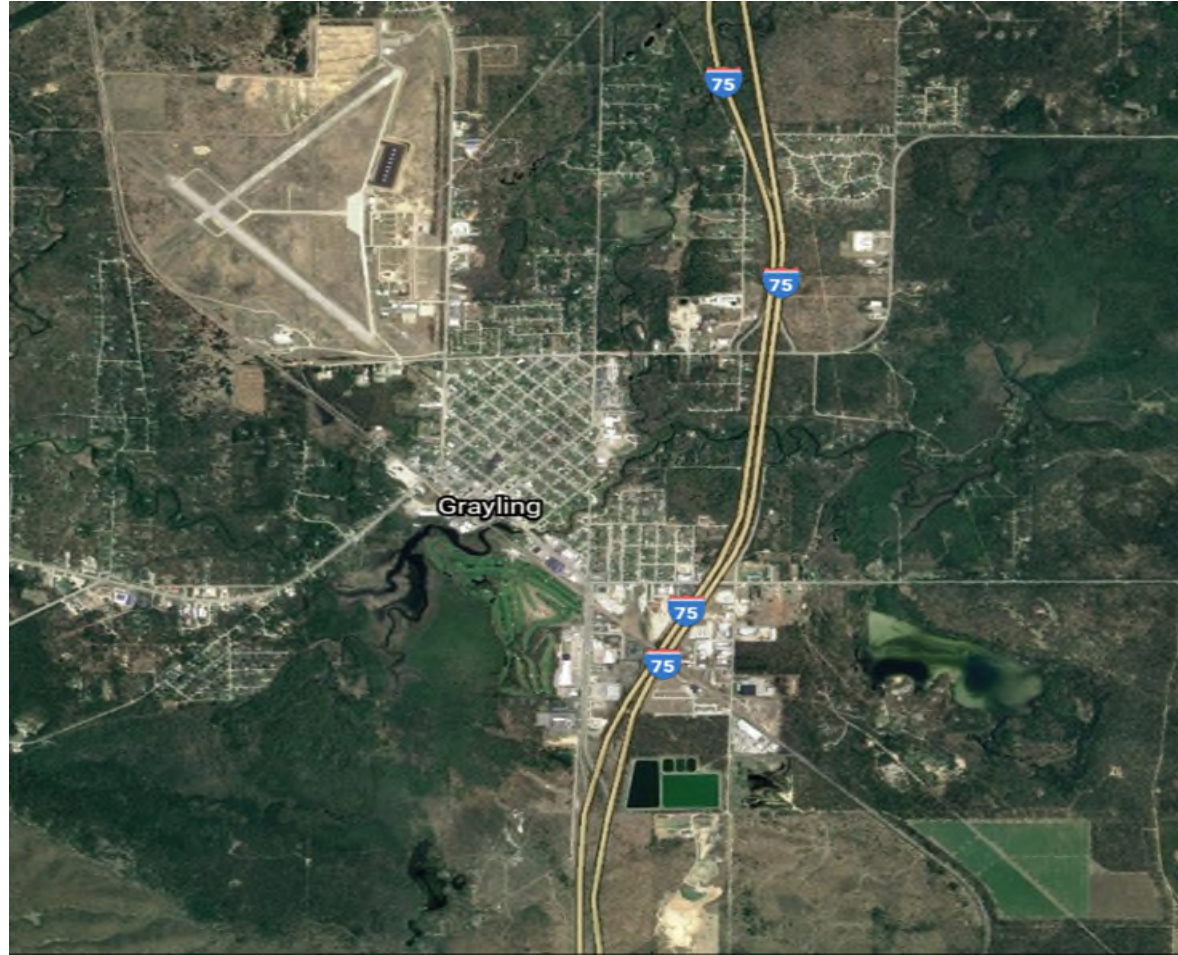


Grayling WWTF Lagoons and Spray Irrigation Fields

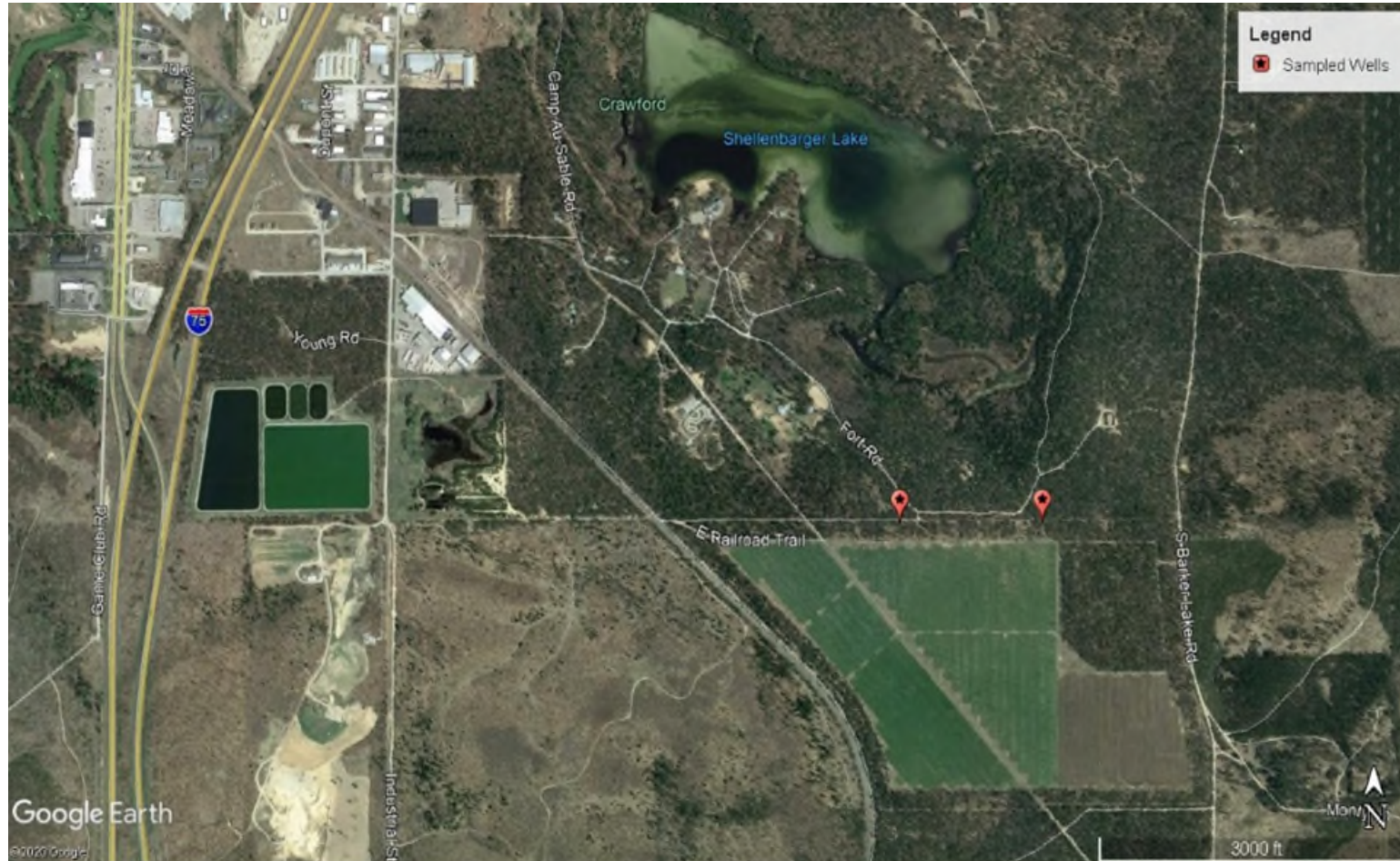


# Grayling Wastewater Treatment Facility

## Discharge Fields



# Grayling Wastewater Treatment Facility Discharge Fields



# Grayling Wastewater Treatment Facility

## Discharge Fields

Sample Location	Sample Date	PFOA Result in ppt*	PFOS Result in ppt**
MW 13	6/11/2020	45.9	11
MW 16	6/11/2020	16	43.4

\* PFOA  
Standard is  
8 ppt

\*\* PFOS  
Standard is  
16 ppt

# Grayling Wastewater Treatment Facility

## Discharge Fields

- EGLE and Grayling Department of Public Works are developing a sanitary sewer sampling plan
- EGLE, with MDHHS and local health department, are developing downgradient sampling plan which may include wells at Camp Au Sable, residential wells, Shellenbarger Lake and wetland
- Sampling plans expected to be developed and sampling initiated this fall



# Montmorency-Oscoda-Alpena Solid Waste Authority Landfill Montmorency County

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John Ozoga

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

(231) 429-1718

# Montmorency-Oscoda-Alpena Landfill

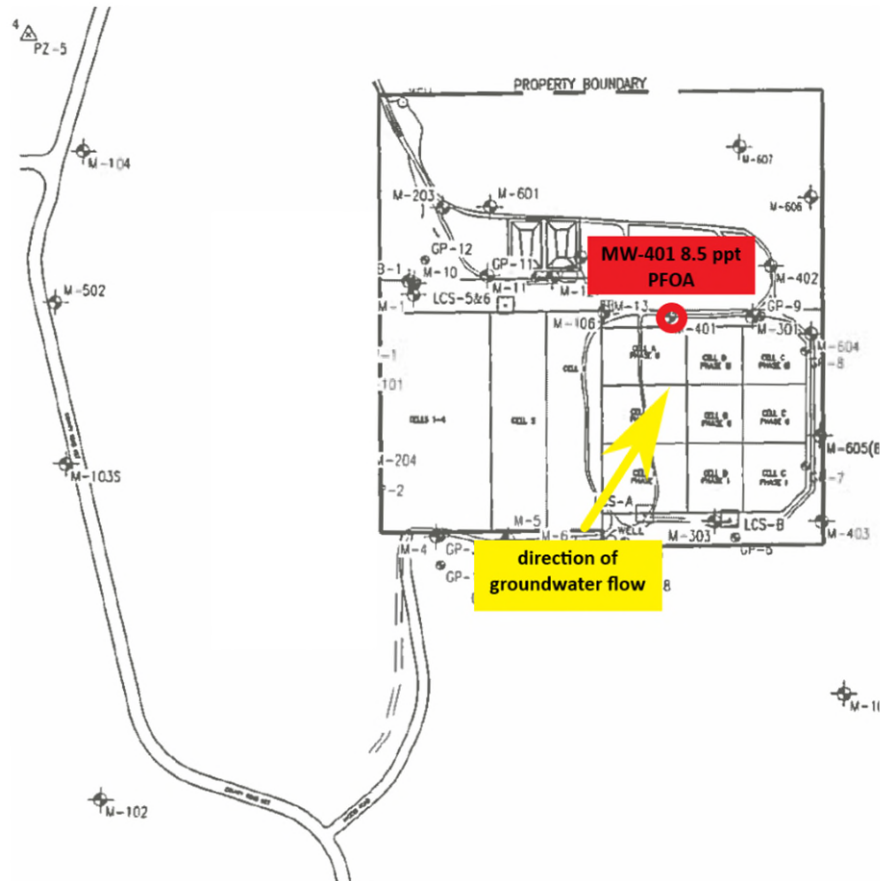


- 6571 Landfill Road, Atlanta
- Based on the presence of known groundwater impacts:
  - EGLE requested select wells be sampled for PFAS parameters
  - Sampling voluntarily conducted on September 16 & 17, 2019.
- Groundwater flow direction is to the northeast

[illegible]

- M-107R: Upgradient well  
PFAS was not detected
- M-401: Well immediately  
downgradient of the Landfill  
PFOA concentration of 8.5 ppt;  
Exceeds criteria (8 ppt)

# Montmorency-Oscoda-Alpena Landfill



## Next Steps

- Two new monitoring wells (MWs) installed downgradient of M-401 (M-606 & M-607)
  - Scheduled for sampling September 14, 2020
- Residential well sampling: EGLE working with health department staff to determine if downgradient wells are present and if sampling is required once data from MWs is received.

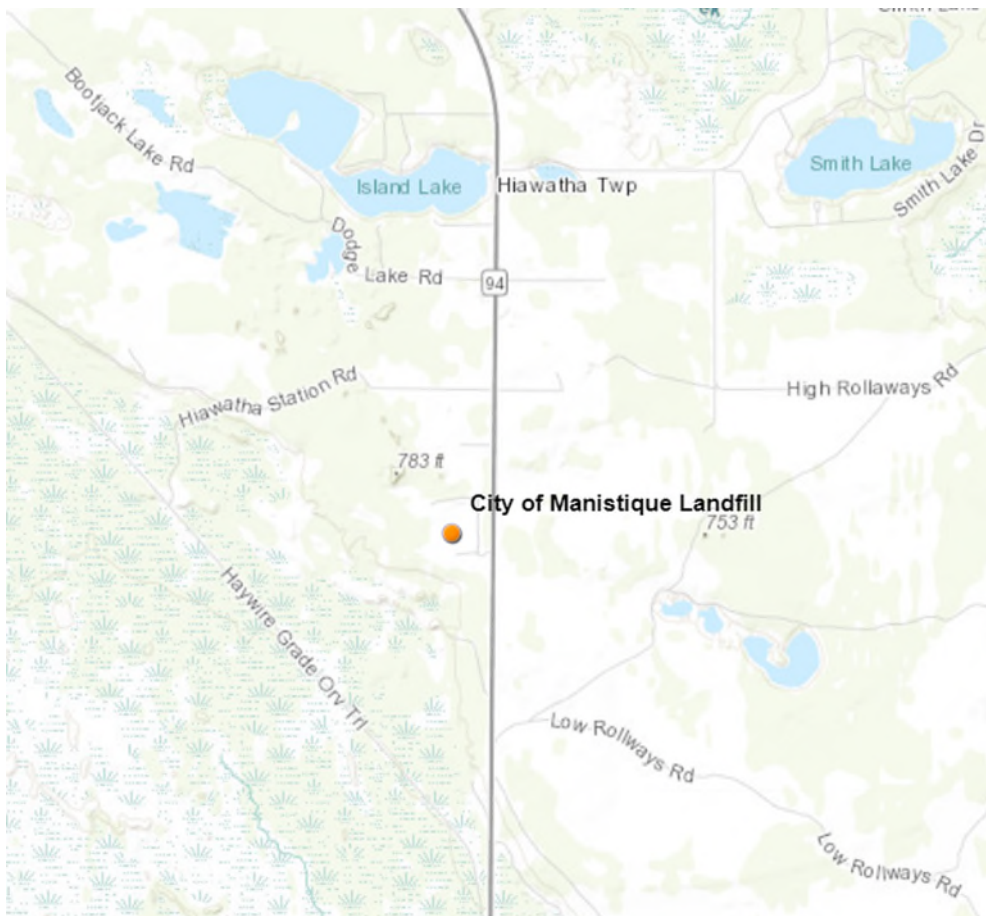


# City of Manistique Landfill Schoolcraft County

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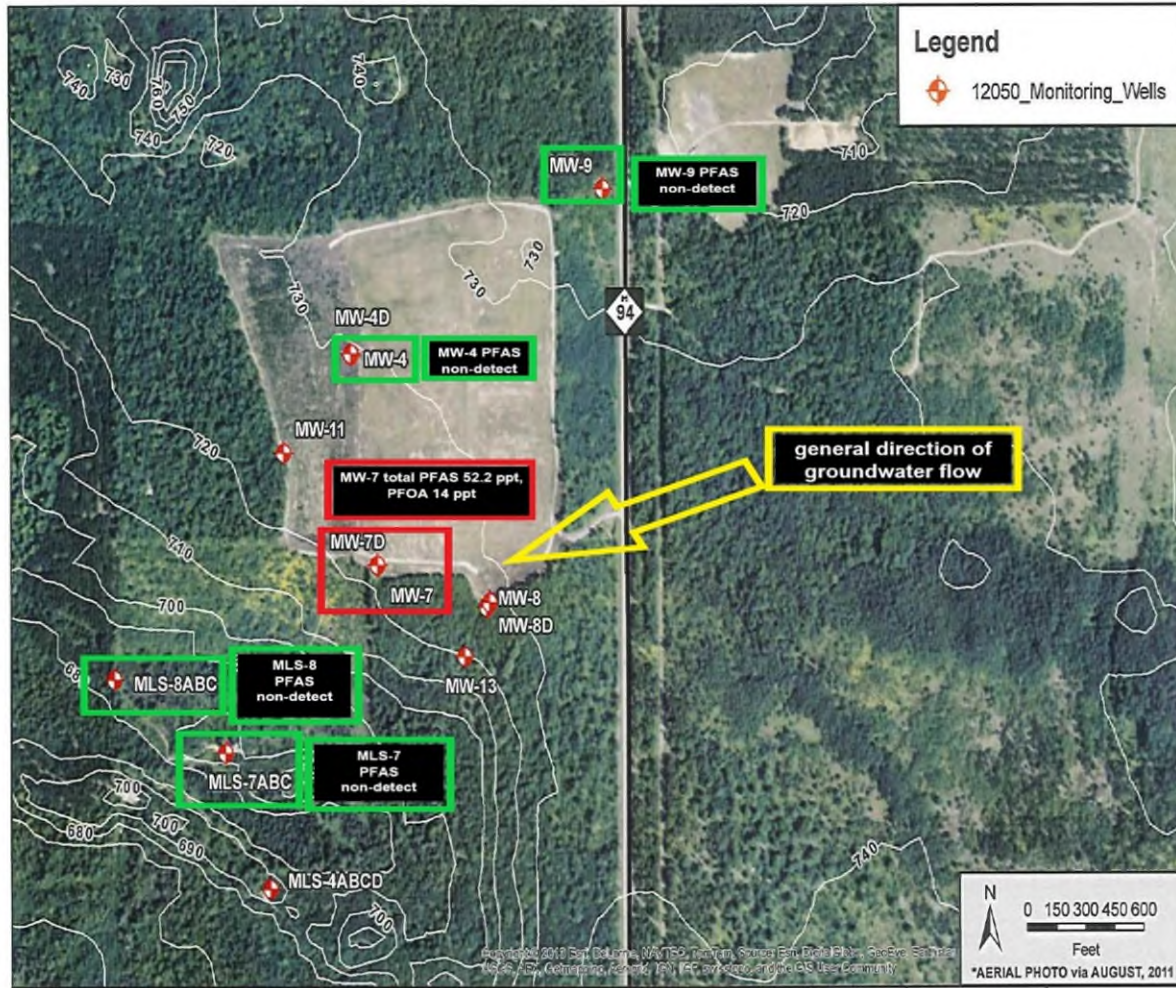
Mary Ann St. Antoine  
[StAntoineM@Michigan.gov](mailto:StAntoineM@Michigan.gov)  
(989) 370-8035

# City of Manistique Landfill



- Located 13 miles north of Manistique on the west side of M-94
- EGLE requested that the city of Manistique sample the landfill for PFAS based on known groundwater impacts from the landfill and the presence of downgradient drinking water wells.
- Groundwater flows is to the west-southwest towards a wetland and the Sturgeon Hole Creek.

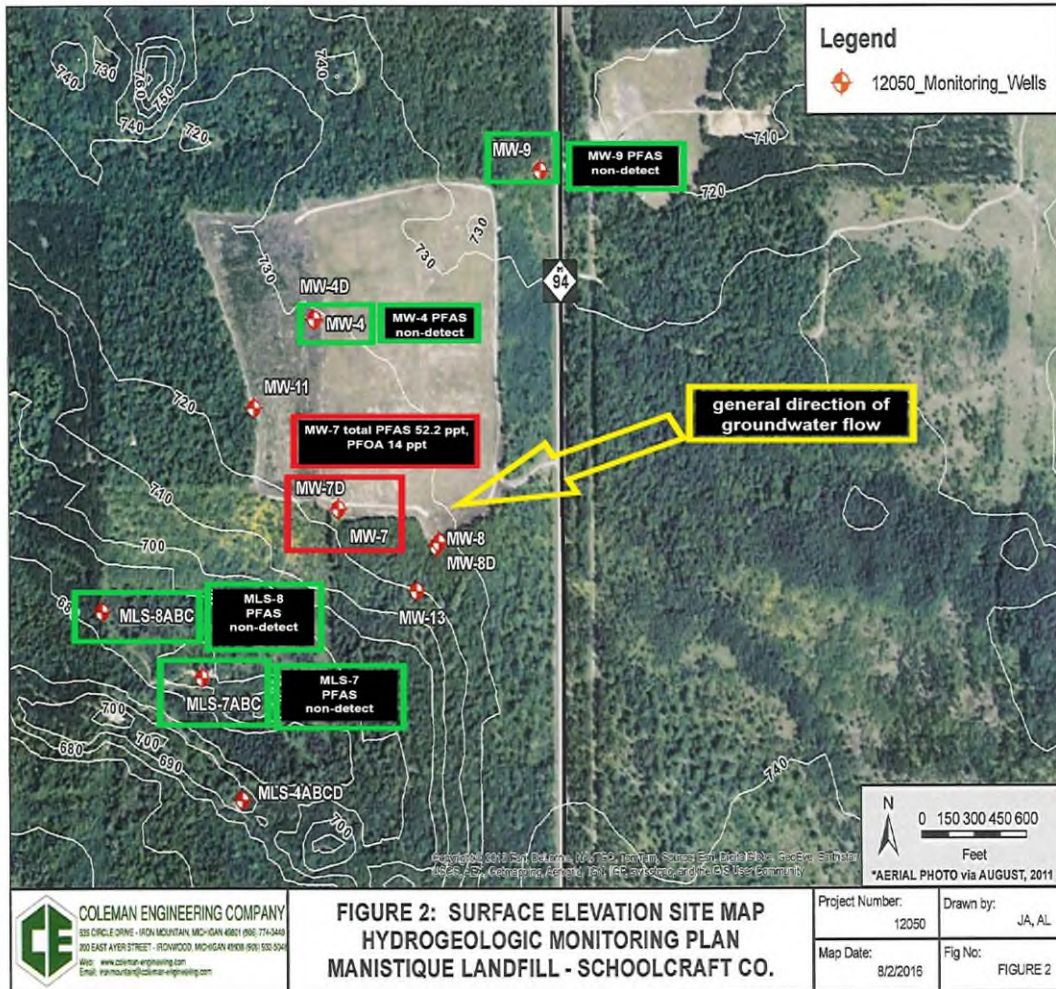
# City of Manistique Landfill



- The city of Manistique voluntarily collected groundwater samples at monitoring wells MW-4, MW-7 and MW-9 on July 30, 2019.
- Groundwater at MW-7 was found to contain PFOA at 14 ppt which exceeds PFOA criteria (8 ppt)



# City of Manistique Landfill



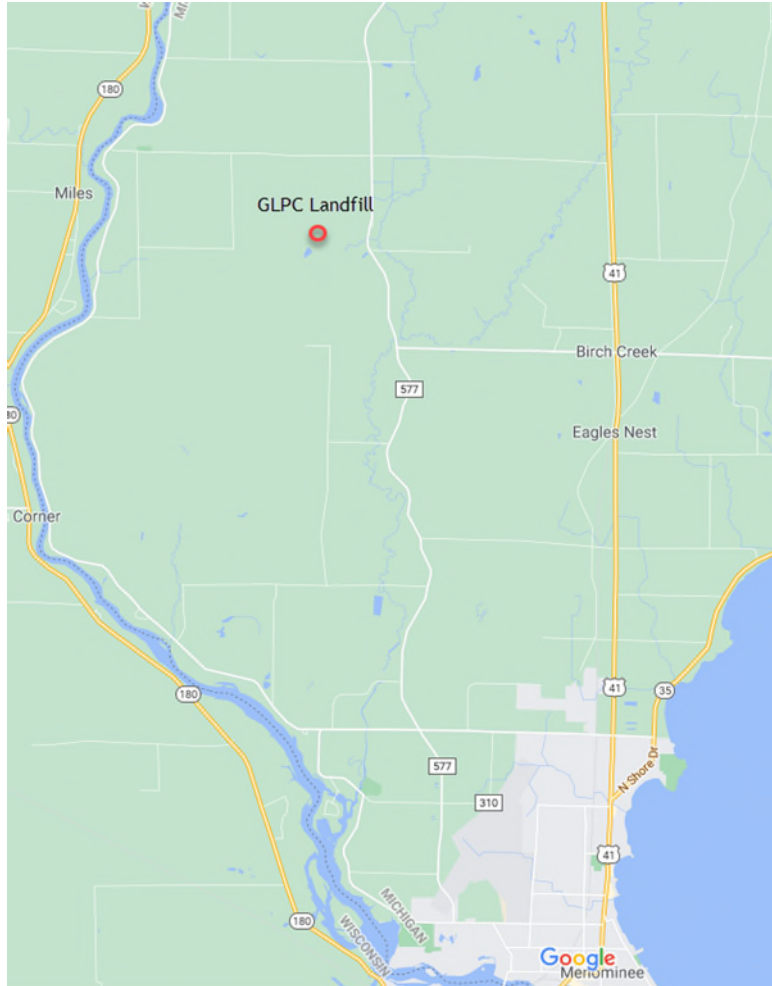
- Groundwater at downgradient monitoring wells MLS-7B and MLS-7C was sampled for PFAS on October 24, 2019.
  - No PFAS was found at the downgradient wells.
- No residential wells were sampled for PFAS as the downgradient monitoring wells did not contain PFAS indicating that there has been no impact to the wetland, Sturgeon Hole Creek or drinking water wells.

# Great Lakes Pulp Company Landfill Menominee County

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Mary Ann St. Antoine  
[StAntoineM@Michigan.gov](mailto:StAntoineM@Michigan.gov)  
(989) 370-8035

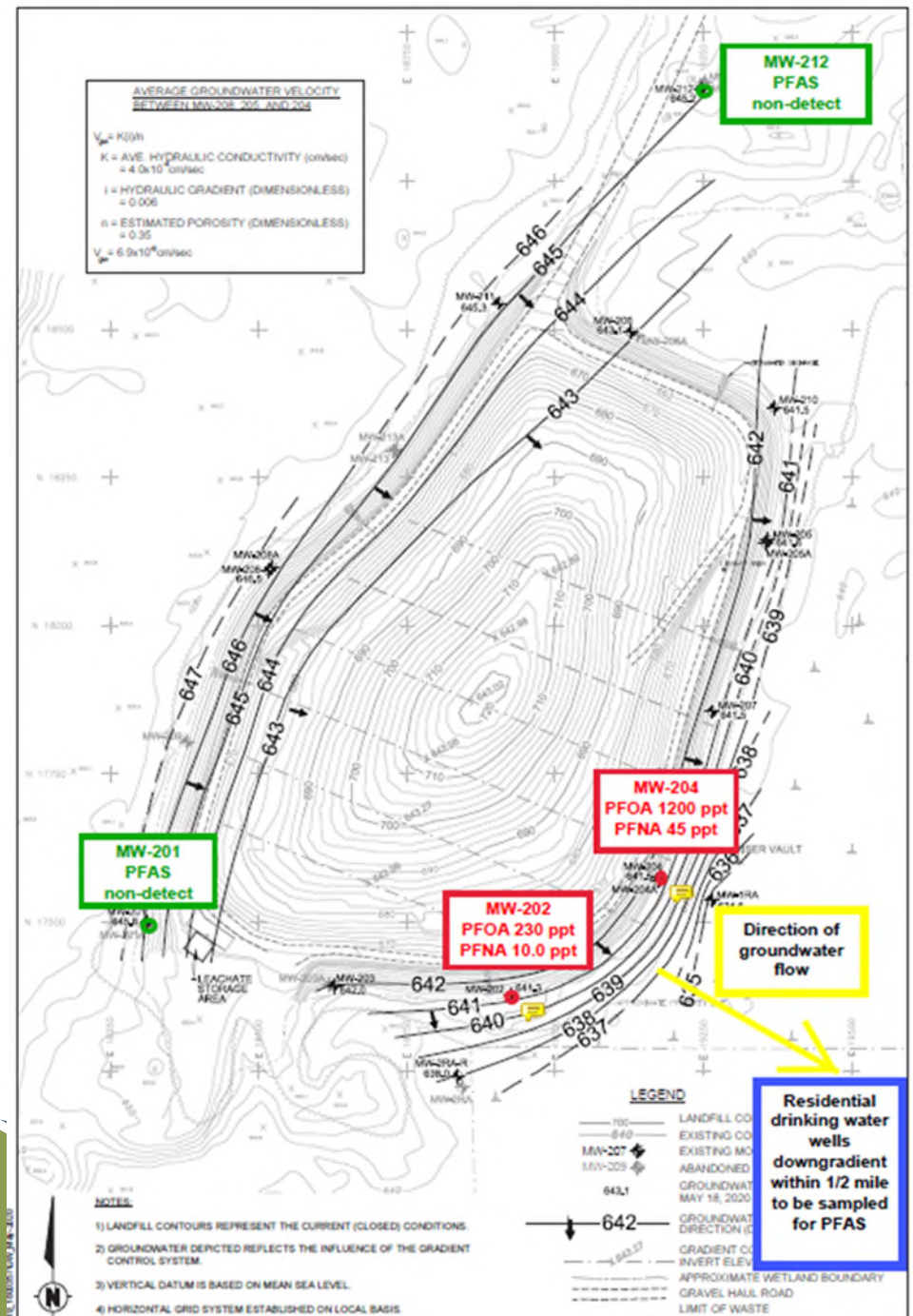
# Great Lakes Pulp Company Landfill



- Great Lakes Pulp Company (GLPC) Landfill is located ten miles north of Menominee on 7.5 Road and County Road 577.
- The landfill took in recycled paper pulp waste.
- EGLE requested that Resolute Forest Products (GLPC parent company) sample GLPC Landfill for PFAS because of historical impacts to the groundwater, downgradient drinking water wells and the material in the landfill.



# Great Lakes Pulp Company Landfill

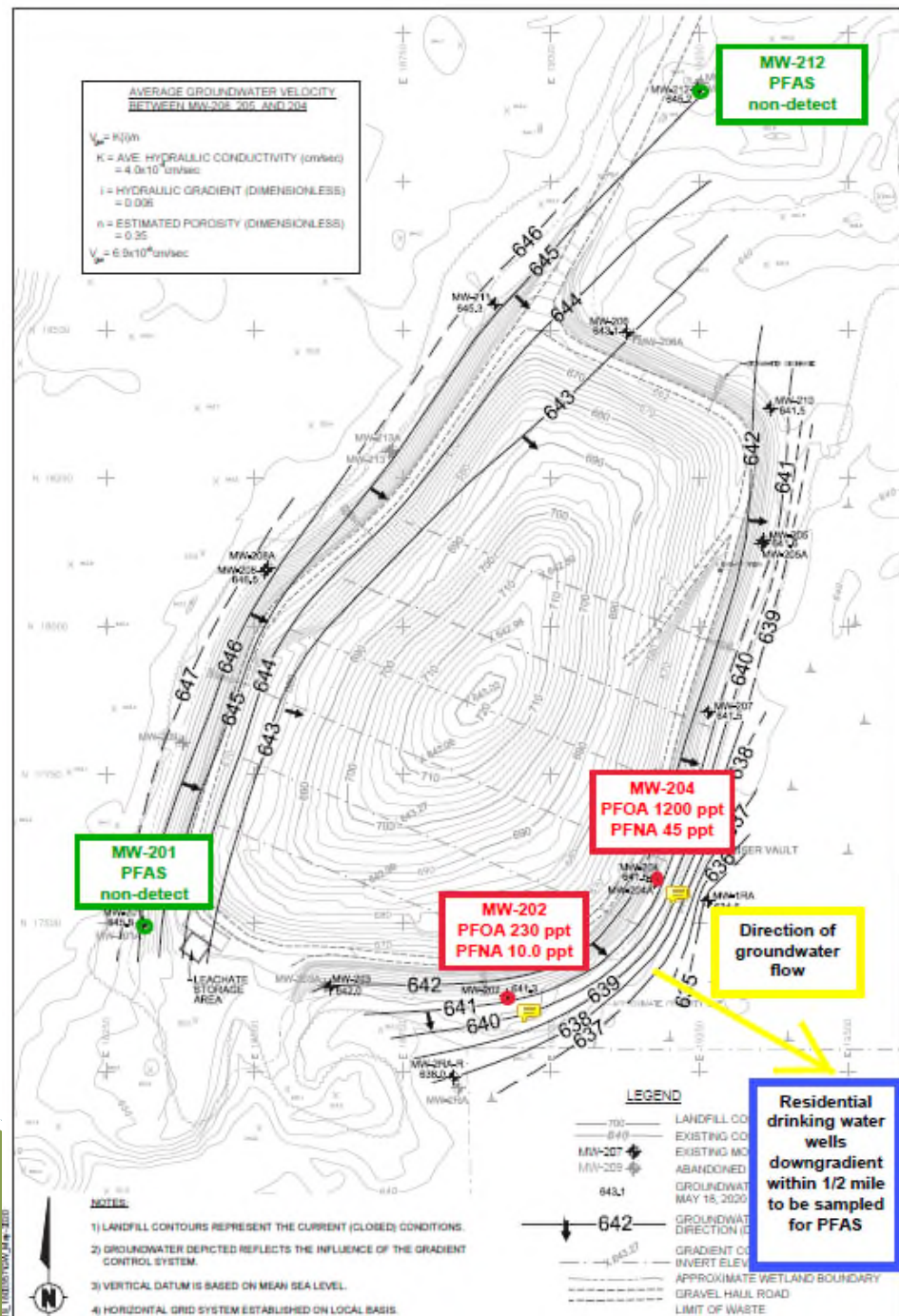


- On May 18, 2020 GLPC voluntarily collected groundwater samples at four monitoring wells.
- Upgradient monitoring wells MW-201 and MW-212 were non-detect for PFAS.
- PFOA concentrations at downgradient monitoring wells MW-202 (230 ppt) and MW-204 (1200 ppt) exceeded the criteria for PFOA (8 ppt).



# Great Lakes Pulp Company Landfill

- On August 27, 2020 residential wells that are downgradient and within a half mile, and surface water from a downgradient creek were sampled by EGLE's contractor.
- Resolute Forest Products have scheduled PFAS sampling of all monitoring wells on the southeast side of the landfill to delineate the plume of contamination.



# Site Lead Contact Information

## **Glens Sanitary Landfill**

James Staley

[StaleyJ1@Michigan.gov](mailto:StaleyJ1@Michigan.gov)

(231) 429-1945

## **Grayling Wastewater Treatment Facility Discharge Fields**

Thomas Berdinski

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

(616) 204-7334

## **Montmorency-Oscoda-Alpena Landfill**

John Ozoga

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

(231) 429-1718

## **City of Manistique Landfill**

## **Great Lakes Pulp Company Landfill**

Mary Ann St. Antoine

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

(989) 370-8035



# Local Health Departments

**Benzie-Leelanau District Health Department**

231-882-4409

**District Health Department 4**

989-356-4507

**District Health Department 10**

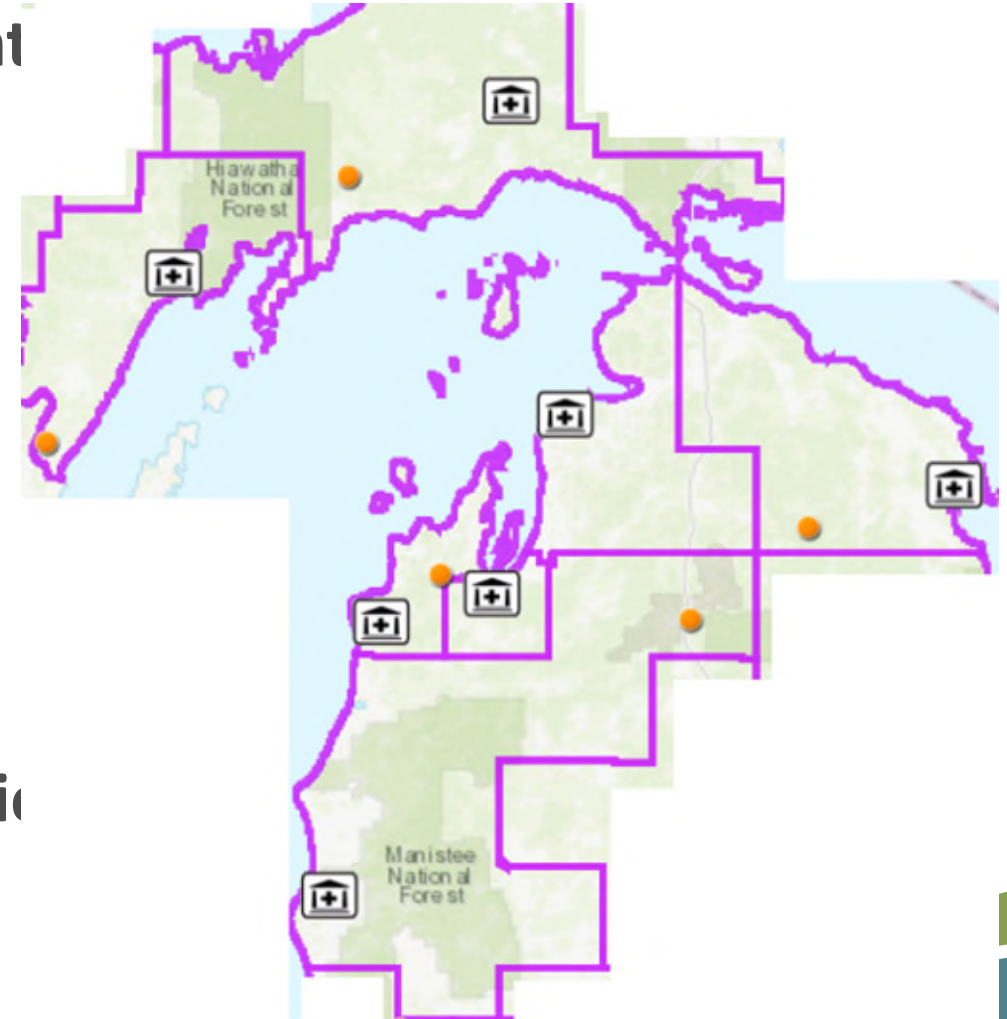
231-837-2193

**Luce Mackinac-Alger-Schoolcraft District Health Department**

906-293-5107

**Public Health Delta and Menominee Counties**

906-786-4111



# 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.